

Summary of rule revisions

This document summarizes revisions DEQ is proposing under each rule. For detailed information regarding specific changes, please refer to the *Response to Comment* document, or respective Issue Papers on these topics.

340-041-0009

Bacteria

DEQ revised a citation in section (10) due to a numbering revision in 340-041-0061(12).

340-041-0007

Statewide Narrative Criteria

The revised rules explain how the mechanisms for forestry nonpoint sources work to meet water quality standards and the total maximum daily load (TMDL) load allocations under the Forest Practices Act.

340-041-0033

Toxic Substances

DEQ reorganized provisions relating to the aquatic life criteria and the human health criteria as separate sections. In addition, DEQ added a new section (1) specifying that the revised human health criteria for toxic pollutants are not applicable for purposes of the Clean Water Act until they are approved by EPA. This section also applies to the revised iron, manganese, and arsenic criteria the commission adopted in December 2010 and April 2011, respectively. Consequently, DEQ removed the specific statement regarding the applicability of the revised arsenic criteria, since it is no longer needed.

The provisions addressing background pollutants (now termed “Site-Specific Background Pollutant Criteria”) remain in OAR 340-041-0033(6). These revisions are discussed in the *Implementing Water Quality Standards in NPDES Permits* issue paper.

In April 2011, the commission also adopted the arsenic reduction policy as OAR 340-041-0033(3). To accommodate revisions associated with this rulemaking, DEQ reorganized the rule to move the arsenic reduction policy section further back in this rule to OAR 340-041-0033(7), but did not revise any of the rule as adopted by the commission.

OAR 340-041-0059

Variances

DEQ deleted the currently effective variance rule in 340-041-0061 and proposed a revised variance rule in 340-041-0059.

340-041-0061

Other Implementation of Water Quality Criteria

DEQ deleted the currently effective variance rule at section (2) in 340-041-0061 and renumbered the rest of this rule.

DEQ fixed a typo a reviewer discovered in section (9)(a)(E) cross-referencing the antidegradation policy. The cross reference should be to 340-041-0004(9), addressing exceptions to the rule, not 340-041-0004(7), the water quality limited waters policy, as currently written.

DEQ also revised rules in renumbered sections (10) and (11) explaining how the mechanisms for forestry and agricultural nonpoint sources work to meet water quality standards and the total maximum daily load (TMDL) load allocations under the Forest Practices Act and Agriculture Water Quality Management Act.

340-042-0040

Establishing Total Maximum Daily Loads (TMDLs)

DEQ revised subsection (2)(h) clarifying how air or land sources are treated in the development of TMDLs.

340-042-0080

Implementing a Total Maximum Daily Load

DEQ revised sections (2) and (3) clarifying how air or land sources are treated in the development of TMDLs and TMDL load allocations for forest and agriculture.

OAR 340-045-0105

Intake Credits

DEQ is proposing a new intake credit permitting rule.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 41

WATER QUALITY STANDARDS: BENEFICIAL USES, POLICIES, AND CRITERIA FOR OREGON

340-041-0009

Bacteria

(1) – (9).....

(10) Water Quality Limited for Bacteria: In those water bodies, or segments of water bodies identified by the Department as exceeding the relevant numeric criteria for bacteria in the basin standards and designated as water-quality limited under section 303(d) of the Clean Water Act, the requirements specified in section 11 of this rule and in OAR 340-041-0061(1~~1~~²) must apply.

(11)...

Stat. Auth.: ORS 468.020, 468B.030, 468B.035 & 468B.048

Stats. Implemented: ORS 468B.030, 468B.035 & 468B.048

Hist.: DEQ 17-2003, f. & cert. ef. 12-9-03; DEQ 6-2008, f. & cert. ef. 5-5-08

340-041-0007

Statewide Narrative Criteria

(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(2) Where a less stringent natural condition of a water of the State exceeds the numeric criteria set out in this Division, the natural condition supersedes the numeric criteria and becomes the standard for that water body. However, there are special restrictions, described in OAR 340-041-0004(9)(a)(D)(iii), that may apply to discharges that affect dissolved oxygen.

(3) For any new waste sources, alternatives that utilize reuse or disposal with no discharge to public waters must be given highest priority for use wherever practicable. New source discharges may be approved subject to the criteria in OAR 340-041-0004(9).

(4) No discharges of wastes to lakes or reservoirs may be allowed except as provided in section OAR 340-041-0004(9).

(5) Logging and forest management activities must be conducted in accordance with the Oregon rules established by the Environmental Quality Commission and must not cause violation of water quality standards. Nonpoint sources of pollution from forest operations on state and private forest lands are subject to best management practices and other control measures established by the Oregon Board of Forestry as provided in ORS 527.765 and 527.770. Forest Practices operations conducted in good faith compliance with best management practices and control measures established under the Forest Practice Act to minimize adverse effects on water quality are generally deemed not to cause violations of water quality standards as provided in ORS 527.770. Forest operations are subject to load allocations established under ORS 468B.110 and OAR Division 340-042 to the extent needed to implement the federal Clean Water Act.

(6) Log handling in public waters must conform to current Commission policies and guidelines.

(7) Sand and gravel removal operations must be conducted pursuant to a permit from the Division of State Lands and separated from the active flowing stream by a watertight berm wherever physically practicable. Recirculation and reuse of process water must be required wherever practicable. Discharges or seepage or leakage losses to public waters may not cause a violation of water quality standards or adversely affect legitimate beneficial uses.

(8) Road building and maintenance activities must be conducted in a manner so as to keep waste materials out of public waters and minimize erosion of cut banks, fills, and road surfaces.

(9) In order to improve controls over nonpoint sources of pollution, federal, State, and local resource management agencies will be encouraged and assisted to coordinate planning and implementation of programs to regulate or control runoff, erosion, turbidity, stream temperature, stream flow, and the withdrawal and use of irrigation water on a basin-wide approach so as to protect the quality and beneficial uses of water and related resources. Such programs may include, but not be limited to, the following:

- (a) Development of projects for storage and release of suitable quality waters to augment low stream flow;
- (b) Urban runoff control to reduce erosion;
- (c) Possible modification of irrigation practices to reduce or minimize adverse impacts from irrigation return flows;
- (d) Stream bank erosion reduction projects; and
- (e) Federal water quality restoration plans.

(10) The development of fungi or other growths having a deleterious effect on stream bottoms, fish or other aquatic life, or that are injurious to health, recreation, or industry may not be allowed;

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

(12) The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed;

(13) Objectionable discoloration, scum, oily sheens, or floating solids, or coating of aquatic life with oil films may not be allowed;

(14) Aesthetic conditions offensive to the human senses of sight, taste, smell, or touch may not be allowed;

(15) Radioisotope concentrations may not exceed maximum permissible concentrations (MPC's) in drinking water, edible fishes or shellfishes, wildlife, irrigated crops, livestock and dairy products, or pose an external radiation hazard;

(16) Minimum Design Criteria for Treatment and Control of Wastes. Except as provided in OAR 340-041-0101 through 340-041-0350, and subject to the implementation requirements set forth in OAR 340-041-0061, prior to discharge of any wastes from any new or modified facility to any waters of the State, such wastes must be treated and controlled in facilities designed in accordance with the following minimum criteria.

(a) In designing treatment facilities, average conditions and a normal range of variability are generally used in establishing design criteria. A facility once completed and placed in operation should operate at or near the design limit most of the time but may operate below the design criteria limit at times due to variables which are unpredictable or uncontrollable. This is particularly true for biological treatment facilities. The actual operating limits are intended to be established by permit pursuant to ORS 468.740 and recognize that the actual performance level may at times be less than the design criteria.

(A) Sewage wastes:

(i) Effluent BOD concentrations in mg/l, divided by the dilution factor (ratio of receiving stream flow to effluent flow) may not exceed one unless otherwise approved by the Commission;

(ii) Sewage wastes must be disinfected, after treatment, equivalent to thorough mixing with sufficient chlorine to provide a residual of at least 1 part per million after 60 minutes of contact time unless otherwise specifically authorized by permit;

(iii) Positive protection must be provided to prevent bypassing raw or inadequately treated sewage to public waters unless otherwise approved by the Department where elimination of inflow and infiltration would be necessary but not presently practicable; and

(iv) More stringent waste treatment and control requirements may be imposed where special conditions make such action appropriate.

(B) Industrial wastes:

(i) After maximum practicable in-plant control, a minimum of secondary treatment or equivalent control (reduction of suspended solids and organic material where present in significant quantities, effective disinfection where bacterial organisms of public health significance are present, and control of toxic or other deleterious substances);

(ii) Specific industrial waste treatment requirements may be determined on an individual basis in accordance with the provisions of this plan, applicable federal requirements, and the following:

(I) The uses that are or may likely be made of the receiving stream;

(II) The size and nature of flow of the receiving stream;

(III) The quantity and quality of wastes to be treated; and

(IV) The presence or absence of other sources of pollution on the same watershed.

(iii) Where industrial, commercial, or agricultural effluents contain significant quantities of potentially toxic elements, treatment requirements may be determined utilizing appropriate bioassays;

(iv) Industrial cooling waters containing significant heat loads must be subjected to off-stream cooling or heat recovery prior to discharge to public waters;

(v) Positive protection must be provided to prevent bypassing of raw or inadequately treated industrial wastes to any public waters;

(vi) Facilities must be provided to prevent and contain spills of potentially toxic or hazardous materials.

Toxic Substances

(1) Amendments to sections (4) and (6) of this rule (OAR 340-041-0033) and associated revisions to Tables 20, 33A, 33B and 40 do not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until EPA approves the provisions it identifies as water quality standards pursuant to 40 CFR 131.21 (4/27/2000).

(42) Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife, or other designated beneficial uses.

(23) Aquatic Life Criteria. Levels of toxic substances in waters of the state may not exceed the applicable aquatic life criteria listed in Tables 20, 33A, and 33B. Tables 33A and 33B, adopted on May 20, 2004, update Table 20 as described in this section.

(a) Each value for criteria in Table 20 is effective until the corresponding value in Tables 33A or 33B becomes effective.

(A) Each value in Table 33A is effective on February 15, 2005, unless EPA has disapproved the value before that date. If a value is subsequently disapproved, any corresponding value in Table 20 becomes effective immediately. Values that are the same in Tables 20 and 33A remain in effect.

(B) Each value in Table 33B is effective upon EPA approval.

~~(b) The arsenic criteria in Table 20 established by this rule do not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until they are approved by EPA pursuant to 40 CFR 131.21 (4/27/2000).~~

(eb) The department will note the effective date for each value in Tables 20, 33A, and 33B as described in this section.

~~(3) To establish permit or other regulatory limits for toxic substances for which criteria are not included in Tables 20, 33A, or 33B, the department may use the guidance values in Table 33C, public health advisories, and other published scientific literature. The department may also require or conduct bio-assessment studies to monitor the toxicity to aquatic life of complex effluents, other suspected discharges, or chemical substances without numeric criteria.~~

~~(4) Arsenic Reduction Policy: The inorganic arsenic criterion for the protection of human health from the combined consumption of organisms and drinking water is 2.1 micrograms per liter. While this criterion is protective of human health and more stringent than the federal maximum contaminant level (MCL) for arsenic in drinking water, which is 10 micrograms per liter, it nonetheless is based on a higher risk level than the Commission has used to establish other human health criteria. This higher risk level recognizes that much of the risk is due to naturally high levels of inorganic arsenic in Oregon's waterbodies. In order to maintain the lowest human health risk from inorganic arsenic in drinking water, the Commission has determined that it is appropriate to adopt the following policy to limit the human contribution to that risk.~~

~~(a) The arsenic reduction policy established by this rule section does not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until the numeric arsenic criteria established by this rule are approved by EPA pursuant to 40 CFR 131.21 (4/27/2000).~~

~~(b) It is the policy of the Commission that the addition of inorganic arsenic from new or existing anthropogenic sources to waters of the state within a surface water drinking water protection area be reduced the maximum amount feasible. The requirements of this rule section [OAR 340-041-0033(4)] apply to sources that discharge to surface waters of the state with an ambient inorganic arsenic concentration equal to or lower than the applicable numeric inorganic arsenic criteria for the protection of human health.~~

~~(c) The following definitions apply to this section [OAR 340-041-0033(4)]:~~

~~(A) “Add inorganic arsenic” means to discharge a net mass of inorganic arsenic from a point source (the mass of inorganic arsenic discharged minus the mass of inorganic arsenic taken into the facility from a surface water source).~~

~~(B) A “surface water drinking water protection area,” for the purpose of this section, means an area delineated as such by DEQ under the source water assessment program of the federal Safe Drinking Water Act, 42 U.S.C. § 300j 13. The areas are delineated for the purpose of protecting public or community drinking water supplies that use surface water sources. These delineations can be found at DEQ’s drinking water program website.~~

~~(C) “Potential to significantly increase inorganic arsenic concentrations in the public drinking water supply source water” means:~~

~~(i) to increase the concentration of inorganic arsenic in the receiving water for a discharge by 10 percent or more after mixing with the harmonic mean flow of the receiving water; or~~

~~(ii) as an alternative, if sufficient data are available, the discharge will increase the concentration of inorganic arsenic in the surface water intake water of a public water system by 0.021 micrograms per liter or more based on a mass balance calculation.~~

~~(d) Following the effective date of this rule, applications for an individual NPDES permit or permit renewal received from industrial dischargers located in a surface water drinking water protection area and identified by DEQ as likely to add inorganic arsenic to the receiving water must include sufficient data to enable DEQ to determine whether:~~

~~(A) The discharge in fact adds inorganic arsenic; and~~

~~(B) The discharge has the potential to significantly increase inorganic arsenic concentrations in the public drinking water supply source water.~~

~~(e) Where DEQ determines that both conditions in subsection (d) of this section (4) are true, the industrial discharger must develop an inorganic arsenic reduction plan and propose all feasible measures to reduce its inorganic arsenic loading to the receiving water. The proposed plan, including proposed measures, monitoring and reporting requirements, and a schedule for those actions, will be described in the fact sheet and incorporated into the source’s NPDES permit after public comment and DEQ review and approval. In developing the plan, the source must:~~

~~(A) Identify how much it can minimize its inorganic arsenic discharge through pollution prevention measures, process changes, wastewater treatment, alternative water supply (for groundwater users) or other possible pollution prevention and/or control measures;~~

~~(B) Evaluate the costs, feasibility and environmental impacts of the potential inorganic arsenic reduction and control measures;~~

~~(C) Estimate the predicted reduction in inorganic arsenic and the reduced human health risk expected to result from the control measures;~~

~~(D) Propose specific inorganic arsenic reduction or control measures, if feasible, and an implementation schedule; and~~

~~(E) Propose monitoring and reporting requirements to document progress in plan implementation and the inorganic arsenic load reductions.~~

~~(f) In order to implement this section, DEQ will develop the following information and guidance within 120 days of the effective date of this rule and periodically update it as warranted by new information:~~

~~(A) A list of industrial sources or source categories, including industrial stormwater and sources covered by general permits, that are likely to add inorganic arsenic to surface waters of the State.~~

~~(i) For industrial sources or source categories permitted under a general permit that have been identified by DEQ as likely sources of inorganic arsenic, DEQ will evaluate options for reducing inorganic arsenic during permit renewal or evaluation of Stormwater Pollution Control Plans.~~

~~(B) Quantitation limits for monitoring inorganic arsenic concentrations.~~

~~(C) Information and guidance to assist sources in estimating, pursuant to paragraph (d) (C) of this section, the reduced human health risk expected to result from inorganic arsenic control measures based on the most current EPA risk assessment.~~

~~(g) It is the policy of the Commission that landowners engaged in agricultural or development practices on land where pesticides, fertilizers, or soil amendments containing arsenic are currently being or have previously been applied, implement conservation practices to minimize the erosion and runoff of inorganic arsenic to waters of the State or to a location where such material could readily migrate into waters of the State.~~

(4) Human Health Criteria. The criteria for waters of the state listed in Table 40 are established to protect Oregonians from potential adverse health effects associated with long-term exposure to toxic substances associated with consumption of fish, shellfish, and water.

~~(35) To establish permit or other regulatory limits for toxic substances for which criteria are not included in Tables 20, 33A, or 33B, the department may use the guidance values in Table 33C, public health advisories, and other published scientific literature. The department may also require or conduct bio-assessment studies to monitor the toxicity to aquatic life of complex effluents, other suspected discharges, or chemical substances without numeric criteria.~~

(6) Establishing Site-Specific Background Pollutant Criteria: This provision is a performance based water quality standard that results in site-specific human health water quality criteria under the conditions and procedures specified in this rule section. It addresses existing permitted discharges of a pollutant removed from the same

body of water. For waterbodies where a discharge does not increase the pollutant's mass and does not increase the pollutant concentration by more than 3%, and where the water body meets a pollutant concentration associated with a risk level of 1×10^{-4} , DEQ concludes that the pollutant concentration continues to protect human health.
(a) Definitions: For the purpose of this section [OAR 340-041-0033(6)]:

(A) "Background pollutant concentration" means the ambient water body concentration immediately upstream of the discharge, regardless of whether those pollutants are natural or result from upstream human activity.

(B) An "intake pollutant" is the amount of a pollutant that is present in public waters (including groundwater) as provided in subsection (C), below, at the time it is withdrawn from such waters by the discharger or other facility supplying the discharger with intake water.

(C) "Same body of water": An intake pollutant is considered to be from the "same body of water" as the discharge if the department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This finding may be deemed established if:

(i) The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water;

(ii) There is a direct hydrological connection between the intake and discharge points; and

(I) The department may also consider other site-specific factors relevant to the transport and fate of the pollutant to make the finding in a particular case that a pollutant would or would not have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.

(II) An intake pollutant from groundwater may be considered to be from the "same body of water" if the department determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee, except that such a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to past or present human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.

(iii) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and receiving waters.

(b) Applicability

(A) Site-specific criteria may be established under this rule section only for carcinogenic pollutants.

(B) Site-specific criteria established under this rule section apply in the vicinity of the discharge for purposes of establishing permit limits for the specified permittee.

(C) The underlying waterbody criteria continue to apply for all other Clean Water Act programs.

(D) The site-specific background pollutant criterion will be effective upon department issuance of the permit for the specified permittee.

(E) Any site-specific criteria developed under this procedure will be re-evaluated upon permit renewal.

(c) A site-specific background pollutant criterion may be established where all of the following conditions are met:

(A) The discharger has a currently effective NPDES permit;

(B) The mass of the pollutant discharged to the receiving waterbody does not exceed the mass of the intake pollutant from the same body of water, as defined in section 6(a)(C) above, and, therefore, does not increase the total mass load of the pollutant in the receiving water body;

(C) The discharger has not been assigned a TMDL wasteload allocation for the pollutant in question;

(D) The permittee uses any feasible pollutant reduction measures available and known to minimize the pollutant concentration in their discharge;

(E) The pollutant discharge has not been chemically or physically altered in a manner that causes adverse water quality impacts that would not occur if the intake pollutants were left in-stream; and,

(F) The timing and location of the pollutant discharge would not cause adverse water quality impacts that would not occur if the intake pollutant were left in-stream.

