

# Washington Water Quality Standards 2010 Triennial Review Response to Comments

## Background

The Washington State Department of Ecology (Ecology) held a series of public meetings to discuss Washington's water quality standards (WAC 173-201A) and receive feedback from the public on how they can be improved. This series of meetings started the process commonly called the Triennial Review. The Triennial Review provides an opportunity for the public to review the water quality standards and provide feedback on the priorities and commitments the agency makes regarding the standards. The Surface Water Quality Standards Triennial Review process started November 2010 with public meetings around the state. Public testimony and written comments were received until December 17, 2010. Ecology received 46 comment letters or testimony representing a wide array of the public, including private organizations, industry, local, state, and federal governmental agencies, and private citizens. Several tribes also responded.

Ecology reviewed and assessed all comments received as part of the Triennial Review. The review resulted in a "5 Year Plan" for water quality standards activities. This Plan will drive the workload of Ecology standards staff.

A responsiveness summary has been developed for the comments received, in order of WAC 173-201A, Surface Water Quality Standards for the State of Washington. Specific comments relevant to the section of WAC 173-201A are noted in the Responsiveness Summary Table in the left hand column with the abbreviation or acronym that relates to the commenter. See "index of Comments" on page 2. Ecology response to a comment, or a similar group of comments, can be found in the right hand column in *italics*.

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**Triennial Review Responsiveness Summary**  
**Comments in Order by Topic**  
**August 2011**

The following topics were raised in the comments received during the triennial review process. They are presented in the order found in the Water Quality Standards, WAC 173-201A. Specific comments are noted in the following table in the left hand column with the abbreviation or acronym that relates to the commenter (see “index of Comments” on page 2). Ecology response to a comment, or a similar group of comments, can be found in the right hand column in *italics*.

<b>Topic</b>	<b>Comment</b>	<b>Ecology Response</b>
<b>173-201A-020</b> <b>DEFINITIONS</b>	<b>Comment:</b> We ask that the State explicitly include, or exclude stormwater as “surface waters of the State” in the definitions section, WAC 173.201A-020. <b>(Redmond)</b>	<i>Ecology points out that “storm water” has its own definition in Chapter 173-201A-020. Because storm water is specifically defined, as are “surface waters of the State”, users should be able to select the appropriate category for their water of interest. Ecology will not change the current definition of “surface waters of the State” in WAC 173.201A-020.</i>
<b>173-201A-200</b> <b>WARM WATER</b> <b>FISHERIES</b>	<b>Comment:</b> The identification of warm water fisheries shows the failure of DOE to prevent degradation. I’m really afraid that DOE may arbitrarily decide that Vancouver Lake is a warm water fishery. You can now adopt lower standards and water bodies will never be cleaned up. <b>(McConathy)</b>	<i>Changing or downgrading an aquatic life use would not occur if the key species were present or attainable. In 2003 Ecology revised the standards to include other key aquatic species that may be the primary species in a selected waterbody, such as red band trout and warm water fisheries. Currently all waters in the state are protected for cold water species (salmonids and char). In order to apply warm water fisheries to a waterbody, a UAA would need to be done to show that salmonids do not exist (and are not attainable) in the selected watershed. To date, we have not identified any specific waters where it is believed salmonids are not the key species for protection, although this could happen in the future.</i>

Topic	Comment	Ecology Response
<p><b>173-201A-200(1)(c)</b>  <b>Temperature:</b>  <b>Allow for natural conditions</b></p>	<p><b>Comment:</b> Numeric temperature criteria are another example of the need to consider regional climatic differences within the State. Washington is geographically diverse, and climate varies greatly between the east and west sides of the State. To hold all water bodies to identical numeric temperature criteria is not reasonable, nor will it result in better water quality. It defies logic to hold a shallow stream, a hydroelectric reservoir and a deep mountain lake to the same temperature standards. Again, a “one-size-fits-all” approach will not result in better quality standards, but only in unattainable standards. <b>(Avista)</b></p>	<p><i>The temperature criteria were established based on the biological needs of salmon and trout, and relied on EPA regional guidance for the Pacific Northwest States (see <u>EPA Region 10 Guidance</u> from 2003). When determining numeric standards for temperature, staff reviewed monitoring data and found that the standards can be met in many of the streams that serve as important habitat for salmonids. At the time, Ecology seriously considered attempting to set two different standards to accommodate for the east and west sides of the state, but found little, if any, differences in the temperature requirements of the salmon and trout populations to justify different standards. It is important to note that natural conditions can be used as the basis for compliance when the water is naturally warmer than the statewide criteria.</i></p>
	<p><b>Comment:</b> The numeric temperature criteria limits in the Washington State DOE water quality standards for rivers and streams are not appropriate for the warmer climates that Eastern Washington experiences. <b>(ECBID)</b></p>	
	<p><b>Comment:</b> Temperature criteria do not allow exemptions for natural conditions where waterbodies could not be expected to achieve standards. Standards development should recognize that not all locations would naturally or would have historically provided optimal thermal conditions for salmonid fishes at all times. Standards should have flexibility to make site based changes in applicable standards based on documented and naturally occurring differences among sites. Ecology should provide an exemption for waterbodies where data suggest naturally occurring excursions beyond standards. A metric which establishes a percent of time that criteria are exceeded over a monitoring period would produce greater site discrimination, resulting in more cost effective and targeted protection or restoration activity. <b>(SCPW)</b></p>	

Topic	Comment	Ecology Response
<b>173-201A-200(1)(c)</b> <b>Temperature:</b> <b>Noncompliance</b>	<b>Comment:</b> We would like to request that when temperature non-compliance is found that the amount of time per year that the non-compliance is asserted to take place be clearly stated in the finding so that in the future, as improvements in temperature are achieved, a reduction in the annual time of non-compliance can be used as a metric to measure success. <b>(POCPUD)</b>	<i>Permits and TMDLs that are dealing with temperature exceedances or concerns do take into account the critical period that temperatures are violated, and can focus implementation efforts to the critical period of noncompliance.</i>
<b>173-201A-200(1)(c)</b> <b>Temperature:</b> <b>Determining maximum temperature</b>	<b>Comment:</b> The PUD has a concern with DOE's interpretation of the temperature standards, specifically interpretation of the maximum temperature. Part 1 of the criteria states that when natural conditions results in temperatures above 20 C, Celsius, human-caused increases in one-day maximum temperature shall not exceed 0.3 centigrade above natural conditions. A more realistic approach would be to average the temperatures throughout the water column or use a simple arithmetic average of the vertical temperature distribution, or even a weighted average based on flow through each modeling cell at each vertical location in the water column. <b>(POCPUD)</b>	<i>The temperature standards do not include specific information on how to model for natural conditions. This is done on a case specific basis when a Total Maximum Daily Load (TMDL) study is done, and modeling is decided based on site specific circumstances. Critical conditions are used when modeling for a TMDL to ensure that any pollution concerns are not masked. Unless otherwise specified, the temperature criteria has a metric of the "7-DADMax" or "7-day average of the daily maximum temperatures", which is the arithmetic average of seven consecutive measures of daily maximum temperatures. You may be referring to the special condition for the Pend Oreille River, which has a one –day maximum metric. It is possible that in the future we could revisit the special conditions in Table 602 and revise either the criteria or the metric associated with the special condition.</i>
<b>173-201A-200(1)(c)</b> <b>Temperature:</b> <b>Fish use &amp; site potential</b>	<b>Comment:</b> The absence of consideration of both fish use criteria and site potential in the designation of temperature standards promotes confusion. It would be useful for the WAC to be updated to state how (process) and why (what info) the Department would make or change a criterion based on site information. Requiring no more than a 0.3 degree change is not useful if the baseline is not known or established. <b>(SCPW)</b>	<i>The temperature criteria were set based upon what the biology needs rather than what is readily attainable based upon existing conditions. Ecology did seriously consider two different standards to accommodate regional difference on the east and west sides of the state, but found the temperature requirements of salmonids did not justify different standards. It is important to note that natural conditions can be used as the basis for compliance when the water is naturally warmer. The standards are set up so that natural limitations can be incorporated in the criteria for a watershed once such relationships are understood. This would require a study and a UAA to occur.</i>

Topic	Comment	Ecology Response
<b>173-201A-200(1)(d) Dissolved Oxygen: Natural Conditions</b>	<p><b>Comment:</b> Standards for dissolved oxygen found in table 200(1)(d) indicate that when dissolved oxygen for a waterbody is lower than the criteria and that condition is due to natural conditions, then human actions considered cumulatively may not cause the dissolved oxygen of that waterbody to decrease by more than 0.2 mg/l. It is unclear how cumulative impacts due to human actions are to be determined. Further, many field instrument and lab analytical methods used for analysis of dissolved oxygen have accuracies of up to 0.2 mg/l, depending upon the measurement obtained. More clarification is needed for an evaluation of cumulative human impacts and an acknowledgement of limitations due to analytical capabilities should be considered. (SCPW)</p>	<p><i>The 0.2 mg/l allowance for human actions is typically used when the water body has been determined to naturally exceed the criteria during a TMDL study or other water quality study. TMDL studies often used modeling as a means of identifying natural conditions and identifying the human allowance, so the cumulative consideration would typically be a part of the calculation for the water body. It is not always necessary to establish a natural baseline to implement the allowance. We can estimate reasonable potential in some cases using just ambient background quality. However, in most situations, DO problems will need to be reviewed using relatively sophisticated models that examine the impacts of the multiple sources and changing water body characteristics to an entire water body. The use of modeling allows Ecology to back out the effects of the human contributions to come to an estimate on natural conditions.</i></p>
<b>173-201A-200(1)(d) Dissolved Oxygen: Revise criteria</b>	<p><b>Comment:</b> Ecology is considering a shift from concentration-based criteria to saturation-based criteria for dissolved oxygen (D.O.). We think that this is a good idea, and recommend the shift to a saturation-based criteria. (Seattle)</p> <p><b>Comment:</b> The Northwest Indian Fisheries Commission believes that the dissolved oxygen criteria for fresh water should be included as part of the triennial review. (NWIFC)</p> <p><b>Comment:</b> EPA recommends that Ecology determine if regulatory revisions to the State's freshwater dissolved oxygen criteria are needed. (EPA)</p> <p><b>Comment:</b> Washington should consider adopting saturation state standards in addition to pH (CBD)</p>	<p><i>Ecology appreciates the support for a saturation-based dissolved oxygen criteria. This effort, including improved numeric criteria to increase protection for salmon spawning gravels, is a priority for Ecology and has been added to the associated 5 Year Plan.</i></p>

