

ENCLOSURE

EPA's Partial Approval/Partial Disapproval Decision
Washington Department of Ecology's 1998 §303(d) List

I. STATUTORY AND REGULATORY BACKGROUND

A. Identification of WQLs for Inclusion on Section 303(d) List.

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by State or local authority, and (3) other pollution control requirements required by State, local, or federal authority. See 40 CFR 130.7(b)(1).

B. Consideration of Existing and Readily Available Water Quality-Related Data and Information.

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate non-attainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available.

EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C ("EPA's 1991 Guidance"). While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.

C. Priority Ranking.

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the 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 TMDL development, and also to identify those WQLSs 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. See Section 303(d)(1)(A). 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. See 57 CFR 33040, 33045 (July 24, 1992), and EPA's 1991 Guidance.

II ANALYSIS OF WASHINGTON'S SUBMISSIONS

The following sections summarize Ecology's 1998 listing process and explain EPA's assessment and rationale for approving or disapproving Ecology's listing or "not-listing" actions.

A. Background

The Washington Department of Ecology's (Ecology or WDOE) Section 303(d) Listing Process consisted of several steps beginning in April 1997, with its public review

of proposed modifications to its listing policies for the 1998 listing process. After reviewing public comments and making modifications to its listing policies, Ecology public noticed its Proposed 1998 §303(d) list in August 1997. Closure of the comment period was on October 31, 1997.

Ecology considered comments received on its proposed list and reviewed other existing and readily available information. Modifications (water body additions and deletions) were made to the proposed list. This modified list and the accompanying decision matrix were defined as the “Candidate 1998 §303(d) List” and “Decision Matrix.” As part of the Tribal/Ecology Co-Government §303(d) Listing Process, Ecology distributed to EPA and the interested Washington Indian Tribes the “Candidate 1998 §303(d) List” and the accompanying decision matrix. Based on comments from participating Tribes, modifications were made to the Candidate List and its listing matrix. On June 24, 1998, Ecology submitted its Final 1998 §303(d) List which was reported to contain 636 water bodies listings.

B. Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information

EPA reviewed Ecology’s submission, and has concluded that WDOE generally developed its Section 303(d) list consistent with Section 303(d) of the Act and 40 CFR 130.7. EPA’s review is based on its analysis of whether Ecology reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed. It should be noted that EPA did identify 130 water bodies/pollutant pairings that are being proposed to be added to the State’s 1998 303(d) list. EPA’s rationale for the additions is provided in Section F below.

C. Listing of Waters Beyond the Requirements of EPA Regulations

EPA recognizes that the State included some water quality limited segments beyond the minimum required by EPA regulations to be included on the Section 303(d) list, e.g., waters impaired by habitat and flow. While EPA is not disapproving the State’s list due to the inclusion of such waters, neither the State nor EPA has an obligation under current regulations to develop TMDLs for such waters because the waters are not impaired by a pollutant. States have the discretion under Section 303(d), which charges States with the primary responsibility to identify water quality limited segments for TMDL development, and Section 510, which authorizes States to adopt more stringent pollution controls, to include waters on their Section 303(d) lists that may not be required to be included by current EPA regulations, and EPA’s regulations do not compel the Agency to disapprove the State’s list because of the inclusion of such waters. EPA guidance also recognizes that States may take a conservative, environmentally protective approach in identifying waters on their Section 303(d) lists.

D. Priority Ranking and Targeting

Ecology's priority ranking and targeting system for the development of TMDLs is based on its five-year watershed cycle evaluation process as described in its July 1993 publication "Watershed Approach to Water Quality Management." The overall process does not set geographic priorities across the state. Priorities are set within each geographic area. Detailed discussion of the State's TMDL prioritization process is included in the "Memorandum of Agreement Between The United States Environmental Protection Agency and The Washington State Department of Ecology Regarding The Implementation of Section 303(d) of the Federal Clean Water Act," October 29, 1997.

E. Actions Approved by EPA

This section describes some of the specific "listing" and "not listing" actions approved by EPA.

1. Not Listing Based on WDOH's Shellfish Closure Policy

The Washington Department of Health's (WDOH) established Shellfish Policy requires closure of all shellfish beds in close proximity to outfalls without an actual determination that a water quality standards violation (ie. exceedance of a water quality criterion or non-support of a beneficial use) exist in the water body. Ecology's policy is to list those "prohibited or closed" shellfish areas where actual fecal coliform data have been collected and water quality standards violations exist. Ecology does not list waters based on WDOH's risk policy alone without supporting data showing an exceedance of the water quality standard.

Ecology's approach in not listing waters for fecal coliform when no data have been collected is consistent with its water quality standards, its listing requirements, and the CWA (40 CFR 130.7) where listing is required where standards are violated. Ecology's approach is also consistent with EPA Region 10's 1995 listing Guidance, Guidance Document for Listing Water bodies in the Region 10 §303(d) Program, pages 3-1 and 3-2. Therefore, EPA approves Ecology's not listing waters which are closed solely based on location of an outfall absent any monitoring data.