(d) The site-specific background pollutant criterion must be the most conservative of the following four values. The procedures deriving these values are described in the sections (6)(e) of this rule.

(A) The projected in-stream pollutant concentration resulting from the current discharge concentration and any feasible pollutant reduction measures under (c)(D) above, after mixing with the receiving stream.

(B) The projected in-stream pollutant concentration resulting from the portion of the current discharge concentration associated with the intake pollutant mass after mixing with the receiving stream. This analysis ensures that there will be no increase in the mass of the intake pollutant in the receiving water body as required by condition (c)(B) above.

(C) The projected in-stream pollutant concentration associated with a 3% increase above the background pollutant concentration as calculated:

(i) For the mainstem Willamette and Columbia Rivers, using 25% of the harmonic mean flow of the waterbody.

(ii) For all other waters, using 100% of the harmonic mean flow or similar critical flow value of the waterbody.

(D) A criterion concentration value representing a human health risk level of 1×10^{-4} . This value is calculated using EPA's human health criteria derivation equation for carcinogens (EPA 2000), a risk level of 1×10^{-4} , and the same values for the remaining calculation variables that were used to derive the underlying human health criterion.

(e) Procedure to derive a site-specific human health water quality criterion to address a background pollutant:

(A) The department will develop a flow-weighted characterization of the relevant flows and pollutant concentrations of the receiving waterbody, effluent and all facility intake pollutant sources to determine the fate and transport of the pollutant mass.

(i) The pollutant mass in the effluent discharged to a receiving waterbody may not exceed the mass of the intake pollutant from the same body of water.

(ii) Where a facility discharges intake pollutants from multiple sources that originate from the receiving waterbody and from other waterbodies, the department will calculate the flow-weighted amount of each source of the pollutant in the characterization.

(iii) Where intake water for a facility is provided by a municipal water supply system and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration and mass of the intake water pollutant shall be determined at the point where the water enters the water supplier's distribution system.

(B) Using the flow weighted characterization developed in Section (6)(e)(A), the department will calculate the in-stream pollutant concentration following mixing of the discharge into the receiving water. The resultant concentration will be used to determine the conditions in Section (6)(d)(A) and (B).

(C) Using the flow weighted characterization, the department will calculate the in-stream pollutant concentration based on an increase of 3% above background pollutant concentration. The resultant concentration will be used to determine the condition in Section (6)(d)(C).

(i) For the mainstem Willamette and Columbia Rivers, 25% of the harmonic mean flow of the waterbody will be used.

(ii) For all other waters, 100% of the harmonic mean flow or similar critical flow value of the waterbody will be used.

(D) The department will select the most conservative of the following values as the site-specific water quality criterion.

(i) The projected in-stream pollutant concentration described in Section 6(e)(B);

(ii) The in-stream pollutant concentration based on an increase of 3% above background described in Section 6(e)(C); or

(iii) A water quality criterion based on a risk level of 1×10^{-4} .

(f) Calculation of water quality based effluent limits based on a site-specific background pollutant criterion:

(A) For discharges to receiving waters with a site-specific background pollutant criterion, the department will use the site-specific criterion in the calculation of a numeric water quality based effluent limit.

(B) The department will compare the calculated water quality based effluent limits to any applicable aquatic toxicity or technology based effluent limits and select the most conservative for inclusion in the permit conditions.

(g) In addition to the water quality based effluent limits described in Section (6)(f), the department will calculate a mass-based limit where necessary to ensure that the condition described in Section (6)(c)(B) is met. Where

mass-based limits are included, the permit shall specify how compliance with mass-based effluent limitations will be assessed.

(h) The permit shall include a provision requiring the department to consider the re-opening of the permit and re-evaluation of the site-specific background pollutant criterion if new information shows the discharger no longer meets the conditions described in subsections (6)(c) and (e).

(i) Public Notification Requirements.

(A) If the department proposes to grant a site-specific background pollutant criterion, it must provide public notice of the proposal and hold a public hearing. The public notice may be included in the public notification of a draft NPDES permit or other draft regulatory decision that would rely on the criterion and will also be published on the water quality standards website;

(B) The department will publish a list of all site-specific background pollutant criteria approved pursuant to this rule. A criterion will be added to this list within 30 days of its effective date. The list will identify: the permittee; the site-specific background pollutant criterion and the associated risk level; the waterbody to which the criterion applies; the allowable pollutant effluent limit; and how to obtain additional information about the criterion.

(47) Arsenic Reduction Policy: The inorganic arsenic criterion for the protection of human health from the combined consumption of organisms and drinking water is 2.1 micrograms per liter. While this criterion is protective of human health and more stringent than the federal maximum contaminant level (MCL) for arsenic in drinking water, which is 10 micrograms per liter, it nonetheless is based on a higher risk level than the Commission has used to establish other human health criteria. This higher risk level recognizes that much of the risk is due to naturally high levels of inorganic arsenic in Oregon's waterbodies. In order to maintain the lowest human health risk from inorganic arsenic in drinking water, the Commission has determined that it is appropriate to adopt the following policy to limit the human contribution to that risk.

(a) The arsenic reduction policy established by this rule section does not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until the numeric arsenic criteria established by this rule are approved by EPA pursuant to 40 CFR 131.21 (4/27/2000).

(b) It is the policy of the Commission that the addition of inorganic arsenic from new or existing anthropogenic sources to waters of the state within a surface water drinking water protection area be reduced the maximum amount feasible. The requirements of this rule section [OAR 340-041-0033(4)] apply to sources that discharge to surface waters of the state with an ambient inorganic arsenic concentration equal to or lower than the applicable numeric inorganic arsenic criteria for the protection of human health.

(c) The following definitions apply to this section [OAR 340-041-0033(4)]:

(A) "Add inorganic arsenic" means to discharge a net mass of inorganic arsenic from a point source (the mass of inorganic arsenic discharged minus the mass of inorganic arsenic taken into the facility from a surface water source).

(B) A "surface water drinking water protection area," for the purpose of this section, means an area delineated as such by DEQ under the source water assessment program of the federal Safe Drinking Water Act, 42 U.S.C. § 300j-13. The areas are delineated for the purpose of protecting public or community drinking water supplies that use surface water sources. These delineations can be found at DEQ's drinking water program website.

(C) “Potential to significantly increase inorganic arsenic concentrations in the public drinking water supply source water” means:

(i) to increase the concentration of inorganic arsenic in the receiving water for a discharge by 10 percent or more after mixing with the harmonic mean flow of the receiving water; or

(ii) as an alternative, if sufficient data are available, the discharge will increase the concentration of inorganic arsenic in the surface water intake water of a public water system by 0.021 micrograms per liter or more based on a mass balance calculation.

(d) Following the effective date of this rule, applications for an individual NPDES permit or permit renewal received from industrial dischargers located in a surface water drinking water protection area and identified by DEQ as likely to add inorganic arsenic to the receiving water must include sufficient data to enable DEQ to determine whether:

(A) The discharge in fact adds inorganic arsenic; and

(B) The discharge has the potential to significantly increase inorganic arsenic concentrations in the public drinking water supply source water.

(e) Where DEQ determines that both conditions in subsection (d) of this section (4) are true, the industrial discharger must develop an inorganic arsenic reduction plan and propose all feasible measures to reduce its inorganic arsenic loading to the receiving water. The proposed plan, including proposed measures, monitoring and reporting requirements, and a schedule for those actions, will be described in the fact sheet and incorporated into the source’s NPDES permit after public comment and DEQ review and approval. In developing the plan, the source must:

(A) Identify how much it can minimize its inorganic arsenic discharge through pollution prevention measures, process changes, wastewater treatment, alternative water supply (for groundwater users) or other possible pollution prevention and/or control measures;

(B) Evaluate the costs, feasibility and environmental impacts of the potential inorganic arsenic reduction and control measures;

(C) Estimate the predicted reduction in inorganic arsenic and the reduced human health risk expected to result from the control measures;

(D) Propose specific inorganic arsenic reduction or control measures, if feasible, and an implementation schedule; and

(E) Propose monitoring and reporting requirements to document progress in plan implementation and the inorganic arsenic load reductions.

(f) In order to implement this section, DEQ will develop the following information and guidance within 120 days of the effective date of this rule and periodically update it as warranted by new information:

(A) A list of industrial sources or source categories, including industrial stormwater and sources covered by general permits, that are likely to add inorganic arsenic to surface waters of the State.

(i) For industrial sources or source categories permitted under a general permit that have been identified by DEQ as likely sources of inorganic arsenic, DEQ will evaluate options for reducing inorganic arsenic during permit renewal or evaluation of Stormwater Pollution Control Plans.

(B) Quantitation limits for monitoring inorganic arsenic concentrations.

(C) Information and guidance to assist sources in estimating, pursuant to paragraph (d) (C) of this section, the reduced human health risk expected to result from inorganic arsenic control measures based on the most current EPA risk assessment.

(g) It is the policy of the Commission that landowners engaged in agricultural or development practices on land where pesticides, fertilizers, or soil amendments containing arsenic are currently being or have previously been applied, implement conservation practices to minimize the erosion and runoff of inorganic arsenic to waters of the State or to a location where such material could readily migrate into waters of the State.

[ED. NOTE: Tables referenced are available from the agency.]

Stat. Auth.: ORS 468.020, 468B.030, 468B.035 & 468B.048

Stats. Implemented: ORS 468B.030, 468B.035 & 468B.048

Hist.: DEQ 17-2003, f. & cert. ef. 12-9-03; DEQ 3-2004, f. & cert. ef. 5-28-04; DEQ 17-2010, f. & cert. ef. 12-21-10

OAR 340-041-0059

Variances

This rule (OAR 340-041-0059) does not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until EPA approves the provisions it identifies as water quality standards pursuant to 40 CFR 131.21 (4/27/2000).

(1) Applicability. Subject to the requirements and limitations set out in sections (2) through (7) below, a point source may request a water quality standards variance where it is demonstrated that the source cannot feasibly meet effluent limits sufficient to meet water quality standards. The director of the department will determine whether to issue a variance for a source covered by an existing NPDES permit. The commission will determine whether to issue a variance for a discharger that does not have a currently effective NPDES permit.

(a) The variance applies only to the specified point source permit and pollutant(s); the underlying water quality standard(s) otherwise remains in effect.

(b) The department or commission may not grant a variance if:

(A) The effluent limit sufficient to meet the underlying water quality standard can be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act, and by implementing cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger; or

(B) The variance would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat; or

(C) The conditions allowed by the variance would result in an unreasonable risk to human health; or

(D) A point source does not have a currently effective NPDES permit, unless the variance is necessary to:

- (i) Prevent or mitigate a threat to public health or welfare;
- (ii) Allow a water quality or habitat restoration project that may cause short term water quality standards exceedances, but will result in long term water quality or habitat improvement that enhances the support of aquatic life uses;
- (iii) Provide benefits that outweigh the environmental costs of lowering water quality. This analysis is comparable to that required under the antidegradation regulation contained in OAR-041-0004(6)(b); or

(E) The information and demonstration submitted in accordance with section (4) below does not allow the department or commission to conclude that a condition in section (2) has been met.

(2) Conditions to Grant a Variance. Before the commission or department may grant a variance, it must determine that:

(a) No existing use will be impaired or removed as a result of granting the variance and

(b) Attaining the water quality standard during the term of the variance is not feasible for one or more of the following reasons:

(A) Naturally occurring pollutant concentrations prevent the attainment of the use;

(B) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable uses to be met without violating state water conservation requirements;

(C) Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;

(D) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way which would result in the attainment of the use;

(E) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and unrelated to water quality preclude attainment of aquatic life protection uses; or

(F) Controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act would result in substantial and widespread economic and social impact.

(3) Variance Duration.

(a) The duration of a variance must not exceed the term of the NPDES permit. If the permit is administratively extended, the permit effluent limits and any other requirements based on the variance and associated pollutant reduction plan will continue to be in effect during the period of the administrative extension. The department will give priority to NPDES permit renewals for permits containing variances and where a renewal application has been submitted to the director at least one hundred eighty days prior to the NPDES permit expiration date.

(b) When the duration of the variance is less than the term of a NPDES permit, the permittee must be in compliance with the specified effluent limitation sufficient to meet the underlying water quality standard upon the expiration of the variance.

(c) A variance is effective only after EPA approval. The effective date and duration of the variance will be specified in a NPDES permit or order of the commission or department.

(4) Variance Submittal Requirements. To request a variance, a permittee must submit the following information to the department:

(a) A demonstration that attaining the water quality standard for a specific pollutant is not feasible for the requested duration of the variance based on one or more of the conditions found in section (2)(b) of this rule;

(b) A description of treatment or alternative options considered to meet limits based on the applicable underlying water quality standard, and a description of why these options are not technically, economically, or otherwise feasible;

(c) Sufficient water quality data and analyses to characterize ambient and discharge water pollutant concentrations;

(d) Any cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger that addresses the pollutant the variance is based upon;

(e) A proposed pollutant reduction plan that includes any actions to be taken by the permittee that would result in reasonable progress toward meeting the underlying water quality standard. Such actions may include proposed pollutant offsets or trading or other proposed pollutant reduction activities, and associated milestones for implementing these measures. Pollutant reduction plans will be tailored to address the specific circumstances of each facility and to the extent pollutant reduction can be achieved; and

(f) If the discharger is a publicly owned treatment works, a demonstration of the jurisdiction's legal authority (such as a sewer use ordinance) to regulate the pollutant for which the variance is sought. The jurisdiction's legal authority must be sufficient to control potential sources of that pollutant that discharge into the jurisdiction's sewer collection system.

(5) Variance Permit Conditions. Effluent limits in the discharger's permit will be based on the variance and not the underlying water quality standard, so long as the variance remains effective. The department must establish and incorporate into the discharger's NPDES permit all conditions necessary to implement and enforce an approved variance and associated pollutant reduction plan. The permit must include, at a minimum, the following requirements:

(a) An interim concentration based permit limit or requirement representing the best achievable effluent quality based on discharge monitoring data and that is no less stringent than that achieved under the previous permit. For a new discharger, the permit limit will be calculated based on best achievable technology;

(b) A requirement to implement any pollutant reduction actions approved as part of a pollutant reduction plan submitted in accordance with section (4)(e) above and to make reasonable progress toward attaining the underlying water quality standard(s);

(c) Any studies, effluent monitoring, or other monitoring necessary to ensure compliance with the conditions of the variance; and

(d) An annual progress report to the department describing the results of any required studies or monitoring during the reporting year and identifying any impediments to reaching any specific milestones stated in the variance.

(6) Public Notification Requirements.

(a) If the department proposes to grant a variance, it must provide public notice of the proposal and hold a public hearing. The public notice may be included in the public notification of a draft NPDES permit or other draft regulatory decision that would rely on the variance;

(b) The department will publish a list of all variances approved pursuant to this rule. Newly approved variances will be added to this list within 30 days of their effective date. The list will identify: the discharger; the underlying water quality standard addressed by the variance; the waters of the state to which the variance applies; the effective date and duration of the variance; the allowable pollutant effluent limit granted under the variance; and how to obtain additional information about the variance.

(7) Variance Renewals.

(a) A variance may be renewed if:

(A) The permittee makes a renewed demonstration pursuant to section (2) of this rule that attaining the water quality standard continues to be infeasible.

(B) The permittee submits any new or updated information pertaining to any of the requirements of section 4,

(C) The department determines that all conditions and requirements of the previous variance and actions contained in the pollutant reduction plan pursuant to section (5) have been met, unless reasons outside the control of the discharger prevented meeting any condition or requirement, and

(D) All other requirements of this rule have been met.

(b) A variance renewal must be approved by the department director and by EPA.

Other Implementation of Water Quality Criteria

(1) A waste treatment and disposal facility may not be constructed or operated and wastes may not be discharged to public waters without a permit from the department in accordance with ORS 468B.050.

~~(2) Water quality variances. The commission may grant point source variances from the water quality standards in this Division where the following requirements are met:~~

~~(a) The water quality variance may apply only to the point source for which the variance is requested and only to the pollutant or pollutants specified in the variance; the underlying water quality standard otherwise remains in effect.~~

~~(b) A water quality standard variance may not be granted if:~~

~~(A) Standards will be attained by all point source dischargers implementing effluent limitations required under sections 301(b) and 306 of the federal Clean Water Act and by nonpoint sources implementing cost effective and reasonable best management practices; or~~

~~(B) The variance would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.~~

~~(c) Before a variance is granted, the applicant must demonstrate that attaining the water quality standard is not feasible for one of the following reasons:~~

~~(A) Naturally occurring pollutant concentrations prevent the attainment of the use.~~

~~(B) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable uses to be met without violating state water conservation requirements.~~

~~(C) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.~~

~~(D) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way which would result in the attainment of the use.~~

~~(E) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and unrelated to water quality preclude attainment of aquatic life protection uses.~~

~~(F) Controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act would result in substantial and widespread economic and social impact.~~

~~(d) Procedures. An applicant for a water quality standards variance must submit a request for a variance to the department. The application must include all relevant information showing that the requirements for a variance have been satisfied. The burden is on the applicant to demonstrate that the designated use is unattainable for one~~

~~of the reasons specified in subsection (c) of this section. If the department preliminarily determines that grounds exist for granting a variance, it must provide public notice of the proposed variance and an opportunity for public comment.~~

~~(A) The department may condition the variance on the performance of additional studies, monitoring, management practices, and other controls deemed necessary. These terms and conditions will be incorporated into the applicant's NPDES permit or department order.~~

~~(B) A variance may not exceed three years or the term of the NPDES permit, whichever is less. A variance may be renewed if the applicant reapplies and demonstrates that the use in question is still not attainable. Renewal of the variance may be denied if the applicant does not comply with the conditions of the original variance or otherwise does not meet the requirements of this section.~~

~~(C) DEQ approval of a variance for a point source is not effective under the federal Clean Water Act until submitted to and approved by EPA.~~

(32) Plans for all sewage and industrial waste treatment, control, and disposal facilities must be submitted to the department for review and approval prior to construction as required by ORS 468B.055.

(43) Minimum design criteria for waste treatment and control facilities prescribed under this plan and other waste treatment and controls deemed necessary to ensure compliance with the water quality standards contained in this plan must be provided in accordance with specific permit conditions for those sources or activities for which permits are required and the following implementation program.

(a) For new or expanded waste loads or activities, fully approved treatment or control facilities, or both, must be provided prior to discharge of any wastes from the new or expanded facilities or conduct of the new or expanded activity.