<p><b>173-201A-200(1)(d)</b>  <b>Dissolved Oxygen: Dominant Aquatic habitat</b></p>	<p><b>Comment:</b> The definition of “dominant aquatic habitat” should be clarified. We acknowledge that the reference to dominant aquatic habitat is in the context of DO measurements, but disagree that measurement is a separate issue from assessing an impairment or determining whether a numeric standard has been met. To make this clearer, subparagraph (B) above should be amended as follows: “Not be taken from shallow stagnant backwater areas <u>or waters below the thermocline in lakes and reservoirs</u>, within isolated thermal refuges, at the surface, or at the water’s edge.” (Avista)</p>	<p><i>Ecology understands that this term has caused confusion and a clarification in the rule would be beneficial when applying to lakes or reservoirs. We will consider adding clarifying language to a future rule-making.</i></p>
<p><b>173-201A-200(1)(f)</b>  <b>Total Dissolved Gas: Consider revising standard</b></p>	<p><b>Comment:</b> As we stated in our March 7, 2003 comment letter on the 2003 Proposed Surface Water Quality Standards rule revision, we encourage Ecology to support ongoing review of best available information regarding the TDG standard, and to engage EPA in dialogue regarding the potential for revisions to the standard. (Avista)</p>	<p><i>Ecology recognizes that new information regarding TDG and impacts to aquatic life are available and this information will be considered in future standards. Ecology will also encourage EPA to lead the effort to update the national criteria document to address this multi-jurisdictional issue in the Pacific Northwest.</i></p>
<p><b>173-201A-200(1)(f)</b>  <b>Total Dissolved Gas: Chief Joseph Dam</b></p>	<p><b>Comment:</b> The 2008 FCRPS BiOp directs the Corp to operate Grand Coulee to minimize TDG production. Ecology should ensure that future operations at Chief Joseph Dam under Phase 2 of the TDG TMDL attain compliance with the Phase 2 load allocation for the reach from Grand Coulee Dam to the Okanogan River: 73 mm Hg above saturation under all conditions, with the narrow exception of any exceedances necessary to support salmon flow objectives. At a minimum, to protect juvenile and adult salmonids at the Wells Project and downstream, during the fish spill season the TMDL’s Phase 2 TDG load allocation should be met from the Okanogan River downstream to the Wells Dam forebay. (DCPUD)</p>	<p><i>Ecology will continue to work with the US Army Corps of Engineers to meet the TDG WQ Standards for and the Phase 2 Total Maximum Daily Load requirements. Ecology will ensure that future Gas Abatement Plans developed by the Corps directly address how the FCRPS plans to meet these requirements.</i></p>

<b>173-201A-200(1)(f)</b> <b>Total Dissolved Gas: Fish spill language</b>	<p><b>Comment:</b> The U.S. Army Corps suggests adding “including flow augmentation releases” after the words hydroelectric dams. The revised language would read: “WAC 173-201A-200(1)(f)(ii) The TDG criteria may be adjusted to aid fish passage over hydroelectric dams, ‘including flow augmentation releases’ when consistent with a department approved gas abatement plan. This plan must be accompanied by fisheries management and physical and biological monitoring plans...” (USACE)</p>	<p><i>Ecology will consider adding this clarifying language to the WQ Standards to improve the understanding of the conditions of the TDG exemptions for fish passage.</i></p>
	<p><b>Comment:</b> The Corps suggests removing the word “consecutive” in the second paragraph to reduce confusion and provide consistency with the State of Oregon 2009 TDG waiver criteria. The revised language would read: “TDG must not exceed an average of 115 percent as measured in the forebays of the next downstream dams and must not exceed an average of 120 percent as measured in the tailraces of each dam (these averages are measured as an average of the twelve highest consecutive hourly readings in any one day, relative to atmospheric pressure);” (USACE)</p>	<p><i>Ecology recognizes the confusion that the 2003 rule addition of the term “consecutive” has caused in implementing the TDG criteria. Ecology will review this language to determine if it is necessary for the protection of the aquatic life use, and make any necessary revisions in a future rule-making.</i></p>

<b>173-201A-200(1)(g) pH: Ocean acidification</b>	<p><b>Comment:</b> The Department of Ecology should adopt a more stringent standard for its aquatic life pH criterion in marine water. The Center strongly urges that the Department of Ecology adopts a criterion for pH stating: “For marine waters, pH should not deviate measurably from naturally occurring pH levels as a result of absorption of anthropogenic carbon dioxide.” <b>(CBD)</b></p>	<p><i>Ecology appreciates the concerns raised regarding pH in marine water that may be lowered (become more acidified) due to absorption of anthropogenic carbon dioxide. We are closely following work that EPA is doing at the national level to address ocean acidification issues. A November 2009 <u>EPA Memo</u> addressed several issues on growing concerns for ocean acidification. One of the issues EPA reviewed was whether or not the current EPA nationally recommended pH criteria for marine waters should be changed to reflect ocean acidification concerns. After reviewing a wide range of information in response to a Notice of Data Availability on Ocean Acidification and Marine pH Water Quality Criteria (USEPA 2010b), EPA decided against revising the national marine pH criterion for aquatic life due to insufficient data. Given that, we do not believe there is sufficient information to change the marine pH criteria that would meet EPA approval.</i></p> <p><i>Ecology agrees that methods to appropriately detect and measure marine water pH are an important endeavor. Ecology scientists in the Environmental Assessment Program are currently collaborating with NOAA to develop improved methods that are specific to Puget Sound.</i></p> <p><i>Finally, Ecology already has narrative criteria at WAC 173-201A-260(2) to protect concentrations of deleterious material concentrations from adversely affecting beneficial uses. If we have knowledge that a local activity is discharging elevated levels of CO<sub>2</sub> that are impacting ocean pH, we can take actions to deal with the situation.</i></p>
	<p><b>Comment:</b> In an effort to effectively monitor pH and waters affected by ocean acidification, Washington State and the Department of Ecology should also adopt appropriate methods for detecting and measuring marine water pH. Some in the scientific community believe that, due to the natural variables affecting direct pH measurement, other indicators should be considered. Water quality parameters should include: pH, dissolved inorganic carbon (DIC), total alkalinity (TA), partial pressure of CO<sub>2</sub> (pCO<sub>2</sub>), and saturation state with respect to calcite and aragonite (Ω). <b>(CBD)</b></p>	
	<p><b>Comment:</b> Washington should consider narrative criteria that aim to protect aquatic life from water quality conditions that stress or decrease organisms’ fitness or calcification due to ocean acidification. <b>(CBD)</b></p>	

<b>173-201A-200(2)(b) Bacteria Criteria: Consider revising criteria</b>	<p><b>Comment:</b> We recommend that Ecology switch indicator organisms to achieve better protection of public health and cost savings. If we are to keep using fecal coliform bacteria as our primary pathogen indicator (which I recommend against) then I would recommend changes to the standards. Specifically, I would recommend the elimination of the Extraordinary Primary Contact Standard. Does Ecology possess any data that supports the continuing use of the Extraordinary Primary Contact standard? It appears to many of us at the county level that the Primary Contact standard is sufficient to protect beneficial uses in Washington State. <b>(KCHD)</b></p>	<p><i>In 2003 Ecology proposed changes to the bacteria criteria to adopt E. coli in fresh water and enterococci in marine waters. The draft rules also proposed eliminating the old Class AA standards for bacteria in lieu of one number to protect for public health. During the public review, Ecology received many comments and concerns about changing the bacteria standards, including:</i></p> <ul style="list-style-type: none"> <li>• <i>Significant concerns raised about protection of shellfish areas if indicators changed</i></li> <li>• <i>Concerns that stricter marine fecal coliform limits (14/100) may be jeopardized by using different and less stringent indicators</i></li> <li>• <i>Concerns that a change to E. coli in fresh waters would not be as stringent as 50/100 fecal coliform in Class AA waters</i></li> <li>• <i>Loss of historic fecal coliform data and lack of correlation with enterococci</i></li> <li>• <i>Increased costs due to dual monitoring required in marine waters and rivers draining to marine areas to protect shellfish use and higher costs of monitoring and analysis for new indicators</i></li> </ul> <p><i>After considering comments and other information, Ecology decided to stay with fecal coliform for fresh waters and marine waters protected for shellfish. This was based on:</i></p> <ul style="list-style-type: none"> <li>• <i>An Ecology study showed a very high correlation with E. coli and Fecal coliform in Washington (90-95%).</i></li> <li>• <i>The importance of protecting shellfish growing areas by continuing to use fecal coliform as indicator,.</i></li> <li>• <i>The loss in public health protection going from 50/100 fecal coliform to either 126/100 E. coli or</i></li> </ul>
	<p><b>Comment:</b> I would like to suggest changing the bacterial water quality indicator from the fecal coliform group to a more fecal specific indicator using E. coli in freshwater and Enterococci in marine waters or allowing the standards to encompass all three analyses.</p> <p>I am interested in the discussion of why we still use fecal coliform as an indicator of human or animal waste when the fecal coliform group includes bacteria from non-fecal origins such as saturated wood, which can give a false positive result.</p> <p>I am wondering if the Department has not changed the standard due to the large amount fecal coliform water quality data and the National Shellfish Sanitation Program use of fecal coliform analysis for shellfish growing area classification. <b>(MCD)</b></p>	
	<p><b>Comment:</b> Recreational based use criteria for fecal coliform bacteria are stricter than the most current EPA criteria for the protection of primary contact recreation. Ecology should consider relaxing the standards for fecal coliform bacteria based on EPA recommendations. <b>(SCPW)</b></p>	
	<p><b>Comment:</b> Greater confidence in test results is gained using E. coli, thereby providing public agencies better data upon which to make management decisions. The Oregon</p>	