Note: EPA agrees that the proximity to a discharger's outfall is not evidence alone of a designated use impairment. However, EPA believes it may be prudent to take a more protective approach with these waters especially since an outfall is in the vicinity of the beneficial use and no monitoring data are available. Therefore, in the next listing cycle EPA would expect that for those waters where shellfish beds have been closed and fecal coliform data are not available, a review of the appropriate discharger's discharge monitoring reports (DMRs) will be

completed. The review should provide data/information on the likelihood of the dischargers' being a source of fecal coliform for contaminating the shellfish waters. When data show that this likelihood exists, the water should be listed.

2. Not Listing for "Total PCBs"

A number of waters which had been proposed for listing for "total PCBs" or had been previously listed for "total PCBs" based on tissue analysis, were excluded from the final 1998 list. The State indicated that its water quality standards, which are consistent with the National Toxics Rule (NTR), do not contain a criterion for "total PCBs" but only contain criteria for certain specific PCB "isomers." Therefore, Ecology only listed those waters when PCB isomers were found to exceed the criterion and did not list those waters when total PCBs were identified because no criterion exists to judge compliance.

EPA found Ecology to be correct in its assessment and agrees with its decision to not list waters for "total PCBs" based on tissue analysis. However, it should be noted that a revision of the NTR is proposed for total PCBs criterion. If this criterion is finalized before the next listing cycle, the waters exceeding the new criterion will need to be listed.

Ecology also listed or excluded waters from listing based on PCBs found in sediments. Several of the exclusions were based on lack of "confirmatory designation" or "cluster site" identification. Please see "Confirmatory Designation" for further discussion of this issue.

3. Water Quality Standards Are Now Being Met

Waters were not listed when the State determined that water quality violations were no longer occurring and the water quality standards were now being achieved. EPA concurs with this action as it is consistent with the CWA, EPA listing policy and §303(d) implementing regulations.

4. Old Data (Primarily Fecal Coliform Data)

Generally, Ecology did not list waters using data older than 10 years. This approach is consistent with the State's listing policies. This approach is also consistent with EPA's Guidelines for Preparation of the 1996 State Water Quality Assessments (305(b)) Reports, Section 5.4.2 Data Source: Ambient (Source) Water Monitoring - Temporal Considerations, (for making public drinking water use support decisions) p 5-33. Therefore, EPA approves Ecology's actions to not list these waters.

Please note that in subsequent listing cycles, Ecology will need to distinguish between those waters not listed for the first time based on "old data"

and those previously listed waters anticipated to be removed from listing because the data used to originally list the waters are now older than ten years. For those previously listed waters, Ecology will need to provide more recent data/information that shows that water quality standards are being met.

5. CERCLA or MTCA Records of Decisions

The state excluded from listing two water bodies and pollutants from five other waters because Records of Decisions (RODs) have been signed under the federal Comprehensive Environmental Recovery, Compensation, and Liability Act (CERCLA) or the state Model Toxics Control Act (MTCA) to address the water quality problems. The State's rationale indicated that where RODs had been signed, these actions are sufficient to meet the requirements for an "other pollution control" under (40 CFR §130.7(b)(1)(iii)). This listing action is consistent with the State's June 1997 listing policies and EPA's November 1995 "Guidance Document For Listing Water bodies in the Region 10 §303(d) Program," pages 3-4 through 3-6, WQL Waters Not Included on the §303(d) List.

Note: The action to not list waters for which RODs had been signed results in two waters being completely excluded from listing and parameters (pollutants) not being listed for five other waters. Those waters are:

- a) waters excluded from listing include Steamboat Slough and Liberty Bay; and
- b) waters for which parameters had been removed from listing include portions of Elliott Bay, Ebey Slough, Commencement Bay (Inner), Thea Foss (City) Waterway, and Eagle Harbor.

6. Phase I/Phase II Studies of the Clean Lakes Restoration Process

In 1994 and 1996, the State delisted waters when Phase II (the implementation of the controls to resolve the water quality problem) of the Clean Lakes Restoration Process had been implemented or was being implemented. The State's rationales were that 1) enforceable control measures, established in Phase II of the plan, had been or were being put into place; 2) these controls were expected to lead to support of the beneficial uses; and 3) implementation of Phase II requirements essentially met requirements under federal regulation 40 CFR 130.7(b)(1)(iii). EPA concurred with the State's decision. (Memo to file from Marilyn Fonseca for the basis for EPA's concurrence of Ecology's action in 1994.) In 1998, the State applied the same policy for excluding lakes from listing. Consistent with previous actions, EPA approves the state action.