(b) For existing waste loads or activities, additional treatment or control facilities necessary to correct specific unacceptable water quality conditions must be provided in accordance with a specific program and timetable incorporated into the waste discharge permit for the individual discharger or activity. In developing treatment requirements and implementation schedules for existing installations or activities, consideration will be given to the impact upon the overall environmental quality, including air, water, land use, and aesthetics.

(c) Wherever minimum design criteria for waste treatment and control facilities set forth in this plan are more stringent than applicable federal standards and treatment levels currently being provided, upgrading to the more stringent requirements will be deferred until it is necessary to expand or otherwise modify or replace the existing treatment facilities. Such deferral will be acknowledged in the permit for the source.

(d) Where planning, design, or construction of new or modified waste treatment and controls to meet prior applicable state or federal requirements is underway at the time this plan is adopted, such plans, design, or construction may be completed under the requirements in effect when the project was initiated. Upgrading to meet more stringent future requirements will be timed in accordance with section (3) of this rule.

(54) Confined animal feeding operations (CAFOs) are regulated under OAR 340-051-0005 through 340-051-0080 to minimize potential adverse effect on water quality (see also OAR 603-074-0005 through 603-074-0070).

(65) Programs for control of pollution from nonpoint sources when developed by the department or by other agencies pursuant to section 208 of the federal Clean Water Act and approved by the department will be

incorporated into this plan by amendment via the same process used to adopt the plan unless other procedures are established by law.

(76) Where minimum requirements of federal law or enforceable regulations are more stringent than specific provisions of this plan, the federal requirements will prevail.

(87) Within the framework of statewide priorities and available resources, the department will monitor water quality within the basin for the purposes of evaluating conformance with the plan and developing information for additions or updates.

(98) The commission recognizes that the potential exists for conflicts between water quality management plans and the land use plans and resource management plans that local governments and other agencies are required to develop. If conflicts develop, the department will meet with the local governments or responsible agencies to resolve the conflicts. Revisions will be presented for adoption via the same process used to adopt the plan unless other specific procedures are established by law.

(109) The department will calculate and include effluent limits specified in pounds per day, which will be the mass load limits for biochemical oxygen demand or carbonaceous biochemical oxygen demand and total suspended solids in National Pollutant Discharge Elimination System permits issued to all sewage treatment facilities. These limits must be calculated as follows.

(a) Except as noted in paragraph (H) of this subsection, the following requirements apply to existing facilities and to facilities receiving departmental approval for engineering plans and specifications for new treatment facilities or treatment facilities expanding the average dry weather treatment capacity before June 30, 1992:

(A) During periods of low stream flows (approximately May 1 through October 31), the monthly average mass load expressed as pounds per day may not exceed the applicable monthly concentration effluent limit times the design average dry weather flow expressed in million gallons per day times 8.34. The weekly average mass load expressed as pounds per day may not exceed the monthly average mass load times 1.5. The daily mass load expressed in pounds per day may not exceed the monthly average mass load times 2.0.

(B) During the period of high stream flows (approximately November 1 through April 30), the monthly average mass load expressed as pounds per day may not exceed the monthly concentration effluent limit times the design average wet weather flow expressed in million gallons per day times 8.34. The weekly average mass load expressed as pounds per day may not exceed the monthly average mass load times 1.5. The daily mass load expressed in pounds per day may not exceed the monthly average mass load times 2.0.

(C) On any day that the daily flow to a sewage treatment facility exceeds the lesser hydraulic capacity of the secondary treatment portion of the facility or twice the design average dry weather flow, the daily mass load limit does not apply. The permittee must operate the treatment facility at highest and best practicable treatment and control.

(D) The design average wet weather flow used in calculating mass loads must be approved by the department in accordance with prudent engineering practice and must be based on a facility plan approved by the department, engineering plans and specifications approved by the department, or an engineering evaluation. The permittee must submit documentation describing and supporting the design average wet weather flow with the permit application, application for permit renewal, or modification request or upon request by the department. The design average wet weather flow is defined as the average flow between November 1 and April 30 when the sewage treatment facility is projected to be at design capacity for that portion of the year.

(E) Mass loads assigned as described in paragraphs (B) and (C) of this subsection will not be subject to OAR 340-041-0004(97);

(F) Mass loads as described in this rule will be included in permits upon renewal or upon a request for permit modification.

(G) Within 180 days after permit renewal or modification, a permittee receiving higher mass loads under this rule and having a separate sanitary sewer system must submit to the department for review and approval a proposed program and time schedule for identifying and reducing inflow. The program must include the following:

(i) Identification of all overflow points and verification that sewer system overflows are not occurring up to a 24-hour, five-year storm event or equivalent;

(ii) Monitoring of all pump station overflow points;

(iii) A program for identifying and removing all inflow sources into the permit holder's sewer system over which the permit holder has legal control; and

(iv) For those permit holders not having the necessary legal authority for all portions of the sewer system discharging into the permit holder's sewer system or treatment facility, a program and schedule for gaining legal authority to require inflow reduction and a program and schedule for removing inflow sources.

(H) Within one year after the department's approval of the program, the permit holder must begin implementation of the program.

(I) Paragraphs (A) through (G) of this subsection do not apply to the cities of Athena, Elgin, Adair Village, Halsey, Harrisburg, Independence, Carlton, and Sweet Home. Mass load limits have been individually assigned to these facilities.

(b) For new sewage treatment facilities or treatment facilities expanding the average dry weather treatment capacity and receiving engineering plans and specifications approval from the department after June 30, 1992, the mass load limits must be calculated by the department based on the proposed treatment facility capabilities and the highest and best practicable treatment to minimize the discharge of pollutants.

(c) Mass load limits as defined in this rule may be replaced by more stringent limits if required by waste load allocations established in accordance with a TMDL for treatment facilities discharging to water quality limited streams or if required to prevent or eliminate violations of water quality standards.

(d) If the design average wet weather flow or the hydraulic secondary treatment capacity is not known or has not been approved by the department at the time of permit issuance, the permit must include as interim mass load limits the mass load limits in the previous permit issued to the permit holder for the treatment facility. The permit must also include a requirement that the permit holder submit to the department the design average wet weather flow and hydraulic secondary treatment capacity within 12 months after permit issuance. Upon review and approval of the design flow information, the department will modify the permit and include mass load limits as described in subsection (a) of this section.

(e) Each permit holder with existing sewage treatment facilities otherwise subject to subsection (a) of this section may choose mass load limits calculated as follows:

(A) The monthly average mass load expressed as pounds per day may not exceed the applicable monthly concentration effluent limit times the design average dry weather flow expressed in million gallons per day times 8.34 pounds per gallon.

(B) The weekly average mass load expressed as pounds per day may not exceed the monthly average mass load times 1.5.

(C) The daily mass load expressed in pounds per day may not exceed the monthly average mass load times 2.0. If existing mass load limits are retained by the permit holder, the terms and requirements of subsection (a) of this section do not apply.

(f) The commission may grant exceptions to subsection (a) of this section. In allowing increased discharged loads, the commission must make the findings specified in OAR 340-041-0004(9)(a) for waste loads and the following findings:

(A) Mass loads calculated in subsection (a) of this section cannot be achieved with the existing treatment facilities operated at maximum efficiency at projected design flows; and

(B) There are no practicable alternatives to achieving the mass loads as calculated in subsection (a) of this section.

~~(11)~~ (10) Forestry on state and private lands. ~~For~~ Nonpoint sources of pollution from forest operations on state or private lands, ~~water quality standards are intended to be attained and are implemented through~~ subject to best management practices and other control ~~mechanisms~~ measures established under the Forest Practices Act (ORS 527.610 to 527.992) and rules thereunder, administered by the Oregon Department of Forestry. ~~Therefore,~~ under the Forest Practices Act. (ORS 527.610 to 527.992) Such forest operations ~~that are~~ when conducted in good faith compliance with the Forest Practices Act requirements are ~~(except for the limits set out in ORS 527.770) deemed in compliance with this division. DEQ will work with the Oregon Department of Forestry to revise the Forest Practices program to attain water quality standards.~~ generally deemed not to cause violations of water quality standards as provided in ORS 527.770. Forest operations on state and private lands are subject to load allocations under ORS 468.110 and OAR 340, Division 42, to the extent necessary to implement the federal Clean Water Act.

~~(12)~~ (11) Agricultural water quality management plans to reduce agricultural nonpoint source pollution are developed and implemented by the Oregon Department of Agriculture (ODA) through a cooperative agreement with the department to implement applicable provisions of ORS 568.900 to 568.933 and 561.191. If the department has reason to believe that agricultural discharges or activities are contributing to water quality problems resulting in water quality standards violations, the department may consult with the ODA. If water quality impacts are likely from agricultural sources and the department determines that a water quality management plan is necessary, the director may write a letter to the director of the ODA requesting that such a management plan be prepared and implemented to reduce pollutant loads and achieve the water quality criteria. In areas subject to the Agricultural Water Quality Management Act, the Oregon Department of Agriculture (ODA) under ORS 568.900 to 568.933 and 561.191 develops and implements agricultural water quality management area plans and rules to prevent and control water pollution from agricultural activities and soil erosion on agricultural and rural lands. Area plans and rules must be designed to achieve and maintain water quality standards. If the department determines that the area plan and rules are not adequate to achieve and maintain water quality standards, the department will provide ODA with comments on what would be sufficient to meet WQS or TMDL load allocations. If a resolution cannot be agreed upon, the department will request the Environmental Quality Commission (EQC) to petition ODA for a review of part or all of water quality management area plan and rules.

If a person subject to an ODA area plan and implementing rules causes or contributes to water quality standards violations, the department will refer the activity to ODA for further evaluation and potential requirements.

~~(13)~~¹² Agriculture and forestry on federal lands. Agriculture and forestry activities conducted on federal land must meet the requirements of this division and are subject to the department's jurisdiction. Pursuant to Memoranda of Agreement with the U.S. Forest Service and the Bureau of Land Management, water quality standards are expected to be met through the development and implementation of water quality restoration plans, best management practices, and aquatic conservation strategies. Where the department designates a federal agency as a designated management agency, implementation of these plans, practices, and strategies is deemed compliance with this division.

~~(14)~~¹³ Testing methods. The analytical testing methods for determining compliance with the water quality standards in this rule must comply with 40 CFR Part 136 or, if Part 136 does not prescribe a method, with the most recent edition of Standard Methods for the Examination of Water and Waste Water published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation; if the department has published an applicable superseding method, testing must comply with the superseding method. Testing in accordance with an alternative method must comply with this rule if the department has published the method or has approved the method in writing.

~~(15)~~¹⁴ Reservoirs or managed lakes are deemed in compliance with water quality criteria for temperature, pH, or dissolved oxygen (DO) if all of the following circumstances exist.

- (a) The water body has thermally stratified naturally or due to the presence of an impoundment.
- (b) The water body has three observable layers, defined as the epilimnion, metalimnion, and hypolimnion.
- (c) A layer exists in the reservoir or managed lake in which temperature, pH, and DO criteria are all met, and the layer is sufficient to support beneficial uses.
- (d) All practicable measures have been taken by the entities responsible for management of the reservoir or managed lake to maximize the layers meeting the temperature, pH, and DO criteria.
- (e) One of the following conditions is met:
 - (A) The streams or river segments immediately downstream of the water body meet applicable criteria for temperature, pH, and DO.
 - (B) All practicable measures have been taken to maximize downstream water quality potential and fish passage.
 - (C) If the applicable criteria are not met in the stream or river segment immediately upstream of the water body, then no further measurable downstream degradation of water quality has taken place due to stratification of the reservoir or managed lake.

~~(16)~~¹⁵ Compliance schedules. In a permit issued under OAR 340, division 045 or in a water quality certification under OAR 340, division 48, the department may include compliance schedules for the implementation of effluent limits derived from water quality criteria in this division. A compliance schedule in an NPDES permit is allowed only for water quality based effluent limits that are newly applicable to the permit and must comply with provisions in 40 CFR 122.47 (including the requirement that water quality criteria must be achieved as soon as possible).

Attachment A2
June 15-17, 2011, EQC meeting
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DIVISION 42

TOTAL MAXIMUM DAILY LOADS (TMDLS)

340-042-0040

Establishing Total Maximum Daily Loads (TMDLs)

- (1) The Department will establish TMDLs for pollutants in waters of the state that are listed in accordance with the Federal Water Pollution Control Act Section 303(d) (33 USC Section 1313(d)).
- (2) The Department will group stream segments and other waterbodies geographically by subbasin and develop TMDLs for those subbasins, unless it determines another approach is warranted.
- (3) The Department will prioritize and schedule TMDLs for completion considering the following factors:
 - (a) Severity of the pollution,
 - (b) Uses of the water,
 - (c) Availability of resources to develop TMDLs,
 - (d) Specific judicial requirements, and
 - (e) Any other relevant information.
- (4) A TMDL will include the following elements:
 - (a) Name and location. This element describes the geographic area for which the TMDL is developed and includes maps as appropriate.
 - (b) Pollutant identification. This element identifies the pollutants causing impairment of water quality that are addressed in the TMDL.
 - (c) Water quality standards and beneficial uses. This element identifies the beneficial uses in the basin and the relevant water quality standards, including specific basin standards established in OAR 340-041-0202 through 340-041-0975. The beneficial use that is most sensitive to impairment by the pollutant or pollutants addressed in the TMDL will be specified.
 - (d) Loading capacity. This element specifies the amount of a pollutant or pollutants that a waterbody can receive and still meet water quality standards. The TMDL will be set at a level to ensure that loading capacity is not exceeded. Flow assumptions used in the TMDL will be specified.
 - (e) Excess load. This element evaluates, to the extent existing data allow, the difference between the actual pollutant load in a waterbody and the loading capacity of that waterbody.

(f) Sources or source categories. This element identifies the pollutant sources and estimates, to the extent existing data allow, the amount of actual pollutant loading from these sources. The TMDL will establish wasteload allocations and load allocations for these sources. The Department will use available information and analyses to identify and document sources.

(g) Wasteload allocations. This element determines the portions of the receiving water's loading capacity that are allocated to existing point sources of pollution, including all point source discharges regulated under the Federal Water Pollution Control Act Section 402 (33 USC Section 1342).

(h) Load allocations. This element determines the portions of the receiving water's loading capacity that are allocated to existing nonpoint sources, including runoff, deposition, soil contamination and groundwater discharges, or to background sources. Load allocations are best estimates of loading, and may range from reasonably accurate estimates to gross allotments depending on the availability of data and appropriate techniques for predicting loading. Whenever reasonably feasible, natural background, long-range transport and anthropogenic nonpoint source loads will be distinguished from each other.

(i) Margin of safety. This element accounts for uncertainty related to the TMDL and, where feasible, quantifies uncertainties associated with estimating pollutant loads, modeling water quality and monitoring water quality. The TMDL will explain how the margin of safety was derived and incorporated into the TMDL.

(j) Seasonal variation. This element accounts for seasonal variation and critical conditions in stream flow, sensitive beneficial uses, pollutant loading and water quality parameters so that water quality standards will be attained and maintained during all seasons of the year.

(k) Reserve capacity. This element is an allocation for increases in pollutant loads from future growth and new or expanded sources. The TMDL may allocate no reserve capacity and explain that decision.

(l) Water quality management plan (WQMP). This element provides the framework of management strategies to attain and maintain water quality standards. The framework is designed to work in conjunction with detailed plans and analyses provided in sector-specific or source-specific implementation plans. The WQMP will address the following:

(A) Condition assessment and problem description.

(B) Goals and objectives.

(C) Proposed management strategies designed to meet the wasteload allocations and load allocations in the TMDL. This will include a categorization of sources and a description of the management strategies proposed for each source category.

(D) Timeline for implementing management strategies including:

(i) Schedule for revising permits,

(ii) Schedule for achieving appropriate incremental and measurable water quality targets,

(iii) Schedule for implementing control actions, and

(iv) Schedule for completing other measurable milestones.

(E) Explanation of how implementing the management strategies will result in attainment of water quality standards.

(F) Timeline for attainment of water quality standards.

(G) Identification of persons, including Designated Management Agencies (DMAs), responsible for implementing the management strategies and developing and revising sector-specific or source-specific implementation plans.

(H) Identification of sector-specific or source-specific implementation plans that are available at the time the TMDL is issued.

(I) Schedule for preparation and submission of sector-specific or source-specific implementation plans by responsible persons, including DMAs, and processes that trigger revisions to these implementation plans.

(J) Description of reasonable assurance that management strategies and sector-specific or source-specific implementation plans will be carried out through regulatory or voluntary actions.

(K) Plan to monitor and evaluate progress toward achieving TMDL allocations and water quality standards including:

(i) Identification of persons responsible for monitoring, and

(ii) Plan and schedule for reviewing monitoring information and revising the TMDL.

(L) Plan for public involvement in implementing management strategies.

(M) Description of planned efforts to maintain management strategies over time.

(N) General discussion of costs and funding for implementing management strategies. Sector-specific or source-specific implementation plans may provide more detailed analyses of costs and funding for specific management strategies.

(O) Citation of legal authorities relating to implementation of management strategies.

(5) To determine allocations for sources identified in the TMDL, the Department:

(a) Will use water quality data analyses, which may include statistical analyses or mathematical models.

(b) May use surrogate measures to estimate allocations for pollutants addressed in the TMDL. The Department may use one or more surrogate measures for a pollutant that is difficult to measure or highly variable. A surrogate measure will be closely related to the pollutant, and may be easier to monitor and track. The TMDL will establish the correlation between the surrogate measure and pollutant.

(6) The Department will distribute wasteload and load allocations among identified sources and in doing so, may consider the following factors:

(a) Contributions from sources;

(b) Costs of implementing measures;

(c) Ease of implementation;

(d) Timelines for attainment of water quality standards;

(e) Environmental impacts of allocations;

(f) Unintended consequences;

(g) Reasonable assurances of implementation; and

(h) Any other relevant factor.

(7) After issuing the TMDL, the Department may revise the loading capacity and allocations to accommodate changed needs or new information. In making these revisions, the Department will comply with the public notice provisions in OAR 340-042-0050(2) and procedures for issuing TMDL orders in OAR 340-042-0060.

(8) If the Environmental Protection Agency establishes a TMDL addressing waterbodies in Oregon, the Department may prepare a WQMP to implement that TMDL

Implementing a Total Maximum Daily Load

(1) Management strategies identified in a WQMP to achieve wasteload and load allocations in a TMDL will be implemented through water quality permits for those sources subject to permit requirements in ORS 468B.050 and through sector-specific or source-specific implementation plans for other sources. WQMPs will identify the sector and source-specific implementation plans required and the persons, including DMAs, responsible for developing and revising those plans.