	<p>Department of Environmental Quality conducted a water quality standards review from 1992-1994, resulting in adoption of E. coli as the indicator consistent with EPA criteria. Ecology should move towards adoption of E. coli as the parameter for protection of recreational uses in fresh water. (SCPW)</p> <p><b>Comment:</b> WSDOT encourages Ecology to consider adopting more predictive pathogenic bacteria indicators. The U.S. EPA recommends <i>E. coli</i> as the best indicator of health risk from water contact in recreational waters and <i>enterococci</i> for marine waters. (WDOT)</p> <p><b>Comment:</b> We recommend that Ecology explore the development of microbial indicator(s) that are more predictive than fecal coliform bacteria. (KingCo)</p>	<p><i>70/100 enterococci.</i></p> <p><i>We do want to note that EPA recently completed <u>studies</u> that serve as a scientific foundation for developing new or revised water quality criteria for recreational waters. The new or revised criteria will replace the current criteria recommendations EPA issued in 1986 and will be used by states, tribes and territories in their adoption of new water quality standards. These standards will protect people who engage in recreational water activities from potential illness associated with fecal contamination in the water. Ecology has followed EPA's progress and is very interested in reviewing the new nationally recommended standards for their applicability to Washington's waters. EPA expects to wrap up its work by the end of 2012 and should be coming out with new national recommendations in 2013.</i></p>
<p><b>173-201A-210 AQUATIC LIFE USES-Marine Waters</b></p>	<p><b>Comment:</b> The Northwest Indian Fisheries Commission believes that the aquatic life use designations for marine waters should be included as part of the triennial review. (NWIFC)</p>	<p><i>Ecology will work with the NWIFC and tribes to review the marine aquatic life use designations to ensure that they are meeting the beneficial uses of the waterbody. If there are specific designations that the Commission thinks are incorrect, we ask that this information be provided that will assist this process.</i></p>

<b>173-201A-230</b> <b>Nutrients:</b> <b>Develop criteria</b> <b>for fresh and</b> <b>marine waters</b>	<b>Comment:</b> Ecology should also consider adopting nutrient criteria in lieu of dissolved oxygen criteria. Furthermore, dischargers should only be subject to meet the criteria based on the fraction of phosphorus in its effluent that is biologically available. Ecology, in adopting nutrient criteria, should make clear that the criteria only apply to the biologically available fraction of nutrients in receiving waters. <b>(IEPC)</b>	<i>Ecology currently uses dissolved oxygen criteria and pH to identify problems that may be occurring as a result of nutrients coming from anthropogenic sources. This is described in Ecology Publication 04-10-033, <u>Nutrient Criteria Development in Washington State – Phosphorus, April 2004</u>. Ecology is also working on a document to outline and further describe the breadth of nutrient controls and prevention activities in Washington. This will assist in helping to understand what we are doing at Ecology to ensure that nutrients from anthropogenic sources are prevented or minimized. We hope to have this available by the end of 2011.</i>  <i>Trying to establish statewide nutrient criteria for our highly dynamic fresh and marine water systems is a concern because of the intensive resources that would need to be used to try to develop such criteria, coupled with the reality that one criteria would not work in many situations (there would be either false positives or false negative impacts from the established nutrient loading without considering site specific factors). The complexity of natural regimes of nutrient cycling in each lake or watershed requires setting limits seasonally and spatially. To achieve a protective limit requires that each of these systems be modeled to determine the appropriate nutrient criteria for each waterbody to ensure that dissolved oxygen and pH ambient conditions meet the aquatic requirements. We also note that the development of phosphorus criteria is based on total phosphorus in a system and not on bioavailable phosphorus, because when phosphorus is the limiting growth nutrient, bioavailable phosphorus is quickly taken up by organisms and does not last in the bioavailable form. Although phosphorus criteria for a waterbody is therefore based on the total phosphorus requirements of that waterbody, phosphorus discharge limits may be developed for the bioavailable form of phosphorus.</i>
	<b>Comment:</b> DOE appears to be dragging its feet with regard to phosphorus and nitrogen and nutrient requirements. Washington could apply for grants but has not. <b>(McConathy)</b>	
	<b>Comment:</b> Adoption of numeric nutrient criteria for Washington is long overdue. Ecology should explain what limitations, if any, would be associated with <i>not</i> adopting numeric nutrient criteria. <b>(NEA)</b>	

<b>173-201A-230 Nutrient Control in Lakes</b>	<p><b>Comment:</b> Lakes in particular are subject to both green and blue - green algae blooms and neither of those are addressed in these standards. Temperature and nutrients need to be addressed and are not addressed within the present standards. <b>(McConathy)</b></p>	<p><i>Bluegreen Algae as well as Chlorophyll a can both be used as indicators of eutrophication which is an excessive richness of nutrients in a waterbody. Currently WA employs dissolved oxygen and pH as key indicators of nutrient pollution. These indicators are effective at measuring the effects of nutrients on the water column and impacts to aquatic life in the waterbody.</i></p>
	<p><b>Comment:</b> The Department of Ecology is not doing TMDLs on lakes because of the high costs it claims. This is a real problem in that we are seeing no lakes that are being looked at this way. The standards describe unique lake nutrient criteria, but the entities responsible for the implementation of these standards programmatically and in monitoring do not exist. <b>(McConathy)</b></p>	<p><i>Ecology will also be looking at pilot project ideas for fully implementing WAC 173-201A-230 to establishing lake-specific nutrient criteria for lakes. This section on the WQ Standards has been used as guidance on earlier projects but a pilot study will provide Ecology with information that will help fully employ this section as it was originally intended. We have had interest from the Vancouver Lake Watershed Partnership in pursuing the establishment of nutrient criteria for Vancouver Lake.</i></p>
	<p><b>Comment:</b> TMDL clean up plans will not achieve the requisite control of nonpoint loading of 303(d) listed stream reaches and lakes or bring them into compliance with state water quality standards until regulations requiring cleanup of nonpoint nutrient pollution sources and financial incentives are implemented to either levy environmental mitigation fees on nonpoint nutrient generators or provide incentives to encourage their adoption of best management practices for preventing or minimizing nutrient discharges at their source. <b>(Russell)</b></p>	<p><i>Ecology recognizes the need to continue to improve methods and develop new tools to implement clean up plans for lakes and other waterbodies. Each lake has different sources of pollution and each may require a different suite of solutions. TMDLs are important in first identifying the sources which help to determine appropriate clean up actions. The WQ Standards staff will forward on these ideas for new cleanup actions to regional TMDL implementation staff who establish implementation plans to meet clean water goals.</i></p>
	<p><b>Comment:</b> We request that Ecology consider establishing nutrient criteria for Vancouver Lake under Washington Administrative Code Section 173-201A-230(3) and evaluate contributing watersheds. We would like to work with Ecology to ensure that the data being collected by the USGS will fit your needs for developing nutrient criteria and provide assistance once the data is collected in order to develop nutrient criteria for Vancouver Lake. <b>(VLWP)</b></p>	<p><i>Ecology appreciates the willingness of the Vancouver Lake Watershed Partnership to work with Ecology on a project. Ecology will consider developing nutrient criteria for individual lakes, such as Vancouver Lake. The process identified to accomplish this is outlined in Ecology Publication 04-10-033, "Nutrient Criteria Development in Washington State – Phosphorus, April 2004." Faced with budgetary shortfalls, Ecology does not have the resources to complete limnological investigations on individual lakes and any nutrient decisions will need to rely on information</i></p>

	<p><b>Comment:</b> We may have TMDLs on both Salmon Creek and Burnt Bridge Creek that go into Vancouver Lake, and they will meet state standards, but they will not meet the standards necessary to support improvements to Vancouver Lake. <b>(McConathy)</b></p>	<p><i>collected by others. You noted that the U.S. Geological Survey (USGS) is collecting data on the lake and once this investigation is completed, we would be willing to review the data set against the criteria outlined in Publication 04-10-033. Ecology is currently performing a fecal coliform bacteria, dissolved oxygen and temperature Total Maximum Daily Load effort on Burnt Bridge Creek, a major tributary to Vancouver Lake. While TMDL parameters did not include phosphorus, pollution reductions to address dissolved oxygen will likely affect phosphorus inputs to the lake.</i></p>
<p><b>73-201A-240 TOXICS: Update Fish Consumption rate using better data and local fish consumption.</b></p>	<p><b>Comment:</b> We understand that Oregon is intending to increase its assumption of local fish consumption to a much higher level (~30x). Since the DOE is tasked with protecting sensitive populations, we believe that if the consumption assumption were changed that this could be accomplished in a more realistic manner than the Oregon approach, but also be more protective. If the DOE were to change the fish consumption assumption, we would suggest the Agency conduct a survey of a wide sampling of Washington residents' local fish consumption habits. Utilizing the survey data, the local fish consumption value could then be based on the actual consumption of the 90th percentile of this population. The 90th percentile local fish consumption value should be a reasonable value that is also sufficiently protective of a wide spectrum of Washington residents. <b>(Bellingham)</b></p> <p><b>Comment:</b> The fish consumption rate and derived water quality criteria for toxics should be at a minimum protective of the 99<sup>th</sup> percentile for tribal members relying on fish throughout the Columbia River basin. Based on the survey conducted for Columbia River Tribes, that would be a consumption rate of 389 grams/day. <b>(Kalispel)</b></p>	<p><i>Ecology is currently addressing fish consumption rates for clean-up sites in the Sediment Management Standards(SMS) rule revision. Parts of the SMS are Clean Water Act-approved standards. The fish consumption rate that is adopted into the SMS will more than likely form the basis of future human health-based water quality criteria. As part of the SMS rule-making the agency will consider the fish consumption studies that have been done in the Pacific Northwest, as well as EPA guidance on developing human health-based criteria. If a new fish consumption rate is adopted by Ecology it will not be based de facto on the work done in Oregon. Any new rate will be based on Ecology review of fish consumption studies, public comments and recommendation (including those made in this triennial review scoping process), and information and input from interested parties, tribes, and other state and federal agencies.</i></p> <p><i>Clear communication among all interested parties will be critical if we are to effectively address the interests and concerns of different groups regarding revised human health criteria and/or implementation of criteria. All</i></p>