7. Single Excursion

For water measurements of temperature, DO, pH, turbidity and total dissolved gas, the State's listing policy provides that 10% or more of the measurements and a minimum of at least two measurements beyond the numeric state surface water quality criteria within the most recent 5-year period were necessary to support listing a water. The intent of this listing policy is to eliminate the anomaly sample, not truly representative of the water quality of a water body, but more indicative a short-term event. The State's listing action and its policy are consistent with EPA's Guidance For Listing Water bodies in the Region 10 §303(d) Program, November 1995, and EPA's Guidelines for Preparation of the 1996 State Water Quality Assessments (305(b) Reports - page 5-20. Therefore, EPA approves Ecology's decision to exclude from listing those waters when only one water quality criterion excursion had been identified.

8. Not Listing Waters Based on Natural Conditions

The State's water quality standards, WAC 173-201A-070(2) Antidegradation, provide that "Whenever the natural conditions of said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria." Ecology excluded from listing approximately 200 water body segments/pollutant (or grids/pollutant) indicating natural conditions caused the water quality excursions. In making its final listing decisions, Ecology evaluated the available data/information and relied on the "best professional judgement" of knowledgeable staff. This data/information and the staffs' rationale for determining that "natural conditions" caused the water to be of lower quality than established criteria, were presented in the State's final listing decision matrix.

In its listing guidances; Guidance Document For Listing Water bodies in the Region 10 §303(d) Program, November 1995, and a November 26, 1993 Memo, Guidance for 1994 Section 303(d) Lists, from Geoffrey H. Grubbs, Director, EPA's Assessment and Watershed Protection Division, EPA recognizes the use of "best professional judgement" in making listing decision. However, it is critical to provide adequate rationale when using best professional judgement which supports the State's action.

Ecology did provide its rationale for not listing waters based on "natural conditions" and EPA will approve not listing some of these waters. However, EPA also determined that, for some water body segments, the rationale did not adequately support the state's actions. The following generally addresses those waters that EPA approves the State's "not listing" action based on "natural conditions." The discussion regarding EPA's disapproval of not listing certain waters based on natural conditions is included in Section F.4.

The water body segments or grids which the State excluded from listing based on “natural conditions” generally can be grouped into two categories: 1) marine waters and 2) fresh waters in the Puget Sound Area and the Colville National Forest. The majority of the marine waters which were excluded from listing, were identified as not meeting water quality criteria for pH, temperature and/or dissolved oxygen.

8a. Marine Waters - Temperature and pH Excursions

In its review of the State’s listing actions for “natural conditions” for temperature and pH excursions in marine waters, EPA consider the data/information in the proposed, candidate and final listing matrices. EPA also reviewed other supplemental information provided by Ecology. In addition, EPA relied on its NPDES permitting experts, familiar with marine water pollution dynamics, in making final decisions to approve or disapprove the State’s listing action. EPA’s rationale to approve the State’s “not listing” decisions of temperature and pH for marine waters follows.

Water body segments/grids were excluded from listing for pH and temperature excursions because, in the best professional judgement of Ecology staff, the excursions represented natural conditions. Ecology, in supporting its pH listing decisions, stated that the buffering capacity of seawater is great and there is no reason why pH in truly marine waters should vary from 7.5 to 8.5. Ecology provided that for some of the marine sampling stations, older less precise data show excursions which have not been duplicated in subsequent monitoring, raising questions about the accuracy of the earlier data. Ecology also indicated that they were unable to identify the types of sources of contamination that would cause pH and temperature water quality excursions.

In supporting its decisions to not list because of temperature excursions, Ecology provided that:

“... there are no reactors or other devices that could elevate the sea temperature of any of the listed stations. Therefore, I conclude that none of the temperature excursions are from direct anthropogenic influences. Instead it is quite plausible that the excursions are caused from solar heating of surface water. Because of stratification, this can be quite profound at times during the summer months. The vast majority of excursions were recorded in June through September, and all were between April and October.”

As stated earlier, EPA reviewed Ecology’s rationale for not listing many marine waters for pH and temperature. EPA also relied on its own expertise in the NPDES program where it found that even large volumes of highly acidic and hot pulp mill wastewater in a confined estuary were not likely to show up as a far-

field human induced impairment for pH and temperature. When considering the State's findings that likely sources of temperature could not be identified, coupled with the findings of EPA's expertise, that major point sources were not known to be impacting pH and temperature, EPA could support and thus approve Ecology's decision to not list these waters.

As provided in its guidance, Guidance Document For Listing Water bodies in the Region 10 §303(d) Program, November 1995, and a November 26, 1993 Memo, Guidance for 1994 Section 303(d) Lists, from Geoffrey H. Grubbs, Director, EPA's Assessment and Watershed Protection Division, the use of "best professional judgement" in making listing decision must be exercised along with the rationale to support these decisions. Based on EPA's experience and the rationale provided by Ecology, EPA approves the State's not listing these waters.