(2) The Nonpoint source discharges of pollutants from forest operations on state or private lands are subject to best management practices and other control measures established by the Oregon Department of Forestry ~~will develop and enforce implementation plans addressing state and private forestry sources as authorized by~~ under the ORS 527.610 ~~through~~ 527.992 and according to OAR chapter 629, divisions 600 through 665. ~~The~~ Such forest operations, when conducted in good faith compliance with the Forest Practices Act requirements are generally deemed not to cause violations of water quality standards as provided in ORS 527.770. Where the department determines that there are adequate resources and data available, the department will also assign sector or source specific load allocations needed for nonpoint sources of pollution on state and private forestlands to implement the load allocations. In areas where a TMDL has been approved, site specific rules under the Forest Practices Act rules will need to be revised if the department determines that the generally applicable Forest Practices Act rules are not adequate to implement the TMDL load allocations. If a resolution cannot be achieved, the department will request the Environmental Quality Commission to petition the Board of Forestry for a review of part or all of Forest Practices Act rules implementing the TMDL.

(3) In areas subject to the Agricultural Water Quality Management Act the Oregon Department of Agriculture ~~will develop implementation plans for agricultural activities and soil erosion and enforce associated rules as authorized by~~ (ODA) under ORS 568.900 ~~through~~ 568.933 and 561.191 and according to OAR chapter 603, divisions 90 and 95 develops and implements agricultural water quality management area plans and rules to prevent and control water pollution from agricultural activities and soil erosion on agricultural and rural lands. Where the department determines that there are adequate resources and data available, the department will also assign sector or source specific load allocations needed for agricultural or rural nonpoint sources to implement the load allocations. In areas where a TMDL has been approved, agricultural water quality management area plans and rules must be sufficient to meet the TMDL load allocations. If the department determines that the plan and rules are not adequate to implement the load allocation, the department will provide ODA with comments on what would be sufficient to meet TMDL load allocations. If a resolution cannot be achieved, the department will request the Environmental Quality Commission to petition ODA for a review of part or all of water quality management area plan and rules implementing the TMDL.

(4) Persons, including DMAs other than the Oregon Department of Forestry or the Oregon Department of Agriculture, identified in a WQMP as responsible for developing and revising sector-specific or source-specific implementation plans must:

(a) Prepare an implementation plan and submit the plan to the Department for review and approval according to the schedule specified in the WQMP. The implementation plan must:

(A) Identify the management strategies the DMA or other responsible person will use to achieve load allocations and reduce pollutant loading;

(B) Provide a timeline for implementing management strategies and a schedule for completing measurable milestones;

(C) Provide for performance monitoring with a plan for periodic review and revision of the implementation plan;

(D) To the extent required by ORS 197.180 and OAR chapter 340, division 18, provide evidence of compliance with applicable statewide land use requirements; and

(E) Provide any other analyses or information specified in the WQMP.

(b) Implement and revise the plan as needed.

(5) For sources subject to permit requirements in ORS 468B.050, wasteload allocations and other management strategies will be incorporated into permit requirements.

DIVISION 45

REGULATIONS PERTAINING TO NPDES AND WPCF PERMITS

OAR 340-045-0105

Intake Credits

(1) General Provisions. The following provisions apply to the consideration of intake pollutants in determining reasonable potential under section (2) of this rule and the consideration of intake pollutants in establishing water quality based effluent limits under section (3) of this rule.

These provisions do not alter the permitting authority's obligation under 40 CFR 122.44(d)(vii)(B) to develop effluent limitations consistent with the assumptions and requirements of any available waste load allocations for the discharge, that is part of a TMDL prepared by the department and approved by EPA pursuant to 40 CFR 130.7, or prepared by EPA pursuant to 40 CFR 130.7(d).

(a) An "intake pollutant" is the amount of a pollutant that is present in public waters (including groundwater as provided in subsection (d), below, at the time it is withdrawn from such waters by the discharger or other facility supplying the discharger with intake water.

(b) An intake pollutant is considered to be from the "same body of water" as the discharge if the department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This finding may be deemed established if:

(A) The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water;

(B) There is a direct hydrological connection between the intake and discharge points; and

(C) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and receiving waters.

(c) The department may also consider other site-specific factors relevant to the transport and fate of the pollutant to make the finding in a particular case that a pollutant would or would not have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.

(d) An intake pollutant from groundwater may be considered to be from the "same body of water" if the department determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee, except that such a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.

(e) The determinations made under Sections (2) and (3), below, will be made on a pollutant-by-pollutant and outfall-by-outfall basis.

(2) Consideration of Intake Pollutants in Determining Reasonable Potential:

(a) The department may determine that there is “no reasonable potential” for the discharge of an identified intake pollutant to cause or contribute to an excursion above a narrative or numeric water quality criterion contained in Oregon’s water quality standards where a discharger demonstrates to the satisfaction of the department (based upon information provided in the permit application or other information) that:

(A) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;

(B) The facility does not contribute any additional mass of the identified intake pollutant to its wastewater;

(C) The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;

(D) The facility does not increase the identified intake pollutant concentration at the edge of the mixing zone, or at the point of discharge if a mixing zone is not allowed, as compared to the pollutant concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard; and

(E) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

(b) Upon a finding under subsection (a) of this section that an intake pollutant in the discharge does not cause, have the reasonable potential to cause, or contribute to an excursion above an applicable water quality standard, the department is not required to include a water quality-based effluent limit for the identified intake pollutant in the facility's permit, provided:

(A) The NPDES permit evaluation report includes a determination that there is no reasonable potential for the discharge of an identified intake pollutant to cause or contribute to an excursion above an applicable numeric water quality criterion and references appropriate supporting documentation included in the administrative record;

(B) The permit requires all influent, effluent, and ambient monitoring necessary to demonstrate that the conditions above in subsection (a) of this section are maintained during the permit term; and

(C) The permit contains a re-opener clause authorizing modification or revocation and re-issuance of the permit if new information shows the discharger no longer meets the conditions in subsection (a) (A) through (E) of this section.

(3) Consideration of Intake Pollutants in Establishing Water Quality Based Effluent Limits (WQBELs):

(a) The department may consider pollutants in intake water as provided in section (3) when establishing water quality-based effluent limitations based on narrative or numeric criteria, provided that the discharger has demonstrated that the following conditions are met:

(A) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;

(B) The observed maximum ambient background concentration and the intake water concentration of the pollutant exceeds the most stringent applicable water quality criterion for that pollutant;

(C) The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;

(D) The facility does not increase the identified intake pollutant concentration, as defined by the department, at the point of discharge as compared to the pollutant concentration in the intake water; and

(E) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

(b) Where the conditions in subsection (a) of this section are met, the department may establish a water quality-based effluent limitation allowing the facility to discharge a mass and concentration of the intake pollutant that are no greater than the mass and concentration found in the facility's intake water. A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.

(c) Where proper operation and maintenance of a facility's treatment system results in the removal of an intake water pollutant, the department may establish limitations that reflect the lower mass and concentration of the pollutant achieved by such treatment.

(d) Where intake water for a facility is provided by a municipal water supply system and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration of the intake water pollutant will be determined at the point where the water enters the water supplier's distribution system.

(e) Where a facility discharges intake pollutants from multiple sources that originate from the receiving water body and from other water bodies, the department may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit.

(f) The permit will specify how compliance with mass and concentration-based limitations for the intake water pollutant will be assessed. This may be done by basing the effluent limitation on background concentration data. Alternatively, the department may determine compliance by monitoring the pollutant concentrations in the intake water and in the effluent. This monitoring may be supplemented by monitoring internal waste streams or by a department evaluation of the use of best management practices.

(g) In addition to the above, effluent limitations must be established to comply with all other applicable State and Federal laws and regulations including technology-based requirements and anti-degradation policies.

(h) When determining whether WQBELs are necessary, information from chemical-specific, whole effluent toxicity and biological assessments will be considered independently.

(i) Permits limits must be consistent with the assumptions and requirements of waste load allocations or other provisions in a TMDL that has been approved by the EPA.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 41

**WATER QUALITY STANDARDS: BENEFICIAL USES, POLICIES, AND CRITERIA FOR
OREGON**

PROPOSED CHANGES TO TABLES 20, 33, 33A, AND 33B AND NEW TABLE 40

DEQ is proposing a new Table 40 which will only contain criteria applicable to human health. For this reason, the human health criteria will be deleted from Table 20, Table 33A, and Table 33B. These tables will remain a part of Oregon's water quality standards and only contain the aquatic life criteria. The proposed table revisions will become effective upon EPA approval.

TABLE 40: Human Health Water Quality Criteria for Toxic Pollutants

Human Health Criteria Summary

The concentration for each pollutant listed in Table 40 was derived to protect Oregonians from potential adverse health impacts associated with long-term exposure to toxic substances associated with consumption of fish, shellfish, and water. The “organism only” criteria are established to protect fish and shellfish consumption and apply to waters of the state designated for fishing. The “water + organism” criteria are established to protect the consumption of drinking water, fish, and shellfish, and apply where both fishing and domestic water supply (public and private) are designated uses. All criteria are expressed as micrograms per liter ($\mu\text{g/L}$), unless otherwise noted. Pollutants are listed in alphabetical order. Additional information includes the Chemical Abstract Service (CAS) number, whether the criterion is based on carcinogenic effects (can cause cancer in humans), and whether there is an aquatic life criterion for the pollutant (i.e. “y”= yes, “n” = no). All the human health criteria were calculated using a fish consumption rate of 175 grams per day unless otherwise noted. A fish consumption rate of 175 grams per day is approximately equal to 23 8-ounce fish meals per month. For pollutants categorized as carcinogens, values represent a cancer risk of one additional case of cancer in one million people (i.e. 10^{-6}), unless otherwise noted. All metals criteria are for total metal concentration, unless otherwise noted. Italicized pollutants represent non-priority pollutants. The human health criteria revisions established by OAR 340-041-0033 and shown in Table 40 do not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act until approved by EPA pursuant to 40 CFR 131.21 (4/27/2000).

No.	Pollutant	CAS No.	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
1	Acenaphthene	83329	n	n	95	99
2	Acrolein	107028	n	n	0.88	0.93
3	Acrylonitrile	107131	y	n	0.018	0.025
4	Aldrin	309002	y	y	0.0000050	0.0000050
5	Anthracene	120127	n	n	2900	4000
6	Antimony	7440360	n	n	5.1	64
7	Arsenic (inorganic) ^A	7440382	y	n	2.1	2.1(freshwater) 1.0 (saltwater)
	^A The arsenic criteria are expressed as total inorganic arsenic. The "organism only" criteria are based on a risk level of approximately of 1.1×10^{-5} , and the "water + organism" criterion is based on a risk level of 1×10^{-4}					
8	Asbestos ^B	1332214	y	n	7,000,000 fibers/L	--
	^B The human health risks from asbestos are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
9	Barium ^C	7440393	n	n	1000	--
	^C The human health criterion for barium is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
10	Benzene	71432	y	n	0.44	1.4
11	Benzidine	92875	y	n	0.000018	0.000020
12	Benz(a)anthracene	56553	y	n	0.0013	0.0018
13	Benzo(a)pyrene	50328	y	n	0.0013	0.0018
14	Benzo(b)fluoranthene 3,4	205992	y	n	0.0013	0.0018
15	Benzo(k)fluoranthene	207089	y	n	0.0013	0.0018
16	BHC Alpha	319846	y	n	0.00045	0.00049
17	BHC Beta	319857	y	n	0.0016	0.0017
18	BHC Gamma (Lindane)	58899	n	y	0.17	0.18
19	Bromoform	75252	y	n	3.3	14
20	Butylbenzyl Phthalate	85687	n	n	190	190
21	Carbon Tetrachloride	56235	y	n	0.10	0.16
22	Chlordane	57749	y	y	0.000081	0.000081
23	Chlorobenzene	108907	n	n	74	160
24	Chlorodibromomethane	124481	y	n	0.31	1.3
25	Chloroethyl Ether bis 2	111444	y	n	0.020	0.05
26	Chloroform	67663	n	n	260	1100
27	Chloroisopropyl Ether bis 2	108601	n	n	1200	6500
28	Chloromethyl ether, bis	542881	y	n	0.000024	0.000029
29	Chloronaphthalene 2	91587	n	n	150	160
30	Chlorophenol 2	95578	n	n	14	15
31	Chlorophenoxy Herbicide (2,4,5,-TP) ^D	93721	n	n	10	--
	^D The Chlorophenoxy Herbicide (2,4,5,-TP) criterion is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established					

No.	Pollutant	CAS No.	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
	under the Safe Drinking Water Act.					
32	Chlorophenoxy Herbicide (2,4-D) ^E	94757	n	n	100	--
	^E The Chlorophenoxy Herbicide (2,4-D) criterion is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no “organism only” criterion was developed. The “water + organism” criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
33	Chrysene	218019	y	n	0.0013	0.0018
34	Copper ^F	7440508	n	y	1300	--
	^F Human health risks from copper are primarily from drinking water, therefore no “organism only” criterion was developed. The “water + organism” criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
35	Cyanide ^G	57125	n	y	130	130
	^G The cyanide criterion is expressed as total cyanide (CN)/L.					
36	DDD 4,4'	72548	y	n	0.000031	0.000031
37	DDE 4,4'	72559	y	n	0.000022	0.000022
38	DDT 4,4'	50293	y	y	0.000022	0.000022
39	Dibenz(a,h)anthracene	53703	y	n	0.0013	0.0018
40	Dichlorobenzene(m) 1,3	541731	n	n	80	96
41	Dichlorobenzene(o) 1,2	95501	n	n	110	130
42	Dichlorobenzene(p) 1,4	106467	n	n	16	19
43	Dichlorobenzidine 3,3'	91941	y	n	0.0027	0.0028
44	Dichlorobromomethane	75274	y	n	0.42	1.7
45	Dichloroethane 1,2	107062	y	n	0.35	3.7
46	Dichloroethylene 1,1	75354	n	n	230	710
47	Dichloroethylene trans 1,2	156605	n	n	120	1000
48	Dichlorophenol 2,4	120832	n	n	23	29
49	Dichloropropane 1,2	78875	y	n	0.38	1.5
50	Dichloropropene 1,3	542756	y	n	0.30	2.1
51	Dieldrin	60571	y	y	0.0000053	0.0000054
52	Diethyl Phthalate	84662	n	n	3800	4400
53	Dimethyl Phthalate	131113	n	n	84000	110000
54	Dimethylphenol 2,4	105679	n	n	76	85
55	Di-n-butyl Phthalate	84742	n	n	400	450
56	Dinitrophenol 2,4	51285	n	n	62	530
57	Dinitrophenols	25550587	n	n	62	530
58	Dinitrotoluene 2,4	121142	y	n	0.084	0.34
59	Dioxin (2,3,7,8-TCDD)	1746016	y	n	0.00000000051	0.00000000051
60	Diphenylhydrazine 1,2	122667	y	n	0.014	0.020
61	Endosulfan Alpha	959988	n	y	8.5	8.9
62	Endosulfan Beta	33213659	n	y	8.5	8.9
63	Endosulfan Sulfate	1031078	n	n	8.5	8.9
64	Endrin	72208	n	y	0.024	0.024
65	Endrin Aldehyde	7421934	n	n	0.030	0.030

No.	Pollutant	CAS No.	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
66	Ethylbenzene	100414	n	n	160	210
67	Ethylhexyl Phthalate bis 2	117817	y	n	0.20	0.22
68	Fluoranthene	206440	n	n	14	14
69	Fluorene	86737	n	n	390	530
70	Heptachlor	76448	y	y	0.0000079	0.0000079
71	Heptachlor Epoxide	1024573	y	y	0.0000039	0.0000039
72	Hexachlorobenzene	118741	y	n	0.000029	0.000029
73	Hexachlorobutadiene	87683	y	n	0.36	1.8
74	Hexachlorocyclo-hexane-Technical	608731	y	n	0.0014	0.0015
75	Hexachlorocyclopentadiene	77474	n	n	30	110
76	Hexachloroethane	67721	y	n	0.29	0.33
77	Indeno(1,2,3-cd)pyrene	193395	y	n	0.0013	0.0018
78	Isophorone	78591	y	n	27	96
79	Manganese ^H	7439965	n	n	--	100
	^H The "fish consumption only" criterion for manganese applies only to salt water and is for total manganese. This EPA recommended criterion predates the 1980 human health methodology and does not utilize the fish ingestion BCF calculation method or a fish consumption rate.					
80	Methoxychlor ^I	72435	n	y	100	--
	^I The human health criterion for methoxychlor is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
81	Methyl Bromide	74839	n	n	37	150
82	Methyl-4,6-dinitrophenol 2	534521	n	n	9.2	28
83	Methylene Chloride	75092	y	n	4.3	59
84	Methylmercury (mg/kg) ^J	22967926	n	n	--	0.040 mg/kg
	^J This value is expressed as the fish tissue concentration of methylmercury. Contaminated fish and shellfish is the primary human route of exposure to methylmercury					
85	Nickel	7440020	n	n	140	170
86	Nitrates ^K	14797558	n	n	10000	--
	^K The human health criterion for nitrates is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.					
87	Nitrobenzene	98953	n	n	14	69
88	Nitrosamines	35576911	y	n	0.00079	0.046
89	Nitrosodibutylamine, N	924163	y	n	0.0050	0.022
90	Nitrosodiethylamine, N	55185	y	n	0.00079	0.046
91	Nitrosodimethylamine, N	62759	y	n	0.00068	0.30
92	Nitrosodi-n-propylamine, N	621647	y	n	0.0046	0.051
93	Nitrosodiphenylamine, N	86306	y	n	0.55	0.60
94	Nitrosopyrrolidine, N	930552	y	n	0.016	3.4
95	Pentachlorobenzene	608935	n	n	0.15	0.15
96	Pentachlorophenol	87865	y	y	0.15	0.30

No.	Pollutant	CAS No.	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
97	Phenol	108952	n	n	9400	86000
98	Polychlorinated Biphenyls (PCBs) ^L	NA	y	y	0.0000064	0.0000064
^L This criterion applies to total PCBs (e.g. determined as Aroclors or congeners).						
99	Pyrene	129000	n	n	290	400
100	Selenium	7782492	n	n	120	420
101	Tetrachlorobenzene, 1,2,4,5-	95943	n	n	0.11	0.11
102	Tetrachloroethane 1,1,2,2	79345	y	n	0.12	0.40
103	Tetrachloroethylene	127184	y	n	0.24	0.33
104	Thallium	7440280	n	n	0.043	0.047
105	Toluene	108883	n	n	720	1500
106	Toxaphene	8001352	y	y	0.000028	0.000028
107	Trichlorobenzene 1,2,4	120821	n	n	6.4	7.0
108	Trichloroethane 1,1,2	79005	y	y	0.44	1.6
109	Trichloroethylene	79016	y	n	1.4	3.0
110	Trichlorophenol 2,4,6	88062	y	n	0.23	0.24
111	Trichlorophenol, 2, 4, 5-	95954	n	n	330	360
112	Vinyl Chloride	75014	y	n	0.023	0.24
113	Zinc	7440666	n	n	2100	2600

Table 20 Redline/Strikethrough

TABLE 20

AQUATIC LIFE WATER QUALITY CRITERIA SUMMARY¹

The concentration for each compound listed in Table 20 is a criterion not to be exceeded in waters of the state in order to protect aquatic life ~~and human health~~. All values are expressed as micrograms per liter (µg/L) except where noted. Compounds are listed in alphabetical order with the corresponding designations as to whether EPA has identified it as a priority pollutant and a carcinogen, aquatic life freshwater acute and chronic criteria, aquatic life marine acute and chronic criteria, ~~human health water & organism and fish consumption only criteria, and Drinking Water Maximum Contaminant Level (MCL)~~. The acute criteria refer to the average concentration for one (1) hour and the chronic criteria refer to the average concentration for 96 hours (4 days), and that these criteria should not be exceeded more than once every three (3) years.