	<p><b>Comment:</b> The Northwest Indian Fisheries Commission expresses strong tribal support for the Department of Ecology to update human health criteria as part of the triennial review. The health of people living in this region, particularly tribal people, is not adequately protected by the current criteria of 6.5 g/d. It should be a priority to take the opportunity as part of the triennial review, to consider and update the fish consumption rate used by the State of Washington to protect human health. <b>(NWIFC)</b></p>	<p><i>concerns and recommendations that address human health criteria that were made during this triennial review scoping process, will be discussed. Ecology expects that these concerns and interests will be discussed at length during any rule-making for human health-based criteria or discussion of implementation. Some of the interests and concerns that will be discussed include:</i></p> <ul style="list-style-type: none"> <li>• <i>Which chemicals are of greatest concern from an implementation standpoint?</i></li> <li>• <i>Which chemicals are of greatest concern from a risk/health standpoint?</i></li> <li>• <i>Which chemicals can be effectively addressed through source control or other approaches?</i></li> <li>• <i>What approaches are available to reduce the levels of chemicals entering waterbodies?</i></li> <li>• <i>How do existing loads of contaminants in water and sediment affect the ability to meet criteria over the long term?</i></li> <li>• <i>Are chemicals that are naturally present in the water column treated differently than chemicals that are added by human activities?</i></li> <li>• <i>What risk levels are acceptable in Washington?</i></li> <li>• <i>Rates of consumption vary among populations in Washington. What is an appropriate default rate?</i></li> <li>• <i>Are marine species (specifically salmon) included</i></li> </ul>
<p><b>Comment:</b> Update the human health criteria with a revised fish consumption rate. Pay attention to lessons learned from the Oregon process as Ecology moves forward. Adopt implementation methods in rule for the narrative criterion for toxics. The implementation methods should make the link between run-off and loading. <b>(NEA)</b></p>		
<p><b>Comment:</b> Studies in our own state have demonstrated that the fish consumption rate is under-protective of not only tribal fishermen but other subsistence fishermen and fish consumers. It's clear that our human health criteria standard is out of date and needs to be modified. <b>(PPS)</b></p>		
<p><b>Comment:</b> Upgrade the fish consumption value to more accurately reflect the actual fish and shellfish consumption of Indian people. At a minimum, we believe State of Washington should adopt a minimum fish consumption of 175 g/day (0.39 pounds) based on the fish consumption studies conducted to date by the State of Oregon and Confederated Tribes of the Umatilla Indian Reservation. <b>(Quinault)</b></p>		

	<p><b>Comment:</b> There are several flaws in the calculation of current fish consumption rates (fcr).</p> <ul style="list-style-type: none"> <li>• “Fish” should refer to all fish and shellfish that people consume within a geographic boundary, including marine species.</li> <li>• Non-consumer data should not be included in the determination of a fish consumption rate.</li> <li>• The new rate must protect the tribal fishers who consume fish. The fcr should protect the people who consume the most fish.</li> <li>• Revised fcr should reflect the 95 percentile of the Suquamish tribal fish consumption data, not the average. (766.7 grams per day).</li> </ul> <p>While we are recommending a revised fcr based on current Suquamish data for this tri-annual review process, we explicitly state that this suggested Suquamish rate is not our final, preferred rate. <b>(Swinomish)</b></p>	<p><i>in the default fish consumption rate?</i></p> <p><i>We will work with the USEPA and stakeholders to examine available regulatory tools that can help with implementation, as well as explore alternatives to currently available tools. The work in Oregon is expected to be very useful to us here in Washington because of the wide-ranging and in-depth discussions that took place regarding implementation, source controls, and regulatory tools.</i></p>
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<p><b>173-201A-240 TOXICS: Fish Consumption- Implementation</b></p>	<p>NWPPA is concerned with the proposal that Ecology may adopt higher fish consumption rates based on the work of the State of Oregon to adopt 175 grams per day. Ecology must also have a plan that moves toward reduction of toxics but that also addresses two categories of issues:</p> <ul style="list-style-type: none"> <li>• Individual Permit Issues</li> <li>• Landscape Issues</li> </ul> <p>Ecology should commence a comprehensive long-term strategic process to review and develop existing mechanisms under the federal and state clean water acts to address these issues. The idea of increasing the fish consumption rate is not a plug-and-play idea. It's not a matter of taking those numbers and changing the water quality standard. It has to come with a set of standards and implementation measures that are going to look very different from what we now have on the books; otherwise, it will not work. (NWPPA)</p>	<p><i>Ecology agrees with commenters that point out that implementation issues need to be addressed. When Ecology moves forward in the SMS rule-making, it will be important for the Water Quality Program to address implementation issues as well as expectations of success in reducing sources of contaminants and reaching tissue levels of contaminants that meet criteria levels. The suggestion to examine implementation at both the permit level and at landscape levels (e.g., the increase in 303(d) listings that would come with more stringent criteria), to adopt implementation methods for the narrative toxics standard, to look at controls for non-point-sources, and to review and explore implementation of existing regulatory mechanisms will be part of that discussion. Additionally, Ecology recognizes that the implementation discussion could happen ahead of adoption of human health-based criteria. A discussion of this type, even though focused on toxics, could also help in the development of tools that would help address regulatory compliance and source control conventional pollutants.</i></p>
<p><b>73-201A-240 TOXICS: Fish Consumption- Raise risk level &amp; other assumptions</b></p>	<p><b>Comment:</b> If Ecology chooses to revise the criteria to reflect a higher fish consumption rate such as Oregon is considering, then Ecology should also revise the risk level from one in a million (10-6) additional lifetime cancer rate to one in 100,000 (10-5). Ecology needs to be careful to avoid actions that impose substantial costs on society to address very small risks. Such costs will force significant and harmful tradeoffs affecting human well-being. (SRLLP)</p> <p><b>Comment:</b> We recommend that Ecology adopt the criteria in the National Toxics Rule to establish human health-based state water quality standards for Washington State. Assuming the human health criteria are adopted by Ecology, we recommend that Ecology consider revisiting the risk analysis fish consumption assumptions used to set human health water quality criteria. (KingCo)</p>	<p><i>At present Ecology has no plans to propose a change to the risk level, however, when Ecology starts public discussions on both implementation and calculation of new human health-based criteria we expect that risk level will be a part of the discussion. The risk level a state sets (within bounds set by EPA) is based on policy, and thus flexibility is inherent in the choice. We expect to start discussions on implementation of criteria sometime in the fall of 2012.</i></p>

<b>173-201A-240 TOXICS: Human Health Criteria</b>	<p><b>Comment:</b> Washington State must review and adopt new human health criteria for toxics. We call on the State to promptly move forward with developing new human health criteria for toxics. In this effort, we encourage Ecology to work closely with the many Washington tribes who are leading the effort to promote more protective human health criteria. <b>(CRK)</b></p>	<p><i>Please see responses above under Fish Consumption Rates.</i></p> <p><i>Arsenic: Arsenic will be a chemical of particular concern when human health criteria are addressed in a rule-making process because (1) it has both natural and anthropogenic sources in Washington, and (2) the concentrations that currently exist in groundwaters and surface waters in the state sometimes exceed current criteria. Although the MCL for arsenic is a possible candidate for a criterion, it is unlikely to be adopted in Washington because it does not provide protection for ingestion of fish and water at the state upper bound cancer risk level of one-in-one-million. However, because the MCL has been adopted in Alaska and Idaho this approach will be explored during rule-making. Another alternative for criteria development for Washington could be development of a state-specific criterion based on state-specific bioconcentration factors and in-tissue speciation. Oregon has proposed an arsenic criterion based on a modified bioconcentration factor, speciation in tissue, and a higher risk level. Any criterion adopted by Washington will require EPA CWA-approval before being implemented.</i></p>
	<p><b>Comment:</b> In February 1997, the City of Everett petitioned Ecology to go through rule-making to revise the applicable human health surface water quality criteria for arsenic. Ecology denied the petition, but acknowledged the issues and uncertainties. As Washington considers changes to human health based surface water quality standards, Washington should follow Idaho's and Alaska's lead specifically applying the drinking water criterion of 10 ug/L for Arsenic as the only human health surface water criterion. <b>(Everett)</b></p>	
	<p><b>Comment:</b> I know there remain difficulties in trying to incorporate federal agency studies showing salmon are affected in ways that preclude or add to mortality by toxics at lower levels than are in our criteria. I think this is an opportunity to incorporate this recent data into our standards. <b>(PPS)</b></p>	
	<p><b>Comment:</b> EPA urges Ecology to make the revision of Washington's human health criteria the most important priority in this Triennial Review. To avoid duplication of efforts, we recommend that you consult with the State of Oregon as you move forward. EPA believes that the fish consumption rate of 6.5 grams per day is not reflective of fish and shellfish consumers in the State of Washington. Ecology should examine the most recent EPA criteria documents as well as other technical developments and studies to determine an appropriate fish consumption rate that would result in criteria protective of the State's designated uses. <b>(EPA)</b></p>	