F. "Not Listing" Actions EPA Disapproves

1. The White River Spring Chinook Habit Guidance

Ecology excluded from listing the following waters based on the State's establishing the "White River Spring Chinook Habitat Guidance Document; A Water Quality Management Approach for the Upper White River: Version 1.0" as another pollution control requirement (See AR 14(a)):

- A. the Greenwater River - WA-10-1046 (New ID#IT88EW, segment 19N-10E-22) for temperature; the Greenwater River - WA-10-1046 (New ID#IT88EW, segment 19N-10E-25) for temperature; the Greenwater River - WA-10-1046 (New ID#IT88EW, segment 19N-09E-11) for temperature; and the Clearwater River - WA-10-1043 (New ID#YH06OQ, segment 19N-08E-17) for temperature.

EPA believes that the White River Spring Chinook Habitat Guidance is a document that presents a water quality management approach. While it contains a lot of information about the White River Basin, it does not meet the requirements under federal regulation 40 CFR 130.7(b)(1) as an "other pollution control requirement" for watersheds other than the one for which it was completed. EPA participated in the document's development, and concurred in its conclusion regarding the use of the document as an option for meeting federal requirements as an "other pollution control requirement" for the White River basin only. However, EPA did not view the document as another pollution control for the Greenwater River.

It should also be noted that at the time the State's final 1998 §303(d) list was submitted, the Greenwater River watershed analysis prescriptions had not been completed. The prescriptions represent the enforceable component required in an "other pollution control requirement." The prescription team had not

discussed Shade, and the Greenwater is listed for temperature. Therefore, it was premature to discuss removing the Greenwater from the §303(d) list before the prescriptions, possibly having the greatest effect on the standard (temperature), are developed and in place.

In essence, it appears that Ecology did not list waters in the White River Basin based on EPA's support of an approach. An approach does not provide adequate assurance that water quality standards will be attained in a reasonable time frame. It does not say what or when prescriptions will take effect, monitoring will be done, or who pays. EPA does not agree to removing a water because of a good approach. Therefore, EPA disapproves the exclusion of the aforementioned segments of the Greenwater River.

In addition to the issue discussed above, the Muckleshoot Tribe submitted data/information supporting the listing of several other waters in the Clearwater and Middle White River watersheds for violations of the narrative criterion "habitat." Ecology, in its response to the Muckleshoot's letter (See Response 53 of "The Washington State 1998 Clean Water Act Section 303(d) List Development and Responsiveness Summary"), indicated that although the submitted data did meet the State's policy for listing habitat impairment due to inadequate large woody debris, the existence of the White River Spring Chinook Habitat Guidance meets federal regulations (as another pollution control requirement) for excluding these waters from listing.

As mentioned above, EPA disagrees with Ecology's position that the White River Spring Chinook Habitat Guidance meets the definition of an "other pollution control requirement for the Greenwater River." However, because "habitat" is not a "pollutant," the State is not required to list the waters for habitat or to complete a TMDL to address this impairment. The State has the discretion to list waters solely impacted by "pollution" as define 40 CFR 130.2 by on its §303(d) list. The policies for listing or not listing waters based on "pollution" such as habitat, remain the State's discretion.

2. Not Listing Waters Based on Excursions of the State's Sediment Management Standards

As one of its listing policies, the State included water body/pollutant listings in its §303(d) list when marine sediment samples did not comply with

Sediment Management Standards (SMS) under WAC 173-204-320. WAC 173-204-310 indicates that:

A sediment sample that fails the initial designation procedures is designated as not complying with the applicable sediment quality standards of WAC 173-204-320 through 173-204-340, until such time as any person or the department confirms the sediment designation as passing the applicable sediment quality standards of WAC 173-204-320 through 173-204-340. A sediment sample that passes or fails the confirmatory designation procedures is designated as such under the procedures of WAC 173-204-310.

The SMS also provide that in WAC 173-204-310 (1) and (1)(b):

(1) Initial Designation. Sediments that have been chemically analyzed for the applicable chemical concentration criteria of WAC 173-204-320 through 173--204-340 shall be designated as follows:

(a)...

(b) Sediments with chemical concentrations which exceed any applicable chemical or human health criterion in WAC 173-204-320 through 173-204-340 are designated as having an adverse effects on biological resources or posing significant human health threats, and fail the sediment quality standards of WAC 173-204-320 through 173-204-340, pending confirmatory designation.

For approximately 185 water bodies/pollutant listings, one of the following “bases” was used to exclude waters from listing:

- a) the confirmatory designation procedures for site identification required by the sediment management standards (WAC-173-204-310(2)) have not been applied to the cited data. As such, these stations are not in violation of the standards and should not be listed;
- b) the station cluster was not identified as a site when the confirmatory designation procedures for site identification required by sediment management standards (WAC-173-204-310(2)) were applied. As such, these stations are not in violation of the standards and should not be listed; or
- c) the parameter (pollutant) in the station cluster was not identified in the site when the confirmatory designation procedures for site identification required by sediment management standards were applied.

It should be noted that not all of the 185 water body/pollutant listings were actually excluded from listing. Other data/information were considered for many of the same 185 water bodies/pollutant listings which supported a “list” decisions. The actual number of water body/pollutant listings not listed because of one of the aforementioned rationale was 71. See Appendix A.