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter				Concentration in Units Per Liter		
			for Protection of Aquatic Life				for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
ACENAPTHENE	Y	N							
ACROLEIN	Y	N					320ug	780ug	

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
ACRYLONITRILE	Y	✗					0.058ug**	0.65ug**	
ALDRIN	Y	✗	3		1.3		0.074ng**	0.079ng**	
ALKALINITY	N	✗		20,000					
AMMONIA	N	✗	CRITERIA ARE pH AND TEMPERATURE DEPENDENT—SEE DOCUMENT USEPA JANUARY 1985 (Fresh Water) CRITERIA ARE pH AND TEMPERATURE DEPENDENT—SEE DOCUMENT USEPA APRIL 1989 (Marine Water)						
ANTIMONY	Y	✗					146ug	45,000ug	
ARSENIC	Y	✗					2.2ng**	17.5ng**	0.05mg
ARSENIC (PENT)	Y	✗							
ARSENIC (TRI)	Y	✗	360	190	69	36			
ASBESTOS	Y	✗					30K-f/L**		
BARIUM	N	✗					1mg		1.0mg
BENZENE	Y	✗					0.66ug**	40-ug**	
BENZIDINE	Y	✗					0.12ng	0.53ng**	
BERYLLIUM	Y	✗					6.8ng**	117ng**	
BHC	Y	✗							

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
CADMIUM	Y	N	3.9+	1.1+	43	9.3	10ug		0.010mg
CARBON TETRACHLORIDE	Y	Y					0.4ug**	6.94ug**	
CHLORDANE	Y	Y	2.4	0.0043	0.09	0.004	0.46ng**	0.48ng**	
CHLORIDE	N	N	860 mg/L	230 mg/L					
CHLORINATED BENZENES	Y	Y					488 ug		
CHLORINATED NAPHTHALENES	Y	N							
CHLORINE	N	N	19	11	13	7.5			
CHLOROALKYL ETHERS	Y	N							
CHLOROETHYL ETHER (BIS-2)	Y	Y					0.03 ug	1.36 ug**	
CHLOROFORM	Y	Y					0.19ug**	15.7ug**	
CHLOROISOPROPYL ETHER (BIS-2)	Y	N					34.7ug	4.36mg	
CHLOROMETHYL ETHER (BIS)	N	Y					0.00000376ng* ±	0.00184ug**	
CHLOROPHENOL 2	Y	N							
CHLOROPHENOL 4	N	N							

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
CHLOROPHENOXY HERBICIDES (2,4,5-TP)	N	N					10ug		
CHLOROPHENOXY HERBICIDES (2,4-D)	N	N					100ug		
CHLORPYRIFOS	N	N	0.083	0.041	0.011	0.0056			
CHLORO-4 METHYL-3 PHENOL	N	N							
CHROMIUM (HEX)	Y	N	16	11	1,100	50	50ug		0.05mg
CHROMIUM (TRI)	N	N	1,700.+	210.+			170mg	3,433mg	0.05mg
COPPER	Y	N	18.+	12.+	2.9	2.9			
CYANIDE	Y	N	22	5.2	1	1	200ug		
DDT	Y	N	1.1	0.001	0.13	0.001	0.024ng**	0.024ng**	
(TDE) DDT METABOLITE	Y	N							
(DDE) DDT METABOLITE	Y	N							
DEMETON	Y	N		0.1		0.1			
DIBUTYLPHTHALATE	Y	N					35mg	154mg	

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
DICHLOROBENZENES	Y	N					400ug	2.6mg	
DICHLOROBENZIDINE	Y	Y					0.01ug**	0.020ug**	
DICHLOROETHANE 1,2	Y	Y					0.94ug**	243ug**	
DICHLOROETHYLENES	Y	Y					0.033ug**	1.85ug**	
DICHLOROPHENOL 2,4	N	N					3.09mg		
DICHLOROPROPANE	Y	N							
DICHLOROPROPENE	Y	N					87ug	14.1mg	
DIELDRIN	Y	Y	2.5	0.0019	0.71	0.0019	0.071ng**	0.076ng**	
DIETHYLPHTHALATE	Y	N					350mg	1.8g	
DIMETHYL PHENOL 2,4	Y	N							
DIMETHYL PHTHALATE	Y	N					313mg	2.9g	
DINITROTOLUENE 2,4	N	Y					0.11ug**	9.1ug**	
DINITROTOLUENE	Y	N					70ug	14.3mg	
DINITROTOLUENE	N	Y							
DINITRO-O-CRESOL 2,4	Y	N					13.4	765ug	
DIOXIN (2,3,7,8-TCDD)	Y	Y					0.000013ng**	0.000014ng**	

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
DIPHENYLHYDRAZINE	Y	N					42ng**	0.56ug**	
DIPHENYLHYDRAZINE 1,2	Y	N							
DI-2-ETHYLHEXYL PHTHALATE	Y	N					15mg	50mg	
ENDOSULFAN	Y	N	0.22	0.056	0.034	0.0087	74ug	159ug	
ENDRIN	Y	N	0.18	0.0023	0.037	0.0023	1ug		0.0002mg
ETHYLBENZENE	Y	N					1.4mg	3.28mg	
FLUORANTHENE	Y	N					42ug	54ug	
GUTHION	N	N		0.01		0.01			
HALOETHERS	Y	N							
HALOMETHANES	Y	Y					0.19ug**	15.7ug**	
HEPTACHLOR	Y	Y	0.52	0.0038	0.053	0.0036	0.28ng**	0.29ng**	
HEXACHLOROETHANE	N	Y					1.9ug	8.74ug	
HEXACHLOROBENZENE	Y	N					0.72ng**	0.74ng**	
HEXACHLOROBUTADIENE	Y	Y					0.45ug**	50ug**	
HEXACHLOROCYCLOHEXANE (LINDANE)	Y	Y	2	0.08	0.16				0.004mg

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
HEXACHLOROCYCLOHEXANE-ALPHA	Y	Y					9.2ng**	31ng**	
HEXACHLOROCYCLOHEXANE-BETA	Y	Y					16.3ng**	54.7ng**	
HEXACHLOROCYCLOHEXANE-GAMA	Y	Y					18.6ng**	62.5ng**	
HEXACHLOROCYCLOHEXANE-TECHNICAL	Y	Y					12.3ng**	41.4ng**	
HEXACHLOROCYCLOPENTADIENE	Y	N					206ug		
IRON	N	N		1,000			0.3mg		
ISOPHORONE	Y	N					5.2mg	520mg	
LEAD	Y	N	82.+	3.2+	140	5.6	50ug		0.05mg
MALATHION	N	N		0.1		0.1			
MANGANESE	N	N					50ug	100ug	
MERCURY	Y	N	2.4	0.012	2.1	0.025	144ng	146ng	0.002mg
METHOXYCHLOR	N	N		0.03		0.03	100ug		0.1mg
MIREX	N	N		0.001		0.001			
MONOCHLOROBENZENE	Y	N					488ug		
NAPHTHALENE	Y	N							

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
NICKEL	Y	N	1,400.+	160+	75	8.3	13.4ug	100ug	
NITRATES	N	N					10mg		10mg
NITROBENZENE	Y	N					19.8mg		
NITROPHENOLS	Y	N							
NITROSAMINES	Y	Y					0.8ng**	1,240ng**	
NITROSODIBUTYLAMINE N	Y	Y					6.4ng**	587ng**	
NITROSODIETHYLAMINE N	Y	Y					0.8ng**	1,240ng**	
NITROSODIMETHYLAMINE N	Y	Y					1.4ng**	16,000ng**	
NITROSODIPHENYLAMINE N	Y	Y					4,900ng**	16,100ng**	
NITROSOPYRROLIDINE N	Y	Y					16ng**	91,900ng**	
PARATHION	N	N	0.065	0.013					
PCB's	Y	Y	2	0.014	10	0.03	0.079ng**	0.079ng**	
PENTACHLORINATED ETHANES	N	N							
PENTACHLOROBENZENE	N	N					74ug	85ug	
PENTACHLOROPHENOL	Y	N	***20	***13	13		1.01mg		

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
PHENOL	Y	N					3.5mg		
PHOSPHORUS ELEMENTAL	N	N				0.1			
PHthalate Esters	Y	N							
POLYNUCLEAR AROMATIC HYDROCARBONS	Y	Y					2.8ng**	31.1ng**	
SELENIUM	Y	N	260	35	410	54	10ug		0.01mg
SILVER	Y	N	4.1+	0.12	2.3		50ug		0.05mg
SULFIDE HYDROGEN SULFIDE	N	N		2		2			
TETRACHLORINATED ETHANES	Y	N							
TETRACHLORO BENZENE 1,2,4,5	Y	N					38ug	48ug	
TETRACHLOROETHANE 1,1,2,2	Y	Y					0.17ug**	10.7ug**	
TETRACHLOROETHANES	Y	N							
TETRACHLOROETHYLENE	Y	Y					0.8ug**	8.85ug**	
TETRACHLOROPHENOL 2,3,5,6	Y	N							
THALLIUM	Y	N					13ug	48ug	
TOLUENE	Y	N					14.3mg	424mg	

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
TOXAPHENE	Y	+	0.73	0.0002	0.21	0.0002	0.71ng**	0.73ng**	0.005mg
TRICHLORINATED ETHANES	Y	+							
TRICHLOROETHANE 1,1,1	Y	+					18.4mg	1.03g	
TRICHLOROETHANE 1,1,2	Y	+					0.6ug**	41.8ug**	
TRICHLOROETHYLENE	Y	+					2.7ug**	80.7ug**	
TRICHLOROPHENOL 2,4,5	N	+					2,600ug		
TRICHLOROPHENOL 2,4,6	Y	+					1.2ug**	3.6ug**	
VINYL CHLORIDE	Y	+					2ug**	525ug**	
ZINC	Y	+	120+	110+	95	86			

MEANING OF SYMBOLS:

g = grams

~~M.C.L.~~ = ~~Maximum Contaminant Level~~

mg = milligrams

+ = Hardness Dependent Criteria (100 mg/L used).

The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. Criteria values for hardness may be calculated from the following formulae (CMC refers to Acute Criteria; CCC refers to Chronic Criteria):

$$\text{CMC} = (\exp(m_A * [\ln(\text{hardness})] + b_A)) * CF$$

$$\text{CCC} = (\exp(m_C * [\ln(\text{hardness})] + b_C)) * CF$$

<u>Chemical</u>	<u>m_A</u>	<u>b_A</u>	<u>m_C</u>	<u>b_C</u>
<u>Cadmium</u>	1.128	-3.828	0.7852	-3.49
<u>Chromium III</u>	0.819	3.688	0.819	1.561
<u>Copper</u>	0.9422	-1.464	0.8545	-1.465
<u>Lead</u>	1.273	-1.46	1.273	-4.705
<u>Nickel</u>	0.846	3.3612	0.846	1.1645
<u>Silver</u>	1.72	-6.52		
<u>Zinc</u>	0.8473	0.8604	0.8473	0.7614

ug = micrograms

* = Insufficient data to develop criteria; value presented is the L.O.E.L – Lower Observed Effect Level.

ng = nanograms

~~** = Human health criteria for carcinogens reported for three risk levels. Value presented is the 10⁻⁶ risk level, which means the probability of one concern case per million people at the stated concentration.~~

pg = picograms

*** = pH Dependent Criteria (7.8 pH used).

~~f = fibers~~

Y = Yes

N = No

1 = Values in Table 20 are applicable to all basins.

~~**Water and Fish Ingestion**~~

~~Values represent the maximum ambient water concentration for consumption of both contaminated water and fish or other aquatic organisms.~~

~~**Fish Ingestion**~~

~~Values represent the maximum ambient water concentrations for consumption of fish or other aquatic organisms~~

Table 33A Redline/Strikethrough

TABLE 33A

Note: The Environmental Quality Commission adopted the following criteria on May 20, 2004 to become effective February 15, 2005. However, EPA has not yet (as of June 2006) approved the criteria. Thus, Table 33A criteria may be used in NPDES permits, but not for the section 303(d) list of impaired waters.

AQUATIC LIFE WATER QUALITY CRITERIA SUMMARY^A

The concentration for each compound listed in Table 33A is a criterion not to be exceeded in waters of the state in order to protect aquatic life ~~and human health~~. All values are expressed as micrograms per liter (µg/L) except where noted. Compounds are listed in alphabetical order with the corresponding EPA number (from National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047), the Chemical Abstract Service (CAS) number, aquatic life freshwater acute and chronic criteria, aquatic life saltwater acute and chronic criteria, ~~human health water & organism and organism only criteria, and Drinking Water Maximum Contaminant Level (MCL)~~. The acute criteria refer to the average concentration for one (1) hour and the chronic criteria refer to the average concentration for 96 hours (4 days), and that these criteria should not be exceeded more than once every three (3) years.

EPA NO.	Compound			CAS Number													
					Freshwater				Saltwater				Human Health For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^b	Effective Date	Drinking Water M.C.L.
56	Acenaphthene			83329									670		990		
57	Acenaphthylene			208968													

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				Drinking Water M.C.L.
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^a	Effective Date	
17	Acrolein			107028									190		290		
18	Acrylonitrile			107131									0.051		0.250		
102	Aldrin			309002	3 O	X			1.3 O	X			0.000049		0.00005 0		
1 N	Alkalinity						20,000 P										
2 N	Aluminum (pH 6.5 - 9.0)			7429905													
3 N	Ammonia			7664417					D	X	D	X					
58	Anthracene			120127									8300		40000		
1	Antimony			7440360									5-6		640		
2	Arsenic			7440382													0.05mg
15	Asbestos			1332214													

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism*	Effective	Organism only*	Effective Date	Drinking Water M.C.L.
6 N	Barium			7440393									~~1000~~				1.0mg
19	Benzene			71432													
59	Benzidine			92875									0.000086		0.00020		
60	Benzo(a)Anthracene			56553									0.0038		0.018		
61	Benzo(a)Pyrene			50328									0.0038		0.018		
62	Benzo(b)Fluoranthene			205992									0.0038		0.018		
63	Benzo(g,h,i)Perylene			191242													
64	Benzo(k)Fluoranthene			207089									0.0038		0.018		
3	Beryllium			7440417													
103	BHC alpha-			319846									0.0026		0.0049		
104	BHC beta-			319857									0.0091		0.017		
106	BHC delta-			319868													
105	BHC gamma- (Lindane)			58899	0.95		0.08	X	0.16	O							~~0.004~~ mg
7 N	Boron			7440428													

EPA NO.	Compound			CAS Number													
					Freshwater				Saltwater				Human Health				
					For Consumption of:												
Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^b	Effective Date	Drinking Water M.C.L.					
20	Bromoform			75252									4.3		140		
69	Bromophenyl Phenyl Ether 4-																
70	Butylbenzyl Phthalate			85687									1500		1900		
4	Cadmium			7440439													0.010 mg
21	Carbon Tetrachloride			56235									0.23		1.6		
107	Chlordane			57749	2.4 O	X	0.0043 O	X	0.09 O	X	0.004 O	X					
8 N	Chloride			16887006	860000		230000										
9 N	Chlorine			7782505	19	X	11	X	13	X	7.5	X					
22	Chlorobenzene			108907									130		1600		
23	Chlorodibromomethane			124481									0.40		13		
24	Chloroethane			75003													

EPA No.	Compound			CAS Number														
					Freshwater				Saltwater				Human Health					
					For Consumption of:													
Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^a	Effective Date	Drinking Water M.C.L.						
65	ChloroethoxyMethane Bis2-			111911														
66	ChloroethylEther Bis2-			111444									0.030		0.53			
25	Chloroethylvinyl Ether 2-			110758														
26	Chloroform			67663														
67	ChloroisopropylEther Bis2-			108601														
15 N	ChloromethylEther, Bis			542881											0.00029			
71	Chloronaphthalene 2-			91587									1000		1600			
45	Chlorophenol 2-			95578									81		150			
10 N	Chlorophenoxy Herbicide (2,4,5,-TP)			93721									10-H					
11 N	Chlorophenoxy Herbicide (2,4-D)			94757									100-H					
72	Chlorophenyl Phenyl Ether 4-			7005723														
12 N	Chloropyrifos			2921882	0.083	X	0.041	X	0.011	X	0.0056	X						

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~Water + Organism*~~	Effective	Organism only*	Effective Date	Drinking Water M.C.L.
																	0.05mg
5a	Chromium (III)																0.05mg
5b	Chromium (VI)			18540299													0.05mg
73	Chrysene			218019									0.0038		0.018		
6	Copper			7440508									1300-H				
14	Cyanide			57125	22 S	X	5.2 S	X	1 S	X	1 S	X	140		140		
108	DDT 4,4'-			50293	1.1 O,T	X	0.001 O,T	X	0.13 O,T	X	0.001 O,T	X					
109	DDE 4,4'-			72559									0.00022		0.00022		
110	DDD 4,4'-			72548									0.00031		0.00031		
14 N	Demeton			8065483			0.1	X			0.1	X					
74	Dibenzo(a,h)Anthracene			53703									0.0038		0.018		

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective Date	Organism only ^a	Effective Date	Drinking Water M.C.L.
75	Dichlorobenzene 1,2-			95501									420		1300		
76	Dichlorobenzene 1,3-			541731									320		960		
77	Dichlorobenzene 1,4-			106467									63		190		
78	Dichlorobenzidine 3,3'-			91941									0.021		0.028		
27	Dichlorobromomethane			75274									0.55		17		
28	Dichloroethane 1,1-			75343													
29	Dichloroethane 1,2-			107062									0.38		37		
30	Dichloroethylene 1,1-			75354									330		7100		
46	Dichlorophenol 2,4-			120832									77		290		
31	Dichloropropane 1,2-			78875									0.50		15		
32	Dichloropropene 1,3-			542756									0.34		21		
111	Dieldrin			60571	0.24				0.71 O	X	0.0019 O	X	0.000052		0.000054		
79	DiethylPhthalate			84662									17000		44000		
47	Dimethylphenol 2,4-			105679									380		850		