<b>173-201A-240 TOXICS: Biotic Ligand Model</b>	<p><b>Comment:</b> WSDOT encourages Ecology to consider deriving fresh water dissolved metals criterion based on EPA’s biotic ligand model in lieu of hardness-only based criteria. <b>(WDOT)</b></p>	<p><i>Criteria Updates: Ecology plans to update the aquatic life-based criteria for fresh and marine waters after EPA and the Services have concluded their ESA consultation on the Oregon aquatic life criteria rule. Prior experience in the Pacific Northwest indicates that ESA consultation can significantly slow the criteria approval process, and can result in additional resources being required by states in order to revise standards that do not get CWA-approval based on ESA concerns. This happened after Ecology’s 2003 adoption of standards (temperature was the main issue), and final CWA-approvable standards were not finalized until 2006. The results of the Oregon consultation and CWA approval process will help guide Ecology as updates for Washington are considered and proposed. The Oregon consultation is expected to be completed within the next two years.</i></p> <p><i>Biotic Ligand Model: Several commenters recommended adoption of BLM-based criteria for zinc and copper. The USEPA has developed a recommended freshwater copper criterion based on the BLM, but work on the model for other metals has not been completed. When Ecology updates the metals criteria the most likely approach will be to adopt the full suite of updated criteria contained in EPA’s list of recommended criteria for aquatic life protection. Ecology is unlikely to take on the task of developing the criteria models, given the resources and expertise that would be required of such a study. Criteria development is extremely resource intensive and must be coordinated with EPA (and the Services) during the entire process to help ensure ESA and CWA approval.</i></p> <p><i>Ecology is unlikely to form a committee to determine how the BLM can be incorporated into Washington’s water quality standards at this time. Because EPA has worked on the BLM for development of national recommended criteria</i></p>
	<p><b>Comment:</b> We recommend that Ecology consider an update to the aquatic life criteria for zinc as follows:</p> <ul style="list-style-type: none"> <li>• Update the hardness-based zinc criteria using the substantial body of zinc toxicity data published in the last 23+ years; and</li> <li>• allow use of the BLM to derive site-specific zinc criteria.</li> </ul> <p>Relevant to #2, we recommend that Ecology restore language in the Permit Writer’s Manual concerning the use of water effect ratios (WERs). <b>(Windward)</b></p>	
	<p><b>Comment:</b> We recommend that the state adopt the Biotic Ligand Model (BLM) based freshwater copper criteria now and look towards the current effort underway to develop a copper BLM for marine water. The state should look at the development of other BLM criteria and evaluate whether they could be adopted now, even if ahead of EPA. The state should make use of a Water Effect Ratio (WER) available to adjust criteria without needing site-specific rule making. If the state does not adopt the copper BLM, then it should amend footnote “dd” to allow site-specific adjustments to the criteria based on either a WER or the BLM. <b>(Everett)</b></p>	
	<p><b>Comment:</b> We encourage Ecology to include a review of Washington’s criteria for toxic chemicals in surface water, specifically the freshwater criterion for copper using the 2007 EPA revised criterion document for copper which identified the use and implementation of the Biotic Ligand Model as “best available science”. The Department should establish a committee of interested parties to discuss how the Biotic Ligand Model can be incorporated into the State of Washington Water Quality Standards. <b>(Burien)(Kennewick)(Redmond)(Parametrix)</b></p>	

	<p><b>Comment:</b> [We] are interested in seeing copper criteria updates in the Washington, specifically the freshwater criteria for aquatic life. Using outdated criteria may also result in under-protecting aquatic life, or false negatives. Therefore, Washington should consider adopting the most current EPA criteria, which for copper are the 2007 BLM-based criteria. <b>(CDA/ICA)(GEI)</b></p>	<p><i>we suggest that parties interested in offering expertise or advice on how this model should be included in criteria for other metals contact the EPA and become involved at the national level. As stated above, Ecology intends to propose the freshwater BLM-based national recommended criteria for copper as part of future updates to the standards.</i></p>
<p><b>Comment:</b> [We] encourage Ecology to consider using the [Biotic Ligand Model] BLM as an alternative to the hardness-based approach for deriving copper water quality criteria in 173-201A-240 WAC. Due to the BLM's increased precision and efficiency compared to the hardness-based criteria, cost effectiveness, availability to the public and technical simplicity, we recommend use of the BLM to calculate copper criteria in Washington State. We also recognize that it may be more practical to implement BLM-based criteria on a more incremental or site-specific basis until sufficient water quality data are available for derivation of state-wide criteria. This would also allow Ecology to apply the BLM to waters for which the hardness-based criteria are most likely to be over- or under-protective of aquatic life. <b>(GEI)</b></p>		
<p><b>Comment:</b> Washington State should consider adopting more current zinc criteria for the protection of freshwater aquatic life. These zinc criteria could be the updated hardness-based zinc criteria, similar to the BLM-based zinc criteria. Another option would be to update the hardness-based zinc criteria and consider adoption of BLM-based zinc as a site-specific option. <b>(IZA)</b></p>		
<p><b>Comment:</b> We recommend that Ecology evaluate methods for applying the United States Environmental Protection Agency's biotic ligand model wherever possible in lieu of hardness-only based criteria for dissolved copper. <b>(KingCo)</b></p>		

<p><b>173-201A-240</b> <b>TOXICS: WERs</b></p>	<p><b>Comment:</b> We recommend that footnote (dd) to the numeric criteria Table 240(3) should be revised as needed to facilitate the use of WERs as intended in longstanding EPA policy. <b>(Windward)</b></p>	<p><i>Ecology agrees with this comment, and considers the ability to use WERs in permits to be a high priority. Discussion with EPA indicates that development of a program to use WERs in permits, and have that program approved by EPA, is a substantial task. In order to fully develop the program Ecology will need to do several other tasks, including development of implementation guidance and a tracking system. This would then need to be included by reference in the standards and approved by EPA. As stated above, Ecology considers this a high priority for rule-making.</i></p>
<p><b>173-201A-240</b> <b>TOXICS: Other</b></p>	<p><b>Comment:</b> I know there remain difficulties in trying to incorporate federal agency studies showing salmon are affected in ways that preclude or add to mortality by toxics at lower levels than are in our criteria. I think this is an opportunity to incorporate this recent data into our standards. <b>(PPS)</b></p> <p>We request that the criteria for toxic pollutants be updated to reflect the most recent data and standards for each pollutant. <b>(Swinomish)</b></p> <p><b>Comment:</b> Adopt numeric criteria for the protection of wildlife based on EPA's Great Lakes Initiative for specific PBT chemicals and use the GLI methodology for deriving wildlife criteria . <b>(NEA)</b></p>	<p><i>Please read the responses to comments above under: Fish Consumption Rates, Human Health Criteria, Biotic Ligand Model, and WERs.</i></p> <p><i>Ecology is unlikely to take this on in the near-term (next 5 years) as a rule-making effort. Although adoption of these criteria is an important part of water quality criteria to protect designated uses, the reality is that there are too many competing priorities that must be addressed to take on this large and complex project at this time.</i></p>

	<p><b>Comment: Comment:</b> We recommend that Ecology adopt the criteria for nonylphenol in the water quality standards for Washington State. We recommend that Ecology track the development of scientific data and federal criteria for chemicals for which there are no Washington State surface water quality standards. Chemicals and chemical classes we encourage for consideration include:</p> <ul style="list-style-type: none"> <li>• Natural and synthetic hormones and other endocrine disrupting compounds</li> <li>• Metals and metalloids, e.g., aluminum</li> <li>• Polycyclic-aromatic hydrocarbons (PAHs)</li> <li>• Polybrominated diphenylethers (PBDEs)</li> <li>• Phthalates</li> <li>• Phenols, e.g., alkyphenol ethoxylate and degradation products</li> <li>• Personal care products and pharmaceuticals</li> <li>• Nano-materials (<b>KingCo</b>)</li> </ul>	<p><i>When Ecology revises criteria for toxics, the basis of the revisions is most frequently EPA's list of national recommended water quality criteria. This list includes nonylphenol, as well as many other chemicals. Ecology tracks EPA research programs for chemicals of interest that do not have criteria values, such as endocrine-disrupting compounds, phthalates, and nano-materials.</i></p>
<p><b>173-201A-240 TOXICS: Effects Levels</b></p>	<p><b>Comment:</b> Update Washington's aquatic life-based numeric criteria, and take into account criteria that have been determined to be less protective than levels determined to be protective by the USFWS and the NMFS. (EPA)</p>	<p><i>EPA uses acute and chronic data in their criteria development program. The salmonid studies conducted by the National Marine Fisheries Service look at the sublethal effects of copper on olfactory response in salmonids in a freshwater setting. How and whether these data will be included in criteria development is an unknown at this point. We are waiting to see the results of the ESA consultation on the Oregon toxics criteria, and hoping that the sublethal olfactory effects data will be addressed by both the Services and by EPA, and the role of these data in criteria development resolved. Regardless of how this issue is resolved in the Oregon consultation, we expect that this topic will be an area of discussion during the rule-making to adopt updated aquatic life-based criteria.</i></p>