EPA, in its review of the State Water Quality Program’s use of the SMSs in the listing process, found that the aforementioned “bases or rationale” to not list waters are not consistent with the State’s own SMSs or the State Water Quality Program’s own listing policy. Waters not listed for one of the presented rationale were done so because the State Water Quality Program indicate that a violation of a sediment quality standard did not exist. However, for all the waters considered, an violation of a sediment quality standard had been identified during the initial designation process or initial chemical analysis. Therefore, EPA disapproves not listing those waters because data showed that the State’s sediment quality standards had been violated and, based on the State’s 303(d) listing policy, these waters need to be listed.

3. Not Listing Beaver Lake Based on the Phase I and Phase Clean Lakes Restoration Project

Beaver Lakes 1 and 2 were listed by Ecology on the 1996 §303(d) list. Listing was based, not on documented water quality problems at the time, rather on the likelihood of water quality degradation from the imminent development of one-half of the watershed. (EPA would consider this water to be threatened.) That development, primarily single family resident, has proceeded. An assessment of the lake condition and management plan was produced in order to provide sufficient control measures to prevent reduced water quality from storm water runoff from the proposed development.

The management plan found that the lake productivity was limited by phosphorus and that the lake’s trophic status was at the upper limit of mesotrophic. Ecology delisted both Beaver Lakes on the basis of the completed Management Plan (the Plan) (November 1993). Ecology’s rationale was that a Phase II restoration project under Section 319 of the Clean Water Act is underway and the established Lake Management District and long-term citizen’s monitoring program resulting from the Plan meet EPA guidance for excluding the lakes from the list under federal regulation 40 CFR 130.7(b)(1)(iii).

The Plan provided for “future 80% treatment” as the means to control nutrient loading to the lake. But the Plan also concluded that such a level of control would result in degradation of the lake water quality, moving the trophic status from mesotrophic to eutrophic (Beaver Lake Management Plan, November 1993, Figure S-2, p. ix). In other words, the plan did not provide for the protection of the existing water quality but rather allowed the very degradation it

was intended to prevent and the degradation that was anticipated by, and the reason for , the 1996 listing.

Removing waters based on the establishment of an “other pollution control requirement”, as provided under federal regulation 40 CFR 130.7(b)(1)(iii), assumes the other pollution control requirement will result in the attainment of water quality standards. It is EPA’s position that the Beaver Lake Management only defines the level of degradation to occur for various development alternatives rather than an approach for attaining or maintaining water quality standards. Therefore, the Plan does not meet the requirements of 40 CFR 130.7(b)(1)(iii) and Beaver Lakes 1 and 2 need to be listed. Therefore, EPA disapproves the State’s failure to list these waters and will propose to add Beaver Lakes 1 and 2 to the State’s list.

4. Not Listing Waters Based on Natural Conditions

As previously stated in II.(C)(12), the State’s water quality standards, WAC 173-201A-070(2) Antidegradation, provide that “Whenever the natural conditions of said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.” EPA reviewed the data and rationale supporting not listing these waters based on “natural conditions” and found that for twenty-two water body/pollutant pairings, the rationale to not list was not adequately supported and/or that additional data did not support the “natural condition” rationale for not listing. The specific issues follow.

4a. Dissolved Oxygen Excursions in Marine Waters

Eleven water body segments/grids were excluded from listing for dissolved oxygen. Based on the staffs’ best professional judgement, Ecology indicated that the excursions represented natural conditions. Ecology, provided that for many of these waters, up-welling of deeper, low DO containing waters caused the excursions. Ecology also indicated that “stratification” caused the DO excursions as well. Ecology also stated that for those where there was the possibility that anthropogenic sources contributed to the DO excursions, the available data/information were not adequate to determine if the causes actually contributed to the excursions.

EPA experts agree that up-welling of low DO waters and “stratification” and could result in reduced DO levels in some Puget Sound waters. However, based on the experience of its NPDES program, EPA recognizes that, unlike the large buffering capacity in marine waters for pH, anthropogenic influences can cause or contribute to DO water quality excursions. While it could be possible that some of these excursions represent “natural conditions”, for some waters, the

data/information provided to support these decisions was inadequate. For these waters, EPA disapproves the State's not listing these waters.

4b. FRESH WATERS

Ecology did not list a number of fresh water bodies for a variety of pollutants stating that the excursions were due to natural conditions. Rationale provided to support some of the State's decisions included but were not limited to: 1) the pH in some streams were influenced by wetlands and bogs; and 2) since there are no known or probable pollution sources, the excursions are natural.

In its review, EPA found that some of the water bodies that were not listed are located in heavily populated watersheds where it would be difficult to differentiate between anthropogenic and non-anthropogenic causes of pollution especially when addressing pollutants such as fecal coliform, dissolved oxygen, temperature and pH. Violations of the criteria for these pollutants are often associated with the same source or sources of contamination making it even more difficult to list one pollutant but not an associated pollutant based on the "natural condition" rationale. For other waters, EPA identified existing Ecology information which raises doubts about the pollutant being non-anthropogenic. EPA, therefore, disapproves the State's not listing of those waters in Appendix B based on its "natural conditions" rationale.