EPA NO.	Compound			CAS Number														
					Freshwater				Saltwater				Human Health					
					For Consumption of:													
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^a	Effective Date	Drinking Water M.C.L.	
80	DimethylPhthalate			131113									270000		1100000			
81	Di-n-Butyl Phthalate			84742									2000		4500			
49	Dinitrophenol 2,4-			51285									69		5300			
27 N	Dinitrophenols			25550587									69		5300			
82	Dinitrotoluene 2,4-			121142									0.11		3.4			
83	Dinitrotoluene 2,6-			606202														
84	Di-n-Octyl Phthalate			117840														
16	Dioxin (2,3,7,8-TCDD)			1746016									5.0E-09		5.1E-09			
85	Diphenylhydrazine 1,2-			122667									0.036		0.20			
68	EthylhexylPhthalate Bis2-			117817									1.2		2.2			

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~Water~~ Organism*	Effective Date	Organism only*	Effective Date	Drinking Water M.C.L.
	Endosulfan				0.22 I,P	X	0.056 I,P	X	0.034 I,P	X	0.0087 I,P	X	~~62~~		~~89~~		
112	Endosulfan alpha-			959988	0.22 O		0.056 O		0.034 O		0.0087 O		~~62~~		~~89~~		
113	Endosulfan beta-			33213659	0.22 O		0.056 O		0.034 O		0.0087 O		~~62~~		~~89~~		
114	Endosulfan Sulfate			1031078									~~62~~		~~89~~		
115	Endrin			72208	0.086				0.037 O		0.0023 O		~~0.059~~		~~0.060~~		~~0.0002~~ mg
116	Endrin Aldehyde			7421934									~~0.29~~		~~0.30~~		
33	Ethylbenzene			100414									~~530~~		~~2100~~		
86	Fluoranthene			206440													
87	Fluorene			86737									~~1100~~		~~5300~~		
17 N	Guthion			86500			0.01	X			0.01	X					

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				Drinking Water M.C.L.
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^a	Effective Date	
117	Heptachlor			76448	0.52 O	X	0.0038 O	X	0.053 O	X	0.0036 O	X	0.000079		0.000079		
118	Heptachlor Epoxide			1024573	0.52 O		0.0038 O		0.053 O		0.0036 O		0.000039		0.000039		
88	Hexachlorobenzene			118741									0.00028		0.00029		
89	Hexachlorobutadiene			87683									0.44		18		
91	Hexachloroethane			67721									1.4		3.3		
19 N	Hexachlorocyclo-hexane-Technical			319868									0.0123-J		0.0414-J		
90	Hexachlorocyclopentadiene			77474									40		1100		
92	Ideno1,2,3-(cd)Pyrene			193395									0.0038		0.018		

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~Water + Organism^a~~	~~Effective~~	~~Organism only^a~~	~~Effective Date~~	~~Drinking Water M.C.L.~~
20 N	Iron			7439896			1,000	X									
93	Isophorone			78591									35		960		
7	Lead			7439921													0.05mg
21 N	Malathion			121755			0.1	X			0.1	X					
22 N	Manganese			7439965													
8a	Mercury			7439976	2.4	X	0.012	X	2.1	X	0.025	X					0.002 mg
23 N	Methoxychlor			72435			0.03	X			0.03	X	100-J				0.1mg
34	Methyl Bromide			74839									47		1500		
35	Methyl Chloride			74873													
48	Methyl-4,6-Dinitrophenol 2-			534521									13		280		
52	Methyl-4-Chlorophenol 3-			59507													
36	Methylene Chloride			75092									4.6		590		

EPA NO.	Compound			CAS Number													
					Freshwater				Saltwater				Human Health				
													For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~Water + Organism*~~	~~Effective~~	~~Organism only*~~	~~Effective Date~~	~~Drinking Water M.C.L.~~
8b	Methylmercury			22967926											~~300ug/kg-L~~		
24 N	Mirex			2385855			0.001	X			0.001	X					
94	Naphthalene			91203													
9	Nickel			7440020													
25 N	Nitrates			14797558									~~10000-J~~				~~10mg~~
95	Nitrobenzene			98953									~~17~~		~~690~~		
50	Nitrophenol 2-			88755													
51	Nitrophenol 4-			100027													
26 N	Nitrosamines			35576911									~~0.0008-J~~		~~1-24-J~~		
28 N	Nitrosodibutylamine,N			924163									~~0.0063~~		~~0.22~~		

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism*	Effective	Organism only*	Effective Date	Drinking Water M.C.L.
29 N	Nitrosodiethylamine,N			55185									0.0008 ↓		1.24 ↓		
96	N-Nitrosodimethylamine			62759									0.00069		3.0		
98	N-Nitrosodiphenylamine			86306									3.3		6.0		
30 N	Nitrosopyrrolidine,N			930552									0.016		34		
97	N-Nitrosodi-n-Propylamine			621647									0.0050		0.51		
32 N	Oxygen, Dissolved			7782447													
33 N	Parathion			56382	0.065	X	0.013	X									
119	Polychlorinated Biphenyls PCBs:			1336363	2 U	X	0.014 U	X	10 U	X	0.03 U	X	0.000064 ↓		0.00006 4 ↓		
34 N	Pentachlorobenzene			608935									1.4		1.5		
53	Pentachlorophenol			87865	M				13		7.9		0.27		3.0		
99	Phenanthrene			85018													

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				Drinking Water M.C.L.
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^b	Effective Date	
54	Phenol			108952											1700000		
36 N	Phosphorus Elemental			7723140							0.1						
100	Pyrene			129000									830		4000		
10	Selenium			7782492											4200		0.01mg
11	Silver			7440224													0.05mg
40 N	Sulfide-Hydrogen Sulfide			7783064			2	X			2	X					
43 N	Tetrachlorobenzene,1,2,4,5			95943									0.97		1.1		
37	Tetrachloroethane 1,1,2,2-			79345									0.17		4.0		
38	Tetrachloroethylene			127184									0.69		3.3		

EPA NO.	Compound			CAS Number									Human Health				
					Freshwater				Saltwater				For Consumption of:				
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism ^a	Effective	Organism only ^a	Effective Date	Drinking Water M.C.L.
12	Thallium			7440280									0.24		0.47		
39	Toluene			108883									1300		15000		
120	Toxaphene			8001352	0.73	X	0.0002	X	0.21	X	0.0002	X	0.00028		0.00028		0.005 mg
40	Trans-Dichloroethylene 1,2-			156605									140		10000		
44 N	Tributyltin (TBT)			688733													
101	Trichlorobenzene 1,2,4-			120821									35		70		
41	Trichloroethane 1,1,1-			71556													
42	Trichloroethane 1,1,2-			79005									0.59		16		
43	Trichloroethylene			79016									2.5		30		
45 N	Trichlorophenol 2,4,5			95954									1800		3600		
55	Trichlorophenol 2,4,6-			88062											2.4		
44	Vinyl Chloride			75014									0.025		2.4		
13	Zinc			7440666									7400		26000		

Footnotes for Tables 33A and 33B:

A Values in Table 20 are applicable to all basins.

~~B Human Health criteria values were calculated using a fish consumption rate of 17.5 grams per day (0.6 ounces/day) unless otherwise noted.~~

C Ammonia criteria for freshwater may depend on pH, temperature, and the presence of salmonids or other fish with ammonia-sensitive early life stages. Values for freshwater criteria (of total ammonia nitrogen in mg N/L) can be calculated using the formulae specified in *1999 Update of Ambient Water Quality Criteria for Ammonia* (EPA-822-R-99-014; <http://www.epa.gov/ost/standards/ammonia/99update.pdf>):

Freshwater Acute:

$$\text{salmonids present....CMC} = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

$$\text{salmonids not present...CMC} = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

Freshwater Chronic:

fish early life stages present

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN(2.85, 1.45 * 10^{0.028 * (25 - T)})$$

fish early life stages not present

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * 1.45 * 10^{0.028 * (25 - MAX(T, 7))}$$

Note: these chronic criteria formulae would be applied to calculate the 30-day average concentration limit; in addition, the highest 4-day average within the 30-day period should not exceed 2.5 times the CCC.

- D Ammonia criteria for saltwater may depend on pH and temperature. Values for saltwater criteria (total ammonia) can be calculated from the tables specified in *Ambient Water Quality Criteria for Ammonia (Saltwater)*--1989 (EPA 440/5-88-004; <http://www.epa.gov/ost/pc/ambientwqc/ammoniasalt1989.pdf>).
- E Freshwater and saltwater criteria for metals are expressed in terms of “dissolved” concentrations in the water column, except where otherwise noted (e.g. aluminum).
- F The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. Criteria values for hardness may be calculated from the following formulae (CMC refers to Acute Criteria; CCC refers to Chronic Criteria):

$$\text{CMC} = (\exp(m_A * [\ln(\text{hardness})] + b_A)) * \text{CF}$$

$$\text{CCC} = (\exp(m_C * [\ln(\text{hardness})] + b_C)) * \text{CF}$$

where CF is the conversion factor used for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Chemical	m_A	b_A	m_C	b_C
Cadmium	1.0166	-3.924	0.7409	-4.719
Chromium III	0.8190	3.7256	0.8190	0.6848
Copper	0.9422	-1.700	0.8545	-1.702
Lead	1.273	-1.460	1.273	-4.705
Nickel	0.8460	2.255	0.8460	0.0584
Silver	1.72	-6.59		
Zinc	0.8473	0.884	0.8473	0.884

Conversion factors (CF) for dissolved metals (the values for total recoverable metals criteria were multiplied by the appropriate conversion factors shown below to calculate the dissolved metals criteria):

Chemical	Freshwater		Saltwater	
	Acute	Chronic	Acute	Chronic
Arsenic	1.000	1.000	1.000	1.000
Cadmium	$1.136672 - [(\ln \text{hardness})(0.041838)]$	$1.101672 - [(\ln \text{hardness})(0.041838)]$	0.994	0.994
Chromium III	0.316	0.860	--	--
Chromium VI	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	$1.46203 - [(\ln \text{hardness})(0.145712)]$	$1.46203 - [(\ln \text{hardness})(0.145712)]$	0.951	0.951
Nickel	0.998	0.997	0.990	0.990
Selenium	0.996	0.922	0.998	0.998
Silver	0.85	0.85	0.85	--
Zinc	0.978	0.986	0.946	0.946

~~G— Human Health criterion is the same as originally published in the 1976 EPA Red Book (Quality Criteria for Water, EPA-440/9-76-023) which predates the 1980 methodology and did not use the fish ingestion BCF approach.~~

~~H— This value is based on a Drinking Water regulation.~~

I This value is based on criterion published in Ambient Water Quality Criteria for Endosulfan (EPA 440/5-80-046) and should be applied as the sum of alpha- and beta-endosulfan.

~~J No BCF was available; therefore, this value is based on that published in the 1986 EPA Gold Book.~~

~~K Human Health criterion is for "dissolved" concentration based on the 1976 EPA Red Book conclusion that adverse effects from exposure at this level are aesthetic rather than toxic.~~

~~L This value is expressed as the fish tissue concentration of methylmercury.~~

M Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: $CMC = (\exp(1.005(pH) - 4.869))$; $CCC = \exp(1.005(pH) - 5.134)$.

N This number was assigned to the list of non-priority pollutants in National Recommended Water Quality Criteria: 2002 (EPA-822-R-02-047).

O This criterion is based on EPA recommendations issued in 1980 that were derived using guidelines that differed from EPA's 1985 Guidelines for minimum data requirements and derivation procedures. For example, a "CMC" derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

P Criterion shown is the minimum (i.e. CCC in water should not be below this value in order to protect aquatic life).

Q Criterion is applied as total arsenic (i.e. arsenic (III) + arsenic (V)).

~~R Arsenic criterion refers to the inorganic form only.~~

S This criterion is expressed as μg free cyanide (CN)/L.

T This criterion applies to DDT and its metabolites (i.e. the total concentration of DDT and its metabolites should not exceed this value).

U This criterion applies to total PCBs (e.g. the sum of all congener or all isomer or homolog or Arochlor analyses).

V The $CMC = 1 / [(f_1/CMC_1) + (f_2/CMC_2)]$ where f_1 and f_2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC_1 and CMC_2 are 185.9 $\mu\text{g/L}$ and 12.82 $\mu\text{g/L}$, respectively.

W The acute and chronic criteria for aluminum are 750 $\mu\text{g/L}$ and 87 $\mu\text{g/L}$, respectively. These values for aluminum are expressed in terms of "total recoverable" concentration of metal in the water column. The criterion applies at $\text{pH} < 6.6$ and hardness $< 12 \text{ mg/L}$ (as CaCO_3).

X The effective date for the criterion in the column immediately to the left is 1991.

Y No criterion.

Table 33B Redline/Strikethrough

TABLE 33B

Note: The Environmental Quality Commission adopted the following criteria on May 20, 2004 to become effective on EPA approval. EPA has not yet (as of June 2006) approved these criteria. The Table 33B criteria may not be used until they are approved by EPA.

AQUATIC LIFE WATER QUALITY CRITERIA SUMMARY^A

The concentration for each compound listed in Table 33A is a criterion not to be exceeded in waters of the state in order to protect aquatic life ~~and human health~~. All values are expressed as micrograms per liter (µg/L) except where noted. Compounds are listed in alphabetical order with the corresponding EPA number (from National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047), the Chemical Abstract Service (CAS) number, aquatic life freshwater acute and chronic criteria, aquatic life saltwater acute and chronic criteria, ~~human health water & organism and organism only criteria, and Drinking Water Maximum Contaminant Level (MCL)~~. The acute criteria refer to the average concentration for one (1) hour and the chronic criteria refer to the average concentration for 96 hours (4 days), and that these criteria should not be exceeded more than once every three (3) years.

EPA No.	Compound			CAS Number												
					Freshwater				Saltwater				~~Human Health~~			
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~For Consumption of:~~			
													~~Water + Organism^a~~	~~Effective Date~~	~~Organism only^b~~	~~Effective Date~~
2 N	Aluminum (pH 6.5 - 9.0)			7429905	W		W									
3 N	Ammonia			7664417	C		C									
2	Arsenic			7440382									~~0.018-R~~		~~0.14-R~~	
<u>15</u>	<u>Asbestos</u>			<u>1332214</u>									~~7.0E+06 fibers/Lite~~ ~~f~~			
<u>19</u>	<u>Benzene</u>			<u>71432</u>									~~2.2~~		~~51~~	

EPA No.	Compound			CAS Number									Human Health			
					Freshwater				Saltwater				For Consumption of:			
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism*	Effective Date	Organism only*	Effective Date
3	Beryllium			7440417									¥		¥	
105	BHC gamma- (Lindane)			58899									0.98		1.8	
4	Cadmium			7440439	E,F		E,F		40 E		8.8 E		¥			
107	Chlordane			57749									0.00080		0.00081	
	CHLORINATED BENZENES												¥		¥	
26	Chloroform			67663									5.7		470	
67	ChloroisopropylEther Bis2-			108601									1400		65000	
15 N	ChloromethylEther, Bis			542881									0.00010			
5a	Chromium (III)				E,F		E,F						¥			
5b	Chromium (VI)			1854029 9	16 E		11 E						¥		¥	
6	Copper			7440508	E,F		E,F		4.8 E		3.1 E					
108	DDT 4,4'-			50293									0.00022		0.00022	
	DIBUTYLPHTHALATE												¥		¥	
	DICHLOROBENZENES												¥		¥	

EPA NO.	Compound			CAS Number									Human Health			
					Freshwater				Saltwater				For Consumption of:			
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	~~Water~~ ~~Organism*~~	Effective Date	~~Organism only*~~	Effective Date
	<u>DICHLOROBENZIDINE</u>												~~1~~		~~1~~	
	<u>DICHLOROETHYLENES</u>												~~1~~		~~1~~	
	<u>DICHLOROPROPENE</u>												~~1~~		~~1~~	
111	Dieldrin			60571			0.056									
	<u>DINITROTOLUENE</u>												~~1~~		~~1~~	
	<u>DIPHENYLHYDRAZINE</u>												~~1~~		~~1~~	
115	Endrin			72208			0.036									
<u>86</u>	<u>Fluoranthene</u>			<u>206440</u>									~~130~~		~~140~~	
	<u>HALOMETHANES</u>												~~1~~		~~1~~	
<u>20</u> <u>N</u>	<u>Iron</u>			<u>7439896</u>									~~300-K~~			
7	Lead			7439921	E,F		E,F		210 E		8.1 E		~~1~~			
<u>22</u> <u>N</u>	<u>Manganese</u>			<u>7439965</u>									~~50-K~~		~~100-K~~	
<u>8a</u>	<u>Mercury</u>			<u>7439976</u>									~~1~~		~~1~~	
	<u>MONOCHLOROBENZENE</u>												~~1~~		~~1~~	

EPA No.	Compound			CAS Number												
					Freshwater				Saltwater				Human Health For Consumption of:			
					Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Acute (CMC)	Effective Date	Chronic (CCC)	Effective Date	Water + Organism*	Effective Date	Organism only*	Effective Date
9	Nickel			7440020	E,F		E,F		74 E		8.2 E		~~610~~		~~4600~~	
53	Pentachlorophenol			87865			M									
<u>54</u>	<u>Phenol</u>			<u>108952</u>									<u>21000</u>			
	<u>POLYNUCLEAR AROMATIC HYDROCARBONS</u>												~~¥~~		~~¥~~	
10	Selenium			7782492	E,V		5 E		290 E		71 E		~~170~~			
11	Silver			7440224	E,F,P		0.10 E		1.9 E,P				~~¥~~			
44 N	Tributyltin (TBT)			688733	0.46		0.063		0.37		0.01					
<u>41</u>	<u>Trichloroethane 1,1,1-</u>			<u>71556</u>									~~¥~~		~~¥~~	
<u>55</u>	<u>Trichlorophenol 2,4,6-</u>			<u>88062</u>									<u>1.4</u>			
13	Zinc			7440666	E,F		E,F		90 E		81 E					

Footnotes for Tables 33A and 33B:

A Values in Table 20 are applicable to all basins.

~~B Human Health criteria values were calculated using a fish consumption rate of 17.5 grams per day (0.6 ounces/day) unless otherwise noted.~~

- C Ammonia criteria for freshwater may depend on pH, temperature, and the presence of salmonids or other fish with ammonia-sensitive early life stages. Values for freshwater criteria (of total ammonia nitrogen in mg N/L) can be calculated using the formulae specified in 1999 *Update of Ambient Water Quality Criteria for Ammonia* (EPA-822-R-99-014; <http://www.epa.gov/ost/standards/ammonia/99update.pdf>):

Freshwater Acute:

$$\text{salmonids present...CMC} = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

$$\text{salmonids not present...CMC} = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

Freshwater Chronic:

fish early life stages present

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN(2.85, 1.45 * 10^{0.028 * (25 - T)})$$

fish early life stages not present

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * 1.45 * 10^{0.028 * (25 - MAX(T, 7))}$$

Note: these chronic criteria formulae would be applied to calculate the 30-day average concentration limit; in addition, the highest 4-day average within the 30-day period should not exceed 2.5 times the CCC.