<b>173-201A-260 Other Water Quality Criteria to ensure full protection of Designated Uses</b>	<p><b>Comment:</b> We strongly support Ecology’s building on the work it did 15 years ago to clarify its standards by setting out the expectations for protection of waters to support fish and wildlife. In many cases, these criteria would be <i>direct</i> measures of quality of waters as habitat rather than indirect measures such as temperature (putting aside temperature as a pollutant). These criteria would also more readily lend themselves to being developed into implementation method rules. <b>(NEA)</b></p>	<p><i>We recognize the value in having more specific criteria for the protection of habitat. However, we see potential challenges given the natural diversity in many river systems and watersheds in Washington. The water quality standards do include narrative criteria that can be applied when deleterious materials adversely affect characteristic uses of a waterbody. Tier I Antidegradation also requires the protection and maintenance of existing and designated uses, and does not allow degradation that would interfere with, or become injurious to, waterbody uses. We believe documented degradation to the morphology and hydrology of a stream could be covered under these narrative standards. We do intend to explore rule language or guidance directed at specific waterbody types, such as stratified waters and low flow waters, to ensure adequate implementation of the standards.</i></p>
	<p><b>Comment:</b> Develop physical criteria for channels based on reach morphology type (slope, valley confinement). The morphology of a channel can affect water quality (e.g. turbidity, temperature), thus we encourage the Department of Ecology to explore the development of physical criteria for channels to protect the water quality for the designated uses. <b>(Quinault)</b></p>	
	<p><b>Comment:</b> We urge Ecology to, at a minimum, include in this triennial review a proposal to adopt some basic narrative protections concerning flows that are associated with the legal requirement to fully support designated uses. Even such a small step would put Ecology’s water quality standards on an improved path towards relevance to providing full support of Washington’s beneficial uses. <b>(NEA)</b></p>	<p><i>We do intend to explore adopting more language around flows and implementing the standards, both naturally low flow situations as well as the need for minimum instream flows. While the standards can now be used to protect for minimum flows where identified, we rely on the Water Resources Program at Ecology to actually establish and regulate instream flows.</i></p>
	<p><b>Comment:</b> Protect instream flows. Water quality is dependent upon adequate instream flow, thus water rights that reduce instream flow can detrimentally affect water quality. One example would be to conduct synoptic flow studies to determine gaining and losing reaches and use this information to deny water withdrawals that will reduce instream flows. <b>(Quinault)</b></p>	
	<p><b>Comment:</b> Ecology should adopt numeric criteria for fine sediment. Fine sediment is intimately related to many of the pollution sources that create the greatest threat to Washington’s water quality. <b>(NEA)</b></p>	<p><i>We agree that fine sediments criteria would be a good addition to the water quality standards and have added this goal to the 5 Year Plan.</i></p>

<b>173-201A-260(3)</b> <b>Procedures for applying criteria LOW FLOW / EPHEMERAL FLOW</b>	<b>Comment:</b> We applaud the inclusion of low-flow conditions in the WAC and look forward to seeing how the DOE drafts the language on how the rule applies in those circumstances when a listed creek has no running water. There are several instances in our urban boundaries of creeks with WAC 173-201A listings where this condition applies. This phenomenon is observed in our region in the late summer. <b>(Bellingham)</b>	<i>Ecology recognizes that there are naturally occurring ephemeral or intermittent streams that cannot meet some numeric criteria during naturally low flow conditions. The water quality standards do not currently have explicit language for dealing with these types of waterbodies. We agree that clarity in this area is important for implementing the standards in a meaningful manner. Ecology will conduct a review of how other states have dealt with similar type waterbodies and work with other experts in the field of water quantity and habitat protection to ensure that future proposed rule changes provide adequate protection that are not unnecessarily stringent for these types of waterbodies.</i>
	<b>Comment:</b> Given the spatial complexity of water quality conditions in lakes and reservoirs, Ecology should provide guidance on where temperature, dissolved oxygen, and pH measurements should be taken in these water bodies. <b>(Seattle)</b>	
<b>173-201A-260(3)</b> <b>Procedures for applying criteria: Stratified waterbodies</b>	<b>Comment:</b> Ecology should apply only narrative DO criteria to the hypolimnion, based on more flexible yet scientifically rigorous analysis. Washington should apply more scientifically rigorous and water body-specific DO criteria to stratified water bodies. <b>(Avista)</b>	<i>Ecology agrees that guidance for implementing the Water Quality Standards in lakes and reservoirs is necessary and has prioritized this task in our Standards planning and development. Ecology will also review other state, tribal, and federal rules and guidance for applying standards to these stratified waterbodies. The need for site-specific criteria is always being reviewed in context of the Water Quality Standards and Ecology will continue to develop criteria when the necessary information and resources are available.</i>
	<b>Comment:</b> Ecology should clarify that dissolved oxygen criteria as applied in a man-made reservoir are narrative for all parties. Ecology should resolve this issue now as it will continue to delay and add considerable expense to the improvement of water quality in Lake Spokane and the Spokane River. Alternatively, Ecology should consider specific dissolved oxygen criteria for reservoirs. Ecology should adopt a rule similar to Oregon and Idaho to address stratification of reservoirs. <b>(IEPC)</b>	
	<b>Comment:</b> It does not make sense to rigidly apply numeric temperature and dissolved oxygen criteria over the entire water column of a stratified waterbody. We believe the state could do a much better job of considering these allowances when identifying impaired waters (waters that do not meet our standards) and typically defaults to the numeric criteria, applicable anywhere in the water column. <b>(Everett)</b>	

<p><b>173-201A-260(3)(i)</b>  <b>Protection of wetlands</b></p>	<p><b>Comment:</b> Improve wetland protection, restoration, and retention. Current standards are not protective of processes that sustain, maintain, and create wetlands over time. Existing standards are not protective of degraded wetlands that may be crucial to sustaining a minimum habitat baseline protective of tribal treaty rights. <b>(Quinault)</b></p>	<p><i>Wetlands are managed and regulated in the Shorelands and Environmental Assessment (SEA) Program. Information can be found at the SEA Program webpage for <u>Mitigation</u>. We agree that in order to maintain effective ecosystems we need to understand the watershed processes driving wetland development and maintenance. We are currently working on a watershed characterization <u>project</u> that focuses on identifying critical watershed processes and evaluating which areas on the landscape are priorities for protection and restoration as well as identifying areas where it is most appropriate to focus development. This information can help inform decisions on land use and protection standards for wetlands.</i></p> <p><i>The current approach to mitigation has not focused on the larger watershed context for projects. We are working on shifting the emphasis to a more watershed based approach through guidance - <u>Selecting Wetland Mitigation Sites Using a Watershed Approach</u> –Ecology publication #09-06-032. It is our hope that information from our watershed characterization work and mitigation guidance will move us closer to protecting important watershed processes and locating mitigation in the most effective areas for restoring and maintaining watershed processes.</i></p>
<p><b>173-201A-300</b>  <b>ANTI-DEGRADATION:</b>  <b>General</b></p>	<p><b>Comment:</b> The Northwest Indian Fisheries Commission believes that the anti-degradation policy should be included as part of the triennial review. <b>(NWIFC)</b></p>	<p><i>Ecology made a substantial effort in 2003 to revise the antidegradation policy, especially for Tiers II and III. We do not anticipate making changes to this section of the rule in the next five years. We do recognize that guidance and protocols for applying the antidegradation policy are important for implementation, and have committed to this effort.</i></p>

<p><b>173-201A-310 ANTI- DEGRADATION: Tier I Protections</b></p>	<p>The triennial review should resolve an inconsistency with EPA requirements. While federal law would allow the removal of some designated uses that are not existing uses under Washington’s subsection (1), the rule’s combining of existing and designated uses results in a misleading and inconsistent provision with regard to existing use protection. This should be revised.</p> <p>Ecology’s subsection (3) of the antidegradation policy is its natural conditions provision. This is not a definition of protection but, rather, an exception to the otherwise applicable criteria. It is not clear why this natural conditions exception resides in the Tier I protections section of Washington’s antidegradation policy. (NEA)</p>	<p><i>In May 2007, Ecology received EPA approval of the antidegradation Tier I section, including a statement that all elements of the federal policy were met. (See 05/02/07 letter). Requiring the “level of water quality necessary to protect the existing uses” is implied by the statement in Tier I(1) that “existing and designated uses must be maintained and protected.” WAC 173-201A-010(1)(b) states that “based on the use designations, numeric and narrative criteria are assigned to a water body to protect the existing and designated uses.” Therefore, requiring protection of designated uses implies that criteria must be met to ensure that protection. EPA’s letter also approved the inclusion of designated uses, and states that inclusion of both existing and designated uses was more inclusive, rather than less inclusive, and expanded the coverage that was afforded in the 1997 standards. Finally, EPA approved the natural condition provision as being consistent with the previously approved 1997 standards. The purpose of this provision is to recognize and authorize that where natural conditions are of lower quality than the assigned criteria, those natural conditions become the assigned criteria.</i></p>
	<p><b>Comment:</b> Washington’s Tier I protections fail to include the requirement that the “level of water quality necessary to protect the existing uses” be maintained and protected. This is an important and required component of the federal policy that Ecology has not included in its antidegradation policy, an omission that requires a remedy in this triennial review. (NEA)</p>	
	<p><b>Comment:</b> Ecology should have implementation methodologies for every likely regulatory use of Tier I, that is to say, every time that Ecology or some other agency expects to interpret and apply Washington’s water quality standards. We urge Ecology to consider the wide breadth of implementation methods that could and should be used to assure Tier I protections for all waters. In addition to specific methods of providing protection, Ecology needs to have guidance concerning how it, or other agencies seeking to establish that water quality standards will be met in the face of existing or proposed activities, will assess whether existing uses are or will be protected. (NEA)</p>	