5. Impacts of the New Water Body Identification System

The 1998 listing policies were established with the old identification system in place. Those policies were applied to the new segmentation system and generally did not impact the listing process. However, by applying the State's "Single Excursion Policy" under the new segmentation system, several water bodies were excluded from listing because the state's new segmentation method redefined a single water body with multiple hits to multiple water body segments with single hits.

The "single hit" policy was established to eliminate the anomaly excursion or excursions caused by a single event not really indicative of the actual water quality conditions. However the application of its "Single Excursion Policy" in conjunction with the new segmentation actually resulted in not listing waters with multiple water quality excursions within a few miles or less of each other. This situation is more indicative of the existence of a water quality problem rather than an anomaly excursion. For example, May Creek was proposed to be listed for multiple copper excursions, which appear to be located within a mile of each other. In the State's final list, the new segments of the May Creek were not listed for copper because the new segmentation system resulted in single excursions in each new segment. EPA's identified that the application of

the “Single Excursion Policy” to the new identification system resulted in the inappropriate exclusion of 21 water body/pollutant listings. See Appendix C. EPA disapproves Ecology’s not listing these waters.

6. Cranberry Bog Drainage Waters

Ecology’s report Assessment of Cranberry Bog Drainage Pesticide Contamination - Results from Chemical Analysis of Surface Water, Tissue, and Sediment Samples Collected in 1996, July 1997, identified the presence of several pesticides in Grays Harbor County Ditch No. 1 (GHCDD-1) and Pacific County Drainage Ditch No. 1 (PCDD-1). The concentrations of the pesticides found exceeded state water quality numeric or narrative water quality standards. The following water body/pollutant listings need to be added to the State’s 1998 §303(d) list:

GHCDD-1

Azinphos-Methyl
Diazinon
Parathion
Carbaryl
4,4'-DDD

PCDD-1

Azinphos-Methyl
Diazinon
Chlorpyrifos
Carbaryl
4,4'-DDD

EPA recognizes that listing waters based on Ecology’s narrative standard for impairment of characteristic uses is interpreted from three pieces of information; 1) documented environmental alteration using a generally accepted method; 2) documented impairment of a characteristic use; and 3) identification of a direct human caused contribution. EPA believes that the “Assessment of Cranberry Bog Drainage Pesticide Contamination” July 1997, provides those three pieces of information for diazinon, azinphos-methyl and carbaryl.

III. WATER BODY SEGMENTS WITHIN INDIAN COUNTRY

In its final 1998 §303(d) list, dated June 24, 1998, Ecology did not include water body segments which were identified as being within Tribal Reservation boundaries. The data and information for these identifications were submitted during the public comment period and the Ecology-Tribal Co-Government §303(d) Listing Conferral Process.

It should be noted that on August 4, 1999, in a discussion with EPA, representatives of the Spokane Indian Tribe identified three water body segments (nine water body segment/pollutant listings) listed on Washington’s final §303(d) list as being

within the Spokane Indian Reservation boundaries. These include:

- 1) Chamokane Creek - T27N-R39-Section 02; new ID. MM18VW listed for temperature;
- 2) Spokane River - T28N-R37E-Section 33; new ID. QZ45UE listed for PCB-1248, PCB-1254 (two records), PCB-1260 (two records), and Sediment Bioassay;
- 3) Spokane River - T28N-R36E-Section 20; new ID. QZ45UE listed for pH, temperature.

This information had not been submitted to Ecology during the comment period or the tribal conferral process and warrants review by Ecology in consultation with the Spokane Tribe and EPA. Therefore, to the extent that these aforementioned water body segments are within the reservation boundaries, EPA is taking no action to approve or disapprove Washington's list with respect to these waters.

IV. GENERAL COMMENTS

In its 1998 proposed §303(d) list, the State applied a water body identification system which was based on EPA's Water Body System software. This system had been used in all previous listing cycles. The State identified many reasons why the identification system was no longer appropriate, and, in the candidate and final 1998 §303(d) lists, applied a new segmentation system. The new system divides fresh waters into smaller segments based on townships, ranges and sections. Large marine and fresh water bodies are divided into smaller components called grids. Although this new system will more closely correlate segments to the site where specific water quality data have been collected and will resolve numerous other data management problems with the old segmentation system, implementing the new segmentation system in the middle of the listing process created many difficulties.