- D Ammonia criteria for saltwater may depend on pH and temperature. Values for saltwater criteria (total ammonia) can be calculated from the tables specified in *Ambient Water Quality Criteria for Ammonia (Saltwater)--1989* (EPA 440/5-88-004; <http://www.epa.gov/ost/pc/ambientwqc/ammoniasalt1989.pdf>).
- E Freshwater and saltwater criteria for metals are expressed in terms of “dissolved” concentrations in the water column, except where otherwise noted (e.g. aluminum).

- F The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. Criteria values for hardness may be calculated from the following formulae (CMC refers to Acute Criteria; CCC refers to Chronic Criteria):

$$\text{CMC} = (\exp(m_A * [\ln(\text{hardness})] + b_A)) * \text{CF}$$

$$\text{CCC} = (\exp(m_C * [\ln(\text{hardness})] + b_C)) * \text{CF}$$

where CF is the conversion factor used for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Chemical	m_A	b_A	m_C	b_C
Cadmium	1.0166	-3.924	0.7409	-4.719
Chromium III	0.8190	3.7256	0.8190	0.6848
Copper	0.9422	-1.700	0.8545	-1.702
Lead	1.273	-1.460	1.273	-4.705
Nickel	0.8460	2.255	0.8460	0.0584
Silver	1.72	-6.59		
Zinc	0.8473	0.884	0.8473	0.884

Conversion factors (CF) for dissolved metals (the values for total recoverable metals criteria were multiplied by the appropriate conversion factors shown below to calculate the dissolved metals criteria):

Chemical	Freshwater		Saltwater	
	Acute	Chronic	Acute	Chronic
Arsenic	1.000	1.000	1.000	1.000
Cadmium	$1.136672 - [(\ln \text{hardness})(0.041838)]$	$1.101672 - [(\ln \text{hardness})(0.041838)]$	0.994	0.994
Chromium III	0.316	0.860	--	--
Chromium VI	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	$1.46203 - [(\ln \text{hardness})(0.145712)]$	$1.46203 - [(\ln \text{hardness})(0.145712)]$	0.951	0.951
Nickel	0.998	0.997	0.990	0.990
Selenium	0.996	0.922	0.998	0.998
Silver	0.85	0.85	0.85	--
Zinc	0.978	0.986	0.946	0.946

~~G—Human Health criterion is the same as originally published in the 1976 EPA Red Book (Quality Criteria for Water, EPA-440/9-76-023) which predates the 1980 methodology and did not use the fish ingestion BCF approach.~~

~~H—This value is based on a Drinking Water regulation.~~

I This value is based on criterion published in Ambient Water Quality Criteria for Endosulfan (EPA 440/5-80-046) and should be applied as the sum of alpha- and beta-endosulfan.

~~J No BCF was available; therefore, this value is based on that published in the 1986 EPA Gold Book.~~

~~K Human Health criterion is for "dissolved" concentration based on the 1976 EPA Red Book conclusion that adverse effects from exposure at this level are aesthetic rather than toxic.~~

~~L This value is expressed as the fish tissue concentration of methylmercury.~~

M Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: $CMC = (\exp(1.005(pH) - 4.869))$; $CCC = \exp(1.005(pH) - 5.134)$.

N This number was assigned to the list of non-priority pollutants in National Recommended Water Quality Criteria: 2002 (EPA-822-R-02-047).

O This criterion is based on EPA recommendations issued in 1980 that were derived using guidelines that differed from EPA's 1985 Guidelines for minimum data requirements and derivation procedures. For example, a "CMC" derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

P Criterion shown is the minimum (i.e. CCC in water should not be below this value in order to protect aquatic life).

~~Q Criterion is applied as total arsenic (i.e. arsenic (III) + arsenic (V)).~~

R Arsenic criterion refers to the inorganic form only.

S This criterion is expressed as μg free cyanide (CN)/L.

T This criterion applies to DDT and its metabolites (i.e. the total concentration of DDT and its metabolites should not exceed this value).

U This criterion applies to total PCBs (e.g. the sum of all congener or all isomer or homolog or Arochlor analyses).

V The $CMC = 1 / [(f_1/CMC_1) + (f_2/CMC_2)]$ where f_1 and f_2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC_1 and CMC_2 are $185.9 \mu\text{g/L}$ and $12.82 \mu\text{g/L}$, respectively.

W The acute and chronic criteria for aluminum are $750 \mu\text{g/L}$ and $87 \mu\text{g/L}$, respectively. These values for aluminum are expressed in terms of "total recoverable" concentration of metal in the water column. The criterion applies at $\text{pH} < 6.6$ and hardness $< 12 \text{ mg/L}$ (as CaCO_3).

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X The effective date for the criterion in the column immediately to the left is 1991.

Y No criterion.

Crosswalk Between Currently Effective Human Health Criteria and Proposed Criteria

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
ACENAPTHENE	Y	N	--	--	95	99
ACROLEIN	Y	N	320	780	0.88	0.93
ACRYLONITRILE	Y	Y	0.058	0.65	0.018	0.025
ALDRIN	Y	Y	0.000074	0.000079	0.0000050	0.0000050
ANTHRACENE	N	N	--	--	2900	4000
ANTIMONY	Y	N	146	45,000	5.1	64
ARSENIC	Y	Y	2.1	2.1 (freshwater) 1.0 (saltwater)	2.1	2.1 (freshwater) 1.0 (saltwater)
ASBESTOS	Y	Y	7,000,000 fibers/L	--	7,000,000 fibers/L	--
BARIUM	N	N	1000	--	1000	--
BENZENE	N	Y	0.66	40	0.44	1.4
BENZIDINE	N	Y	0.00012	0.00053	0.000018	0.000020
BENZ(A) ANTHRACENE	N	Y	--	--	0.0013	0.0018

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health		Concentration in Units Per Liter for Protection of Human Health	
			CURRENT		PROPOSED TABLE 40	
Criteria denoted in red indicate proposed additions to the human health criteria			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
BENZO(A)PYRENE	N	Y	--	--	0.0013	0.0018
BENZO(B)FLUORANTHENE 3,4	N	Y	--	--	0.0013	0.0018
BENZO(K)FLUORANTHENE	N	Y	--	--	0.0013	0.0018
BROMOFORM	N	Y	--	--	3.3	14
BUTYLBENZYL PHTHALATE	N	N	--	--	190	190
CARBON TETRACHLORIDE	Y	Y	0.4	6.94	0.10	0.16
CHLORDANE	Y	Y	0.00046	0.00048	0.000081	0.000081
CHLORINATED BENZENES [CHLOROBENZENE]	Y	N	488	--	74	160
CHLORODIBROMOMETHANE	N	Y	--	--	0.31	1.3
CHLOROETHYL ETHER (BIS-2)	Y	Y	0.03	1.36	0.020	0.05
CHLOROFORM	Y	N	0.19	15.7	260	1100
CHLOROISOPROPYL ETHER (BIS-2)	Y	N	34.7	4360	1200	6500
CHLOROMETHYL ETHER (BIS)	N	Y	0.00000376	0.00184	0.000024	0.000029
CHLORONAPHTHALENE 2	N	N	--	--	150	160
CHLOROPHENOL 2	Y	N	--	--	14	15

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
CHLOROPHENOXY HERBICIDES (2,4,5,-TP)	N	N	10	--	10	--
CHLOROPHENOXY HERBICIDES (2,4-D)	N	N	100	--	100	--
CHRYSENE	N	Y	--	--	0.0013	0.0018
COPPER	Y	N	1300	--	1300	--
CYANIDE	Y	N	200	--	130	130
DDT [DDT 4,4']	Y	Y	0.000024	0.000024	0.000022	0.000022
DDD 4, 4'	Y	Y	--	--	0.000031	0.000031
DDE 4, 4'	Y	Y	--	--	0.000022	0.000022
DIBENZ(A,H)ANTHRACENE	N	Y	--	--	0.0013	0.0018
DIBUTYLPHTHALATE [DI-N-BUTYL PHTHALATE]	Y	N	35,000	154,000	400	450
DICHLOROBENZENES [DICHLOROBENZENE(O)1,2]	Y	N	400	2,600	110	130
DICHLOROBENZENE(P) 1,4	N	N	--	--	16	19

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health		Concentration in Units Per Liter for Protection of Human Health	
			CURRENT		PROPOSED TABLE 40	
Criteria denoted in red indicate proposed additions to the human health criteria			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
DICHLOROBENZIDINE [DICHLOROBENZIDINE 3,3']	Y	Y	0.01	0.020	0.0027	0.0028
DICHLOROBROMOMETHANE	N	Y	--	--	0.42	1.7
DICHLOROETHANE 1,2	Y	Y	0.94	243	0.35	3.7
DICHLOROETHYLENES [DICHLOROETHYLENE 1,1]	Y	N	0.033	1.85	230	710
DICHLOROETHYLENE TRANS 1,2	N	N	--	--	120	1000
DICHLOROPHENOL 2,4	N	N	3,090	--	23	29
DICHLOROPROPANE [DICHLOROPROPANE 1,2]	Y	Y	--	--	0.38	1.5
DICHLOROPROPENE [DICHLOROPROPENE 1,3]	Y	Y	87	14,100	0.30	2.1
DIELDRIN	Y	Y	0.000071	0.000076	0.0000053	0.0000054
DIETHYLPHTHALATE	Y	N	350,000	1,800,000	3800	4400
DIMETHYL PHENOL 2,4	Y	N	--	--	76	85
DIMETHYL PHTHALATE	Y	N	313,000	2,900,000	84,000	110,000
DINITROPHENOL 2,4	Y	N	--	--	62	530

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
Criteria denoted in red indicate proposed additions to the human health criteria						
DINITROPHENOLS	Y	N	--	--	62	530
DINITROTOLUENE 2,4	N	Y	0.11	9.1	0.084	0.34
DINITROTOLUENE	Y	N	70	14,300	No criteria	No criteria
DINITRO-O-CRESOL 2,4	Y	N	13.4	765	No criteria	No criteria
DIOXIN (2,3,7,8-TCDD)	Y	Y	0.000000013	0.000000014	0.00000000051	0.00000000051
DIPHENYLHYDRAZINE	Y	N	0.042	0.56	No criteria	No criteria
DIPHENYLHYDRAZINE 1,2	Y	Y	--	--	0.014	0.02
DI-2-ETHYLHEXYL PHTHALATE [BIS-2-ETHYLHEXYL PHTHALATE]	Y	Y	15,000	50,000	0.20	0.22
ENDOSULFAN	Y	N	74	159	No criteria	No criteria
ENDOSULFAN ALPHA	Y	N	--	--	8.5	8.9
ENDOSULFAN BETA	Y	N	--	--	8.5	8.9
ENDOSULFAN SULFATE	Y	N	--	--	8.5	8.9
ENDRIN	Y	N	1	--	0.024	0.024
ENDRIN ALDEHYDE	Y	N	--	--	0.03	0.03
ETHYLBENZENE	Y	N	1,400	3,280	160	210

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
FLUORANTHENE	Y	N	42	54	14	14
FLUORENE	Y	N	--	--	390	530
HALOMETHANES	Y	Y	0.19	15.7	No criteria	No criteria
HEPTACHLOR	Y	Y	0.00028	0.00029	0.0000079	0.0000079
HEPTACHLOR EPOXIDE	Y	Y	--	--	0.0000039	0.0000039
HEXACHLOROETHANE	N	Y	1.9	8.74	0.29	0.33
HEXACHLOROBENZENE	Y	Y	0.00072	0.00074	0.000029	0.000029
HEXACHLOROBUTADIENE	Y	Y	0.45	50	0.36	1.8
HEXACHLOROCYCLOHEXANE- ALPHA [BHC ALPHA]	Y	Y	0.0092	0.031	0.00045	0.00049
HEXACHLOROCYCLOHEXANE- BETA [BHC BETA]	Y	Y	0.0163	0.0547	0.0016	0.0017
HEXACHLOROCYCLOHEXANE- GAMA [BHC GAMMA (LINDANE)]	Y	N	0.0186	0.0625	0.17	0.18
HEXACHLOROCYCLOHEXANE- TECHNICAL	Y	Y	0.0123	0.0414	0.0014	0.0015

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
HEXACHLOROCYCLOPENTADIENE	Y	N	206	--	30	110
INDENO(1,2,3-CD)PYRENE	Y	Y	--	--	0.0013	0.0018
ISOPHORONE	Y	Y	5,200	520,000	27	96
MANGANESE	N	N	--	100	--	100
METHOXYCHLOR	N	N	100	--	100	--
METHYL BROMIDE	Y	N	--	--	37	150
METHYL-4,6-DINITROPHENOL 2	Y	N	--	--	9.2	28
METHYLENE CHLORIDE	Y	Y	--	--	4.3	59
METHYLMERCURY (MG/KG)	Y	N	--	--	--	0.040
MONOCHLOROBENZENE	Y	N	488	--	No criteria	No criteria
NICKEL	Y	N	13.4	100	140	170
NITRATES	N	N	10,000	--	10,000	--
NITROBENZENE	Y	N	19,800	--	14	69
NITROSAMINES	Y	Y	0.0008	1.24	0.00079	0.046
NITROSODIBUTYLAMINE N	Y	Y	0.0064	0.587	0.0050	0.02
NITROSODIETHYLAMINE N	Y	Y	0.0008	1.24	0.00079	0.046

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
Criteria denoted in red indicate proposed additions to the human health criteria						
NITROSODIMETHYLAMINE N	Y	Y	0.0014	16	0.00068	0.30
NITROSODI-N-PROPYLAMINE, N	Y	Y	--	--	0.0046	0.051
NITROSODIPHENYLAMINE N	Y	Y	4.9	16.1	0.55	0.60
NITROSOPYRROLIDINE N	Y	Y	0.016	91.9	0.016	3.4
PCBS	Y	Y	0.000079	0.000079	0.0000064	0.0000064
PENTACHLOROBENZENE	N	N	74	85	0.15	0.15
PENTACHLOROPHENOL	Y	Y	1,010	--	0.15	0.30
PHENOL	Y	N	3,500	--	9,400	86,000
POLYNUCLEAR AROMATIC HYDROCARBONS	Y	Y	0.0028	0.0311	No criteria	No criteria
PYRENE	Y	N	--	--	290	400
SELENIUM	Y	N	10	--	120	420
TETRACHLOROBENZENE 1,2,4,5	Y	N	38	48	0.11	0.11
TETRACHLOROETHANE 1,1,2,2	Y	Y	0.17	10.7	0.12	0.40
TETRACHLOROETHYLENE	Y	Y	0.8	8.85	0.24	0.33
THALLIUM	Y	N	13	48	0.043	0.047

Compound Name or Class [Table 40 Name, if different]	Priority Pollutant	Carcinogen	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
			Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
Criteria denoted in red indicate proposed additions to the human health criteria						
TOLUENE	Y	N	14,300	424,000	720	1500
TOXAPHENE	Y	Y	0.00071	0.00073	0.000028	0.000028
TRICHLOROBENZENE 1,2,4	Y	N	--	--	6.4	7.0
TRICHLOROETHANE 1,1,2	Y	Y	0.6	41.8	0.44	1.6
TRICHLOROETHYLENE	Y	Y	2.7	80.7	1.4	3.0
TRICHLOROPHENOL 2,4,5	N	N	2,600	--	330	360
TRICHLOROPHENOL 2,4,6	Y	Y	1.2	3.6	0.23	0.24
VINYL CHLORIDE	Y	Y	2	525	0.02	0.24
ZINC	Y	N	--	--	2100	2600

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FINAL



State of Oregon
Department of
Environmental
Quality

Response to Comments: Proposed Water Quality Standards for Human Health and Water Quality Standards Implementation Policies

May 2011



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Item C 000120

Response to Comments: Toxics Rulemaking

1

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Index and Appendices

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Attachment G - List of Commenters for Commenter ID # 0132

Executive Summary

On December 21, 2010, DEQ opened the comment period for the revised Water Quality Standards for Human Health Toxic Pollutants and Water Quality Standards Implementation Policies. The 90-day public comment period closed March 21, 2011. DEQ held nine hearings across Oregon. Two hundred seventy-nine people attended the hearings held in Bend, Eugene, Medford, Coos Bay, Ontario, Pendleton, Portland and Salem. Ninety-seven people provided oral testimony.

Members of the public were encouraged to submit comments via oral testimony or in writing. DEQ received comments from 1,072 commenters representing Oregon's industry, municipalities, farmers, ranchers, foresters, small business owners, tribal members and tribal nations, environmental groups, sportfishers, scientists, state legislators, and members of the general public. The United States Environmental Protection Agency and other natural resource and human health agencies from Oregon and other states also provided comment. Of the over one thousand people who submitted comments and oral testimony, more than 800 people submitted form letters or variations of similar comments or letters.

Some commenters wrote to express broad opposition to the rulemaking, while others wrote to state their broad support. Many individuals submitted detailed comments regarding specific elements of the proposed rules, such as the fish consumption rate, proposed implementation tools and DEQ's statutory authority regarding nonpoint sources. Many commenters vigorously expressed their opinion.

This response to comments document is organized by topical areas, beginning with comments received regarding data and information used for the proposed human health criteria revisions in Topic 1. Comments on the proposed NPDES permit implementation tools (intake credits, background pollutant allowances and variances, respectively) are addressed next in Topics 2 through 4, followed by general comments regarding implementation of the proposed human health criteria and use of the permitting tools in NPDES permits in Topic 5. Topic 6 includes comments and responses regarding revisions to the water quality standards and the total maximum daily load regulations related to nonpoint sources. General comments regarding these proposed nonpoint source revisions are addressed in Topic 7. Finally, Topic 8 includes general comments received about the entire rulemaking package, including comments on DEQ's fiscal and economic impact assessment, implementation of the proposed rules, DEQ's rulemaking process, and issues not addressed by this rulemaking. Appendix 1 includes an index of commenters.

For each topic, specific comments regarding subsections of the proposed rule are listed first, and general comments are addressed at the end. DEQ aimed to summarize all comments received, and in some instances directly quoted comments to ensure DEQ accurately captured the comment on a given topic.

Topic 1: Criteria Revisions

The following comments and responses relate to data and information used to calculate the proposed human health water quality criteria. Human health criteria are calculated using data on toxicity, fish and water intake, bioaccumulation and risk level.

1.1 Fish Consumption Rate

A. DEQ should have considered different or additional factors in setting the fish consumption rate

The fish consumption rate should be based on consumption data from all Oregonians, not just tribal populations.