<b>173-201A-310 ANTI- DEGRADATION: Tier I Implementation Methodologies</b>	<p><b>Comment:</b> If wild-fish populations and ecosystems are going to be conserved and recovered, our existing habitat must be conserved and protected, and the best place to start is by implementing the most basic habitat protection regulation. Ecology should articulate comprehensive Tier I antidegradation implementation methods as part of this Triennial Review. <b>(WFC)</b></p>	<p><i>Ecology maintains that Tier I protections are accomplished through state programs designed to protect and maintain water quality, including implementation of the standards, NPDES permits, 401 certifications, Water Quality Assessment/303(d) listings, Total Maximum Daily Loads (TMDL), Forest Practices, and other programs. Each of these programs have implementation methodologies, procedures, and protocols established so that standards are appropriately applied to ensure Tier I protection. We do agree that guidance in implementing the three tiers of antidegradation are helpful and will consider further guidance on implementing Tier I as resources allow.</i></p>
	<p><b>Comment:</b> Ecology needs to address some inadequacies in its Tier II antidegradation review. Each time an NPDES permit is renewed, regardless of whether the permittee proposes to increase loading, Ecology must do an analysis to ensure that the waterbody has not degraded and, if it has, the terms of the permit may require additional restrictions to ensure further degradation does not occur. Many NPDES permits have been issued based on potential loads to which the dischargers have not yet discharged. Ecology, and its antidegradation implementation rules, should not assume that the level of loading assumed in the past to not have the potential to cause or contribute to violations of water quality standards and/or to cause a lowering of water quality to high quality waters would be valid if evaluated today. As most if not all of these permits with potential loads were not subject to Tier II antidegradation review when the loads were first authorized by an NPDES permit, it is appropriate to subject them to the requirements of today's standards including this review. <b>(NEA)</b></p>	

<p><b>173-201A-320</b> <b>ANTI-DEGRADATION:</b> <b>Tier II</b></p>	<p>It is unclear to us how Ecology is conducting Tier II reviews of sources covered by its general permits. The federal requirements of Tier II are not limited to a restricted list of polluting activities but Ecology’s water quality standards do just this. Therefore, Washington’s water quality standards are inconsistent with federal law. Second, Ecology has not set out how, in the absence of complete data on the status of its waterbodies, it carries out Tier II reviews. Ecology should establish environmentally conservative assumptions as well as implementation methods that ensure that its Tier II findings are based on sufficient information. <b>(NEA)</b></p>	<p><i>A Tier II Antidegradation analysis is required for “new and expanded actions that are expected to cause a measurable change in water quality. Existing facilities would require a Tier II analysis if they expanded operations. NPDES permits are re-issued every 5 years to ensure that permit limits and conditions are meeting water quality standards. If they are not, further restrictions are placed in the permit.</i></p> <p><i>EPA approved WAC 173-201A 320(6), which describes how Tier II antidegradation applies to general permits. Given EPA approval, we do not believe we are inconsistent with federal requirements. General permits are not evaluated on a site-specific basis, but as a category. When a facility has filed a notice of intent to be covered under a general permit, the public is requested to comment on the appropriateness of that coverage. If the discharge would not be in accordance with the analysis performed at the time of permit issuance, it should not be eligible for coverage under the permit. Comments to show why it is not in accordance with the analysis could and should be submitted at that time.</i></p> <p><i>This approach was recently upheld by the Washington Pollution Control Hearings Board during an appeal of the Industrial Stormwater General Permit. We are updating implementation guidance for conducting Tier II analyses in NPDES permit to reflect the court decisions.</i></p>
<p><b>173-201A-400</b> <b>MIXING ZONES</b></p>	<p><b>Comment:</b> Mixing zones should not be allowed for persistent toxic blooms that are not going to degrade or dissipate in the environment. Certain types of metals or persistent toxic chemicals or radioactive substances might be of the kind that should not be allowed to have mixing zones. <b>(PPS)</b></p>	<p><i>This issue was addressed in past rule-makings and has never resulted in rule change. PBTs are now being actively addressed through Ecology’s PBT initiative. Ecology does not consider putting efforts into a ban on mixing zones to be a priority given limited resources and other competing priorities (such as adoption of human health-based and aquatic life-based criteria).</i></p>

<p><b>173-201A-430 SITE-SPECIFIC CRITERIA</b></p>	<p><b>Comment:</b> The Department of Ecology should develop site specific surface water quality standards on a priority basis for those surface waters for which are or are likely to be identified as impaired water bodies. These waters should be a priority because eventually a Total Maximum Daily Loading (TMDL) will need to be developed for them so that the water quality standard is complied with. By developing site specific surface water quality standards in these water bodies on a priority basis, TMDLs would be addressing standards that are protective of the uses that truly exist with respect to these water bodies. The Spokane River should be a priority for the development of site specific surface water quality standards. <b>(Kaiser)</b></p>	<p><i>Site specific criteria development is not a tool that is applicable to many waters. In general, site-specific criteria are appropriate when local water chemistry reduces the level of toxicity of a chemical, when biota at the site have genetically altered over time to make them less sensitive to a chemical, or when the biota at the site is not represented appropriately by the toxicity data used to develop the criteria. In some cases use changes for waterbodies may be appropriate, in which case criteria levels would be changed as uses are changed. Ecology does not delay TMDLs to conduct UAAs because the data collected and analyzed as part of a TMDL would be required in most UAAs.</i></p> <p><i>The uses, sources of nutrients, and the entire system of the Spokane River at Long Lake have been studied for many years and a TMDL was recently completed. The sources in the area are on track to make reductions in nutrient loading to meet TMDL targets and protect designated uses. Use changes cannot be made if designated uses are attainable. At present, the designated uses and dissolved oxygen criteria for Lake Spokane have not been determined to be unattainable [as described in the Spokane TMDL response to comments, section T].</i></p>
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<p><b>173-201A-440 USE ATTAINABILITY ANALYSIS (UAA)</b></p>	<p><b>Comment:</b> We recommend that Ecology improve and streamline the process and requirements to conduct Use-Attainability Analysis (UAA) for smaller waterbodies, such as wadeable streams or small lakes. We recommend that Ecology assemble a stakeholder group, including the US EPA, to develop a streamlined UAA process for smaller waterbodies. <b>(KingCo)</b></p>	<p><i>For some specific uses and waterbody situations it might be possible to streamline guidance. Ecology would like to conduct some pilot projects for a UAA to confirm the data needs for these situations. This could lead to streamlined guidance in the future.</i></p>
	<p><b>Comment:</b> Waters conveyed through the man-made canal system of the Columbia Basin Project do not fit well into any of the designated use-based categories currently in place. A difference should be noted between naturally occurring water bodies, and man-made irrigation facilities. It is unreasonable to expect that these canals can achieve the same temperature water quality standards as natural water bodies. SCBID would like Ecology to consider making a separate use category for man-made irrigation systems, recognizing the differences between these two distinct kinds of water bodies. <b>(ECBID)(SCBID)</b></p>	<p><i>A 1969 Attorney General's opinion concluded that waters in canals, drains, wasteways, and reservoirs of irrigation and drainage systems are waters of the state. It is important to note that while ditches are considered to be manmade structures, these waterways often collect discharges from human sources that pollute those waters, and ultimately the ditch flows into a natural waterway. And, many manmade ditches are constructed over natural water courses that once existed or were dredged to carry more water than the natural waterway historically did. We do not think that creating a different use category for all manmade systems would be appropriate. Rather, each system would need to be assessed in order to determine the actual existing and attainable uses. This could be done through a UAA.</i></p>
	<p><b>Comment:</b> WSDOT encourages Ecology to consider taking steps to finalize the Use-Attainability Analysis guidance which has been in draft form since 2005. <b>(WDOT)</b></p>	<p><i>As stated on the UAA web page and during the process of developing the guidance, Ecology does not plan to finalize the UAA guidance until we have the opportunity to actually work on several UAAs and gain some experience that will aid us in answering the breadth of questions that were raised during review of the UAA guidance. The latest version will be used as a framework to work through UAAs in Washington.</i></p>

<p><b>173-201A-450 WATER QUALITY OFFSETS</b></p>	<p><b>Comment:</b> It is critical that the WQS be updated to explicitly authorize and facilitate effluent trading. The current WQS does not expressly authorize trading and several comments on the draft TMDL have questioned whether trading is allowable absent express authorization in the WQS. Ecology should consider amending WAC 173-201A-450 Water Quality Offsets or create a new section in the WQS that authorizes trading consistent with EPA guidance and consistent with the goals of the emerging trading program for the Spokane River. <b>(IEPC)</b></p>	<p><i>Ecology developed a draft Water Quality Trading Framework in September 2010 and a responsiveness summary based on comments received. The framework document is being used as the Spokane River trading program moves forward, and may change over time as lessons are learned. A <a href="#">Focus sheet</a> has been developed with further information.</i></p>
<p><b>173-201A-510(5) IMPLEMEN- TATION-Nonpoint Source Pollution</b></p>	<p><b>Comment:</b> Ecology needs to put ‘more meat on the bone’ of its existing rules regarding implementation of nonpoint source controls. First, many of the existing water quality standards and criteria are several steps removed from the activities on the ground, making it unclear what it means for activities to comply with the standards. This is why we strongly recommend the addition of criteria and implementation methods that make that connection between water quality and the source, as described above. Second, this rule refers to “rules, orders, and directives” but it is not clear how many of these rules, orders, and directives. Ecology has produced and is able to produce. <b>(NEA)</b></p>	<p><i>Ecology has some tools built into the Standards to deal with nonpoint sources (for example, AKART for nonpoint sources require department-approved best management practices), but we do agree that putting more description around the “rules, orders, and objectives” would provide a clearer framework for regulation nonpoint sources. While this is not an immediate priority for rule-making, we have added it to the 5 Year Plan and will work with our Nonpoint Source Program for more direction.</i></p>
<p><b>173-201A-510(5) IMPLEMEN- TATION: Compliance Schedules</b></p>	<p><b>Comment:</b> IEP requests that Ecology include this precise [compliance schedule] language in this revision of the WQS so that it is available for development of the current NPDES permits in the Spokane River watershed, and implementation of forthcoming TMDL’s throughout the State that will require an extended schedule to achieve compliance of the WQS. <b>(IEPC)</b></p> <p><b>Comment:</b> The City requests a reassessment of the ditches per WQP Policy 1-11. Specifically, we request the ditches be added to Table 602 of WAC 173-201A-602 and as having the lowest use designation of each category. <b>(Longview)</b></p>	<p><i>We agree that language to allow for extended compliance schedules is a high priority, and have added it to the 5 Year Plan for rulemaking in 2013.</i></p> <p><i>Uses cannot be lowered without a UAA. Ecology is available to discuss this approach and the data needs for a UAA with interested parties.</i></p>