There was no public process to evaluate the effects of this change. A change of this magnitude should have been presented as part of the 1998 proposed list or delayed to the next listing cycle and presented as changes to the proposed 2000 list;

In reviewing the proposed listing matrix under the old identification system, it was clear to the reviewer which data/information had been used to support or not support listing specific waters. A reviewer may have chosen not to submit additional data/information to further support a listing or not listing a water body because it was assumed that adequate data/information were already available. However, after the application of the new segmentation system, segments of water bodies were considered for listing rather than the water body as a whole. Several segments were excluded from listing because no data/information, applicable to those specific segments, were available. It is quite possible that additional data would have been submitted for specific segments of Water bodies, if the reviewer had known how the new segmentation system would

impact the listing process and the segments of water bodies likely to not be listed because no data/information were available for that segment;

The final list, as presented to EPA and the public is extremely confusing in that it includes at least 140 exact duplicate listings. No explanation was provided for the duplication. Consequently, it is extremely difficult to determine how many water bodies are on the State's final 1998 §303(d) list. It is not clear if the duplications should be counted a single listed water, a single listed water body segment or as multiple water body segments.

For each piece of data/information evaluated for each water body segment, a data record was presented in the decision matrix. Each data record indicated whether or not the data/information were adequate to support listing that water body segment. Where multiple pieces of data/information were submitted for a single water body segment, the matrix did not indicate which pieces of data were used in making the final listing decisions. And, although, pieces of data/information for individual water bodies were presented under the water body name, data/information were not compiled or presented collectively for water body segments or water body grids. Where multiple pieces of data were evaluated for a large water body with numerous segments or grids, data records for the same segment or grid and the same pollutant were often located pages apart in the matrix. This made it extremely difficult to complete a review using "hard copies" of the matrix.

In conclusion, EPA believes that although a new segmentation system may have been necessary to address the expanded level of information/data considered in the listing process, major changes in the segmentation system should have been completed as part of the public process during review of the proposed listing policies. EPA expects that many of these issues will be addressed prior to the next listing cycle.

Appendix A: Waters EPA Proposes To Add to WA's 1998 303(d) List Based on Sediment Management Standards Violations

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WBID	WRI A	WBNAME	PARAMETER	Township	Range	Section	WTRGRD_CELL_LAT	WTRGRD_CELL_LON	WTRCRS_NR
WA-01-0050	1	BELLINGHAM BAY (INNER) AND WHATCOM WATERWAY-cell# 48122H4E8	Sediment Bioassay				48.745	122.485	390KRD
WA-01-0010	1	STRAIT OF GEORGIA	Sediment Bioassay				48.865	122.755	390KRD
WA-03-0020	3	PADILLA BAY, FIDALGO BAY, AND GUEMES CHANNEL	Bis(2-ethylhexyl) Phthalate				48.505	122.575	390KRD
WA-07-0010	7	PORT GARDNER AND INNER EVERETT HARBOR-cell#47122J2I1	Sediment Bioassay				47.985	122.215	390KRD
WA-PS-0030	7	POSSESSION SOUND (NORTH)	Phenanthrene				47.975	122.225	390KRD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	1,4-Dichlorobenzene	24N	04E	18			IG58VD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Benzo(a)pyrene	24N	04E	19			IG58VD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Indeno(1,2,3-c,d)pyrene	24N	04E	19			IG58VD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Lead	24N	04E	18			DH90GX
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER-cell#47122F3J4	Naphthalene				47.595	122.345	390KRD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Naphthalene	24N	04E	07			IG58VD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	PAHs	24N	04E	07			IG59VD
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Pyrene	24N	03E	13			DH90GX
WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Sediment Bioassay	24N	04E	07			IG59VD

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	WA-09-1010	9	DUWAMISH WATERWAY AND RIVER	Silver	24N	04E	19			IG58VD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	Benzo(b,k) fluoranthenes				47.585	122.355	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	Butyl Benzyl Phthalate				47.585	122.355	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I6	Chromium				47.585	122.365	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	Dibenzo(a,h) anthracene				47.585	122.355	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A3	Fluoranthene				47.605	122.335	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A3	Fluorene				47.605	122.335	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	HPAH				47.585	122.355	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A3	Lead				47.605	122.335	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A4	Lead				47.605	122.345	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	LPAH				47.585	122.355	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3J4	Naphthalene				47.595	122.345	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A3	Phenanthrene				47.605	122.335	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122G3A3	Pyrene				47.605	122.335	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I6	Sediment Bioassay				47.585	122.365	390KRD
	WA-09-0010	9	ELLIOTT BAY-cell# 47122F3I5	Total PCBs				47.585	122.355	390KRD
	WA-10-0020	10	COMMENCEMENT BAY (INNER)	Mercury				47.265	122.415	390KRD
	WA-10-0020	10	COMMENCEMENT BAY (INNER)	Lead				47.265	122.415	390KRD

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WA-10-0020	10	COMMENCEMENT BAY (INNER)	Total PCBs		47.265	122.415	390KRD
WA-10-0020	10	COMMENCEMENT BAY (INNER)	Zinc		47.265	122.415	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	Acenaphthene		47.055	122.905	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	Chrysene		47.055	122.905	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	Dibenzofuran		47.055	122.905	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	Fluoranthene		47.055	122.905	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	Fluorene		47.055	122.905	390KRD
WA-13-0030	13	BUDD INLET (INNER)-cell#47122A9F0	PAHs		47.055	122.895	390KRD
WA-15-0050	15	DYES INLET AND PORT WASHINGTON NARROWS-cell# 47122F618	Cadmium		47.585	122.685	390KRD
WA-15-0050	15	DYES INLET AND PORT WASHINGTON NARROWS-cell# 47122F618	Phenol		47.585	122.685	390KRD
WA-15-0050	15	DYES INLET AND PORT WASHINGTON NARROWS-cell# 47122F618	Silver		47.585	122.685	390KRD
WA-15-0020	15	EAGLE HARBOR-cell# 47122G4E7	Mercury		47.645	122.475	390KRD
WA-15-0020	15	EAGLE HARBOR-cell# 47122G4E7	PAHs		47.645	122.475	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	4-Methylphenol		47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Acenaphthene		47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Anthracene		47.735	122.735	390KRD

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WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Benz(a)anthracene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Benzo(a)pyrene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Benzo(g,h,i)perylene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Bis(2-ethylhexyl)Phthalate			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Chrysene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Copper			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Dibenzo(a,h)anthracene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Dibenzofuran			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Fluoranthene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Indeno(1,2,3-c,d)pyrene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Lead			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Mercury			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Pentachlorophenol			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Phenanthrene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Pyrene			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Total Benzofluorant henes			47.735	122.735	390KRD
WA-PS-0100	15	HOOD CANAL (NORTH)-cell#47122H7D3	Zinc			47.735	122.735	390KRD

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WA-15-0040	15	SINCLAIR INLET-cell# 47122F6F3	4-Methylphenol				47.555	122.635	390KRD
WA-15-0040	15	SINCLAIR INLET-cell# 47122F6F4	Arsenic				47.555	122.645	390KRD
WA-15-0040	15	SINCLAIR INLET-cell# 47122F6F3	Phenol				47.555	122.635	390KRD
WA-15-0040	15	SINCLAIR INLET-cell# 47122F6F1	Sediment Bioassay				47.555	122.615	390KRD
WA-15-0040	15	SINCLAIR INLET-cell# 47122F6F3	Sediment Bioassay				47.555	122.635	390KRD
WA-17-0050	17	SEQUIM BAY-cell# 48123A0H4	PAHs				48.075	123.045	390KRD

Appendix C: Waters EPA Proposes to Add - Single Hits

9/2/99

WBID	WBNAME	WTRCRS	WRIA	PARAMETER	Township	Range	Section	WTRGRD_C	WTRGRD	WTRGRD_C
WA-08-1130	MAY CREEK	BH96KG	8	Copper	24N	05E	32			
WA-08-1130	MAY CREEK	BH96KG	8	Copper	24N	05E	32			
WA-08-1130	MAY CREEK	BH96KG	8	Copper	23N	06E	07			
WA-09-1020	GREEN RIVER	YD05HE	9	Chromium	22N	04E	11			
WA-09-1020	GREEN RIVER	YD05HE	9	Chromium	23N	04E	24			
WA-10-0020	COMMENCEMENT BAY (INNER	390KRD	10	Copper				47122C4G2	47.265	122.425
WA-10-0020	COMMENCEMENT BAY (INNER	PX29AG	10	Copper	21N	03E	99			
WA-28-2024	FIFTH PLAIN CREEK	QO04UK	28	Fecal Coliform	02N	03E	06			
WA-28-2024	FIFTH PLAIN CREEK	QO04UK	28	Fecal Coliform	02N	03E	07			
WA-28-2024	FIFTH PLAIN CREEK	QO04UK	28	Fecal Coliform	03N	03E	32			
WA-37-1012	SNIPES CREEK	SL56UX	37	DDT	09N	25E	27			
WA-37-1014	SPRING CREEK	KM06JM	37	DDD					0	0
WA-37-1014	SPRING CREEK	KM06JM	37	DDD					0	0
WA-37-1014	SPRING CREEK	KM06JM	37	DDE	09N	25E	27			
WA-37-1014	SPRING CREEK	KM06JM	37	DDE					0	0
WA-41-2010	ROCKY FORD CREEK	RC52FG	41	pH	20N	27E	05			
WA-45-1017	ICICLE CREEK	KN35FW	45	pH	24N	16E	24			
WA-45-1017	ICICLE CREEK	KN36FW	45	pH	24N	17E	24			
WA-CR-1010	COLUMBIA RIVER	NN57SG	27	Bis(2-ethylhexyl) Phthalate				46122A8A5	46.005	122.855
WA-CR-1010	COLUMBIA RIVER	NN57SG	25	Bis(2-ethylhexyl) Phthalate				46123C7D1	46.235	123.715
WA-CR-1010	COLUMBIA RIVER	NN57SG	26	Bis(2-ethylhexyl) Phthalate				46122A9J1	46.095	122.915