<p><b>173-201A-600 USE DESIGNATION</b></p>	<p><b>Comment:</b> Add spiritual, cultural, and ceremonial uses to the list of designated uses. <b>(Quinault)</b></p>	<p><i>Comment noted. At this time we do not anticipate adding to the list of designated uses for state waters. We understand that the uses noted in the comment are important to tribes and these may be include in any standards developed for reservation waters.</i></p>
	<p><b>Comment:</b> The spawning and incubation criteria were established prior to the 2007 listing of steelhead in the Puget Sound as a Threatened Species under the Endangered Species Act. As a result of this listing, Ecology should reconsider the potential benefits and impacts of the current water quality standards on Puget Sound steelhead. We are concerned that the spawning and incubation temperature criteria that have been established for salmon in rivers of the Puget Sound may require temperatures that are too cold for juvenile steelhead trout during the late summer and fall. <b>(Seattle)</b></p>	<p><i>Given the significant effort we spent on temperature criteria in the last rule-making, we have other, higher priorities that need attention based on our limited resources. It is unclear how we would resolve conflicting temperature requirements for steelhead versus salmonids and char. Typically the criteria are designed to protect the most sensitive use.</i></p>
<p><b>173-201A-602 Table 602, WRIA 6</b></p>	<p><b>Comment:</b> According to Table 602 in Chapter 173-201A WAC there are no designated uses for Fresh Waters in WRIA 6 (Island County). The standards that do apply to the waters of Island County are set by the standards in the receiving waters surrounding the county. <b>(ICPH)</b></p>	<p><i>WRIA 6 has no special condition criteria assigned to it, which is why none show up in Table 602. All state waters have designated uses assigned to them. As stated in WAC 173-201A-600(1), “All surface waters of the state not named in Table 602 are to be protected for the designated uses of: Salmonid spawning rearing, and migration; primary contract recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values.”</i></p>
<p><b>173-201A-602 Table 602, Pend Oreille River</b></p>	<p><b>Comment:</b> The Pend Oreille River Special Temperature Condition should be revised to incorporate two critical changes: (1) a 7-DADMax criteria of 18°C to better protect trout migration and non-core rearing uses, and (2) a narrative provision requiring the protection, and where feasible, the restoration of the natural thermal regime including refugia allowing native trout to utilize the river to the fullest extent possible. <b>(Kalispel)</b></p>	<p><i>Ecology has added updates to use designations based on new data as an objective for rule revisions in 2014. This allows time to gather information and data in support of any proposed use changes.</i></p>

	<p><b>Comment:</b> Tributaries to the Pend Oreille River identified by the USFWS as bull trout critical habitat, or excluded essential habitat, should have the designated use of char spawning/rearing unless it is demonstrated that natural stream conditions permanently prevent this use from ever being attainable. Specifically, use designations should be revised to include char spawning/rearing in all of Mill Creek, Ruby Creek, Cedar Creek, and LeClerc Creek in the Pend Oreille Valley. Also, use designations for char spawning/rearing need to be assigned to the streams in Washington flowing into Idaho tributaries of Priest River, Upper Priest Lake, and Priest Lake. <b>(Kalispel)</b></p>	<p><i>Ecology went through an extensive exercise with EPA, USFWS, and NOAA Fisheries in 2003 and 2006 to identify and designate bull trout uses on Washington rivers and streams. At that time the federal agencies did not request that Ecology list the noted streams with a use designation of bull trout. Ecology has added updates to use designations based on new data as an objective for rule revisions in 2014. These updates will happen when tribes and WDFW have their data available on the National Hydrography Dataset (NHD).</i></p>
<p><b>173-201A-602 Table 602, Spokane River</b></p>	<p><b>Comment:</b> Ecology should review the basis for the beneficial use designation for the Spokane River from Long Lake Dam (RM 33.9) to Nine Mile Bridge (RM 58.0). The current use designation of core salmon/trout in WAC 173-201A-602 is not supported by available evidence throughout the lake. Ecology should evaluate the available information and revise the designated uses in the lake to reflect actual conditions. It would be appropriate to consider different use designations for the unique conditions in the lake, the riverine sections and deeper portions of the reservoir. Ecology should also consider different use designations based on the depth of the reservoir. <b>(IEPC)</b></p>	<p><i>Ecology has added updates to use designations based on new data as an objective for rule revisions in 2014. This allows time to gather information and data in support of any proposed use changes.</i></p>

<p><b>GENERAL Biological criteria</b></p>	<p><b>Comment:</b> Ecology (ECY) should work towards developing Aquatic Life Use criteria for BMI by the time of the Call for Data for the 2015 WQ Report, following EPA’s guidelines and the other examples of other states.</p> <p>For the 2011 WQ Report, ECY should make every effort to gather and analyze as much BMI data as possible.</p> <p>BMI data should be used for listings on the State Water Quality Report if the submitter has provided evidence that the analytical system being used is scientifically valid, is based on a sufficient number of reference sites, and provides results that can be directly equated to State Water Quality Report categories. <b>(ClalCo)</b></p> <p><b>Comment:</b> A single year of B-IBI data should be considered adequate for an [State Water Quality Report] Impaired rating of a site if the B-IBI score is less than the Impairment threshold minus the confidence interval. <b>(ClalCo)</b></p> <p><b>Comment:</b> Washington should consider implementing biological criteria. The use of biological criteria should also be fully utilized as a supplement to the numeric criteria that can provide a measure against which to evaluate ocean acidification and its impacts on aquatic life. <b>(CBD)</b></p>	<p><i>Ecology Environmental Assessment Program (EAP) has been involved in the development thresholds for determining impairment of waterbodies using benthic macroinvertebrate data for many years. EAP is currently working to implement EPA guidance on the use of BMI data.</i></p> <p><i>Ecology recognizes the benefits of biocriteria as an indicator of system health and will continue to periodically assess the suitability of establishing numeric criteria in the Water Quality Standards (WQS). The current biological indices for the Pacific Northwest are useful for determining general impairment but do not possess the precision necessary to establish appropriate numeric criteria in the WQS. Ecology is committed to continuing the efforts to improve these indices so that biocriteria can eventually be established in the WQ Standards.</i></p>
<p><b>GENERAL Water Quality Assessment Categories</b></p>	<p><b>Comment:</b> None of the 5 [Water Quality Assessment] categories developed for listing water quality are appropriate for constructed waterways. The East District believes Ecology should seriously consider adding one or more additional categories to apply to artificial situations that apply to “Constructed Waterways”. <b>(ECBID)</b></p>	<p><i>The Water Quality Assessment is a separate process that utilizes the water quality standards as a basis for decision-making, so this comment is more appropriately addressed during the next Assessment cycle. We will pass it on for consideration. However, it is important to note that constructed waterways have been legally defined as a water of the state, and as such the water quality must be protected similar to natural waterways. Comments concerning the Water Quality Assessment (WQA) policy and requirements have been forwarded to the WQA team.</i></p>

<b>GENERAL Other</b>	<b>Comment:</b> If modeling is to be used as the sole tool to determine if non-compliance exists, we would like to request DOE set a standard for the accuracy of the models used; so that inaccurate models are not used to claim non-compliance and then order mitigation. <b>(POCPUD)</b>	<i>Computer models are used extensively for water quality management and TMDLs. Models are used to predict the water quality in a water body in response to changes in pollutant loading and various allocation strategies. Ecology does have information on <u>models and tools</u> that are supported by agency. We also have peer reviews on TMDLs and models to ensure sound science is applied.</i>
	<b>Comment:</b> I've been somewhat negatively impressed by the scientific quality of the implementation of the standards. I would like to think that [water quality improvement through habitat improvements] has produced some positive or measureable benefit. If it's not doing that, then I think we need to really step back and start over on the water quality standards and the measures that are being taken to improve water quality. <b>(Jones)</b>	<i>Comment noted. Ecology strives to conduct its water quality programs with the best technical and scientific information available. Numerous programs are in place to protect and maintain water quality, including the NPDES discharge permit program, issuance of water quality certifications for federal projects, the Water Quality Assessment, and TMDLs. We also have active monitoring programs in place to look for problem areas. We encourage you to review some of our websites that describe improvements being made, such as our <u>success stories</u>.</i>
	Ecology has the standards in place and now needs to follow through and enforce them. Water quality, fish and wildlife are not protected when set regulations are violated and consequences for such violations are not carried out. Many infractions occurred on Haven Lake in 2008 when a chemical permit was granted without Ecology upholding its own standards, regulations, enforcement and consequences. <b>(Backlund)</b>	<i>Comment noted. We consulted with permitting staff regarding the specific concern expressed about the chemical treatment of Haven Lake, and understand that the concerns raised have been answered by correspondence with other Ecology staff.</i>