Several commenters expressed opposition to a fish consumption rate of 175 grams per day, asserting that it only considers tribal populations and does not apply to Oregon's entire population. (0007 - Walter Reim; 0015 - Don Ellsworth; 0028 - Judy Kirby; 0120 - E. Martin Kerns; 0124 - Alfred J. Hansen; 0110 - Baker County Republican Central Committee)

"The fish consumption rate (175 grams per day or approximately 23 8-ounce fish meals per month) used to determine human health criteria is not an appropriate rate. The survey techniques to generate this estimate involved a very small sample of the population in Oregon and the amounts reported by those surveyed were based on anecdotal estimates. Farmers and ranchers have indicated that we need a scientifically based research project that documents consumption of toxics through fish consumption." (0087 - Oregon Department of Agriculture; 0119 - Doug Krahmer)

"Revising Human Health Water Quality Standards for Toxic Pollutants sounds great in the beginning but when we are setting standards for a certain ethnic group, then we are setting ourselves up for continued changes based on a few, not the majority of Oregonians." (0062 - Malheur County Soil and Water Conservation District board members, 3 commenters)

DEQ Response: Several commenters raised concerns regarding the fish consumption rate used to calculate the proposed human health criteria based on the studies DEQ relied upon, the populations surveyed in the studies and the sample size of those surveyed. DEQ continues to conclude that the surveys provide useful data and information upon which to base the fish consumption rate. With regard to the populations surveyed in the studies and the suggestion that DEQ should have based the fish consumption rate on a detailed survey of all Oregonians. DEQ acknowledges that having statewide data regarding fish consumption would be desirable to further inform its discussions and decision-making. DEQ evaluated whether it could obtain such data after its 2004 revision of Oregon's toxics criteria and found that it would be very expensive to conduct a statewide consumption survey in a scientifically sound manner. DEQ was unable to obtain the necessary funds for such a study. In the absence of such data, DEQ sought the input of public health experts to help identify relevant and useful fish consumption studies for use in Oregon. Such studies routinely rely on individuals' recall of what they have eaten, and the studies relied upon by DEQ were all scientifically peer-reviewed, which included a review of the study design, as well as the analysis of results.

With regard to the applicability of the fish consumption rate to Oregonians. DEQ notes that the water quality standards are intended to maintain and restore sufficient water quality to allow people to eat fish from Oregon waters without risk of adverse health effects. The proposed water quality criteria will protect the majority of Oregonians, including susceptible populations. DEQ concluded that Oregon's standards should be established to protect the health of people who eat fish on a regular basis rather than using a per capita rate for the general Oregon or U.S. population, which includes people who eat fish rarely or not at all. This decision was based on

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input from public workshops and the stakeholder workgroup, recommendations from the Human Health Focus group, DEQ goals to protect beneficial uses and consider environmental justice and policy direction from the EQC.

No changes were made to the proposed rules in response to these comments.

Using the 95 Percentile From the CRITFC Study

One commenter stated that DEQ needs to balance cost with the necessity. The 90th percentile from the fish consumption survey of the Umatilla, Nez Perce, Yakima, and Warm Springs (Technical report 94-3, 1994) seems more than adequate. In this survey 90% of respondents ate less than 97.0 g per day of fish, 95% ate less than 170 grams per day. The commenter said, “Everyone wants clean water and safe food but why do we have to go so far overboard?” (0023 - Kathy Ward)

“The survey of regional tribal diet that was conducted as part of EPA’s fish contaminant study (1998) results indicate that the average daily fish consumption for adults (63.2 g/day) of CRITFC’s member tribes was much higher than the national average for adults (6.5 g/day). Based on this information, how did we get to 175g/day?” (0148 – Crooked River Watershed Council)

“This amounts to setting a standard to protect 10% of 2% of fish consumers in Oregon’s population based on a study done 17 years ago by the very population that is demanding such preferential consideration in relation to the other citizens of Oregon.” (0149 – Water Environment Services)

DEQ Response: DEQ evaluated a number of options in selecting the fish consumption rate. In evaluating options, DEQ sought to select a value that protects the majority of tribal and other frequent fish consumers, including susceptible populations, and is consistent with EPA’s direction on the use of data from fish intake surveys. EPA’s directs states to use results from fish intake surveys of local watersheds within the state’s jurisdiction to establish fish intake rates that are representative of the defined populations being addressed for the particular waterbody and, where those are not available, to use existing fish intake surveys that reflect similar geography and population groups (e.g., from a neighboring state or tribe or a similar watershed type). DEQ also sought to ensure that the rate it selected would protect the majority of fish consumers in Oregon; the Human Health Focus Group recommended using either the 90th or 95th percentile to achieve this objective consistent with accepted risk assessment practices that use the 90th percentile. DEQ’s rate of 175 g/d used to develop the proposed human health criteria represents approximately the 95th percentile value from the CRITFC study of Columbia River basin tribes and is within the range of the 90th to 95th percentiles of the other relevant studies. (See also the responses to comments on the fish consumption studies in this section.)

No changes were made to the proposed rules in response to these comments.

The CRITFC study identified a decreasing trend in fish consumption, which DEQ did not take into account.

A few commenters questioned the scientific validity of 175 g/day and suggested that the fish consumption rate should be recalculated based on current data.

“The 1994 CRITFC study found that 68.5 percent of the survey respondents actually responded that their fish consumption had been decreasing by 2.38 meals per week. That's significant. Yet we're taking numbers directly from that study without correlating any of the fact that they actually saw decreases in the consumption, and was reported in the study. I believe you owe it to the citizens of Oregon, if you're going to promulgate rules based upon a fish consumption, that you use current data, which means you should put out a new survey, and develop new fish consumption rates on today's consumption, not on twenty years ago what it was. That didn't consider the fact that fish consumption rates were actually decreasing.” (0190 - Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

“The 1994 CRITFC survey also demonstrates that the fish consumption pattern of 65% of the respondents had declined over the previous twenty years.” (0149 – Water Environment Services)

DEQ Response: DEQ does not agree that it can account for trends with the limited data available. The CRITFC report was one of several studies DEQ evaluated, and it states that that 69% of respondents eat less fish than they did 20 years ago and 26 % have increased their consumption over that time period (1994, p. 65). The reasons stated for the decreased consumption varied, but more than 60% of respondents indicated that it was due to a decrease in fish availability and more restricted fishing seasons. DEQ also received input from the public health experts that were members of the Human Health Focus Group and from the public during the public workshops that consumption is suppressed from what some people would otherwise eat due to reduced fish populations or fear of contamination. In addition, DEQ received input during the public workshops that fish consumption may be increasing due to increased public awareness of the health benefits of eating fish.

No changes were made to the proposed rules in response to these comments.

Oregon waters cannot produce 175 grams per day for each Oregonian

“We do not believe that Oregon Fishers can produce the amount of fish to support the new consumption rate. The new rule states that the population of Oregon (3.826 million) consumes 8oz. of fish 23 times a month or 44 million pounds of fish a month. ” (0058 – City of La Grande WWTP)

DEQ Response: The fish consumption rate is established to protect the majority of fish consumers in Oregon. Water quality standards establish goals for waterbodies to ensure a specified level of protection to protect the majority of the population from potential adverse effects. Setting water quality standards does not create a requirement or expectation for people to change what they eat or how much they eat. As such, DEQ does not suggest that every person in Oregon eats fish at this rate. The policy goal is to provide sufficient water quality such that those who do eat up to the level used as the fish consumption rate may do so without risk of adverse health effects from human caused pollution.

No changes were made to the proposed rules in response to these comments.

B. Studies used to determine fish consumption

The fish consumption rate of 175 grams per day is based on solid data.

Many commenters stated that there is an overwhelming weight of evidence demonstrating that many Oregonians, particularly tribal members, eat significantly more fish than the current toxics standards assume; and that studies on fish consumption in Oregon support a fish consumption rate of 175 grams per day rate, which protects the majority of fish consumers. (0044 – Columbia Riverkeeper form letter , 153 commenters; 0060 – Oregon Toxics Alliance form letters, 3 commenters; 0071 – Columbia Riverkeeper, Sierra Club (Oregon Chapter), Rogue Riverkeeper, the Northwest Environmental Defense Center, and the Center for Environmental Law & Policy; 0083 – U.S Environmental Protection Agency, Region 10; 0131 – Carla and Fred Herver)

“The scientific foundation for the increased fish consumption rate is solid and substantial, backed by rigorous assessment and analysis. It was the subject of extensive discussion and debate, in a two-year, open public process.” (0085 – Confederated Tribes of the Umatilla Indian Reservation)

“The proposed 175 grams per day fish consumption rate is based in part on a comprehensive study of the ceremonial and subsistence consumption habits of Native Americans who reside in, catch and consume fish within the Columbia River Basin. The results of the study prove that the consumption of twenty-three 8-oz servings of fish meals per month is a realistic value that represents the fish consumption habits of our people.” (0132 – Letters from members of Tribal Nations, 198 commenters) Other commenters

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made similar statements. (0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearings, 66 commenters)

“The 175 grams per day fish consumption rate is based in part on a comprehensive survey of the ceremonial and subsistence consumption habits on the Warm Springs Reservation along with that of other members of the Columbia River Tribes.” (0193 – Confederated Tribes of the Warm Springs Reservation of Oregon)

DEQ Response: DEQ acknowledges the large number of comments received in support of using a fish consumption rate of 175 grams per day to revise Oregon’s human health water quality criteria for toxic pollutants. DEQ believes it used the best information available and sound policy choices to derive this consumption rate. This rate will protect 90 to 95% of Oregonians who regularly consume fish and shellfish.

No changes were made to the proposed rules in response to these comments.

The studies used are the most definitive on fish consumption in the Pacific Northwest

“Assertions have been made that the Fish Consumption Survey is “old” or somehow outdated, yet it remains the most definitive examination of the subject. Furthermore, subsequent studies of other tribes and communities have only supplemented and corroborated its findings.” (0085 – Confederated Tribes of the Umatilla Indian Reservation)

“Other surveys reviewed by DEQ’s Human Health Focus Group in their June 2008 report corroborate CRITFC’s findings and demonstrate that Asian and Pacific Islanders and Eastern European communities also consume fish at levels similar to CRITFC’s tribes. Based on the survey’s measure of tribal fish consumption, the human health toxics criteria of 175 grams per day would provide a firm, diet-based rational for managing contaminants to levels deemed safe for 95 percent of the tribal members at their current consumption rates.” (0143 – Columbia River Inter-tribal Fish Commission)

“The DEQ Human Health Focus Group Report (June 2008) also recognized that EPA’s fish consumption rate (USEPA, 2002 Estimated Per Capita Fish Consumption in the United States, EPA-821-C-02-003) of 17.5 grams per day was determined on a per-capita basis for the entire U.S. population. When averaging non-consumers with fish consumers, the resulting rate represents the averages across the entire population, not the rate for people who eat fish. When non-consumers are not considered in the calculation of a national average, the mean fish consumption rate of U.S. fish consumers is 127 grams per day, or 8 pounds per month. To compare, the average meat consumption rate in the U.S. is 23 pounds per month according to a 2004 United Nations survey. These data indicate that a fish consumption rate of 175 grams per day or 12 pounds per month is a reasonable value that is consistent with fish and meat consumption habits of the general population.” (0143 – Columbia River Inter-tribal Fish Commission)

“DEQ’s human health focus group... was composed of Pacific Northwest scientists with expertise in toxicology, risk assessment, public health, bio-statistics and epidemiology. The survey is an accurate representation of the fish consumption habits of tribal people.” (0143- Diane Barton, CRITFC, oral testimony at Coos Bay hearing)

DEQ Response: DEQ acknowledges the above comments supporting the use of the identified studies. DEQ agrees that additional data would be desirable, but sought to use the best studies available at this time.

DEQ notes that none of the five studies relied on to select a fish consumption rate surveyed an eastern European population. While one of the nine studies reviewed included interviews of eastern European anglers, it did not provide adequate information to quantify the amount of fish consumed by that population.

No changes were made to the proposed rules in response to these comments.

Concern regarding studies and process DEQ used to select the fish consumption rate.

A few commenters noted that the CRITFC study used, in part, to determine the fish consumption rate is 15/20 years old. (0023 - Kathy Ward; 0120 - E. Martin Kerns)

“When planning such significant regulations, the amounts of fish and shellfish I feel should have been weighed and recorded for at least several months including when salmon is migrating and when salmon are not migrating and an average should have been determined to calculate the yearly exposure of fish intake to these people... The six person committee told the Columbia River Tribe when responding to this survey to include what was eaten fresh, from restaurants and from stores. As fish and shellfish from restaurants and stores can be from many sources, this amount should have been excluded. To include intake from these two sources invalidates the total amounts said to be consumed.” (0028 – Judith Kirby)

“In my opinion, to call these reports scientifically sound is pathetic at best, criminally negligent at worst. This is the sound science that EPA and DEQ is citing to justify shutting down Oregon's economy?” (0062 - Oregon Senator Doug Whitsett, District 28, oral testimony at Salem hearing)

“DEQ stated in written format to a legislative hearing that:

1. ““They were not aware of any studies that quantify the fish consumption of all Oregonians;
2. ““They were not aware of any studies documenting the harm to human beings related to toxins consumed through a fish-oriented diet;
3. ““They relied on a Human Health Focus Group to recommend relying on 5 studies – four of which were conducted in the Pacific Northwest and one national study’;
4. “All of the 5 reports relied upon for the 175 g/day consumption recommendation, were full of disclaimer language, and one was only a review of literature.
5. Furthermore, based on information available, the NRAC questions the veracity of the survey methodologies, which likely skewed results and inflated consumption levels in relation to the total population.” (0135 – Baker County Natural Resources Advisory Committee)

“Before rules are made, ODEQ has a responsibility to know the actual population distribution of fish consumption levels, and the frequency distribution of bio-concentration factors corresponding to consumption, and the distribution factor of the arsenic coming from fresh water fish. So the rules would be made based on science, rather than wild guesses.” (0157 – Clinton Shock, oral testimony at Ontario hearing)

One commenter provided detailed oral testimony regarding the studies used. The following is a summary of the testimony.

- *Regarding the 2002 EPA fish consumption rate study:* limitations include the individual food consumption data were collected for only two days, which does not depict usual intake. "Low income individuals are oversampled to ensure their representation in the survey."
- *Regarding the Human Health Focus Group Report Oregon Fish and shellfish Consumption Rate Project, June 2008:* There is no reference to any new data being collected on Oregonians specifically. The discussion and conclusions presented in this report were generated on one year, May 2007-2008, a relatively short time, considering the scope of the questions addressed.
- *Regarding A Fish Consumption Survey of Columbia River Basin Tribes* (the Umatilla, Nez Perce, Yakima, and Warm Springs). “No consumption of any shellfish or open ocean fin fish was reported. Since these questions were not asked in the interview, it is not clear how this may affect the fish consumption rates reported by the Columbia River Tribes. The survey interviewers noted that the individuals had difficulties reporting the quantity of fish they had consumed. Overall, there was not sufficient information to calculate reliable fish consumption estimates.”

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- *Regarding A Fish Consumption Survey of the Tulalip and Squaxin Island Tribes of the Puget Sound Region*: “Under the section “Relevance” in the Human Health Focus Group report, the tribe's survey is regarded as relevant to Oregon fish consuming populations, although some of the fish and shellfish they consumed may not be found in Oregon waters.”
- *Regarding A Fish Consumption Survey of the Suquamish Indian Tribe of the Port Madison Indian Reservation, Puget Sound Region*: “The Suquamish staff chose to include high consumption rates because they were familiar with the individuals eating those large quantities, and that the consumption rate reported were likely to reflect real consumption. With no adjustments made for the high consumption rates, it was noted that the reported means may be highly influenced by the consumption of just a few individuals.”
- *Regarding the Lake Whatcom Residential and Angler Fish Consumption Survey*: “The fish consumption rates from this survey were not useful because of inconsistencies of how the interviewee reported their fish consumption. The four week recall diet limited the ability the ability to fully quantify fish consumption due to the low number of people that consumed fish during that period. (0190 - Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

“The [fish consumption] rate is suspect; there was a lot of picking and choosing. Of all the studies, the 1994 CRITFC study was the one that they really heavily relied upon. This is a 20 year old study. The average consumption was 58.7 grams per day; 90 percent of consumers in that study were within 97.2 grams per day. The [human health] focus group [noted that] statistical outliers were thrown out of the study and then should be compensated for. Within true studies there are statistical outliers. They are thrown out, generally because they are outliers, because the data or something looks suspect, and that often the survey respondent didn't understand the question, or something. There is a reason why those are thrown out, that we made your committee, your human health committee that was setting the standard, chose it - took it upon themselves to make up for that consumption, to calculate for that. They're picking and choosing what they wanted to do.” (0190 - Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

Another commenter requested that DEQ reopen the process of establishing a fish consumption rate.

“Oregon Cattleman’s Association recommends that the Environmental Quality Commission instructs DEQ to reopen this process to more than the previous seven workshops, with inclusion of the Diversified Resource organizations, and tell the Federal Environmental Protection Agency that Oregon is working toward a logical common sense standard that will adequately address human health concerns.” (0089 – Oregon Cattlemen’s Association)

DEQ Response: Some commenters questioned the scientific validity of the studies DEQ considered in selecting the fish consumption rate. During the fish consumption rate review (2006-2008), DEQ convened a panel of public health experts and toxicologists, termed the Human Health Focus Group, to review the available studies and advise DEQ about which studies were of sufficient quality and relevance to inform the selection of a consumption rate for Oregon. The Human Health Focus Group evaluated a number of studies, identified nine for in depth review and recommended that DEQ rely primarily on five studies because they were conducted in a scientifically reliable manner and provided quantified consumption data. The Human Health Focus Group report is available on DEQ’s website at <http://www.deq.state.or.us/wq/standards/docs/toxics/HHFGFinalReportJune2008.pdf>.

Several commenters suggest that DEQ should have sought out better study designs; commenters also identify limitations of the studies relied upon by DEQ. DEQ notes that it is rare that scientific studies do not contain some limitations; DEQ recognizes this and for that reason, convened the Human Health Focus Group to evaluate the available studies and to identified those studies that were not relevant based on their study design, evaluation of data, or other limitations. The group’s assessment is contained in their report. With this information in hand, Oregon selected a fish consumption rate based on the best data available with knowledge of those limitations.

Some commenters highlighted concerns regarding the age of the data and studies, particularly, the Columbia River Inter-Tribal Fisheries Commission (CRITFC, 1994) study. The five studies were published between 1994 and 2006. The efforts leading to this proposed rulemaking began in 2006. Although the CRITFC survey was conducted in 1991 – 1992, it is still considered relevant because it represents consumers who regularly eat fish and shellfish and because DEQ does not have sufficient data indicating that consumption patterns of the population surveyed have changed since that time. DEQ received input during the public workshops that fish consumption may be higher today due to increased public awareness of the health benefits of eating fish and that consumption at the time of the survey was suppressed. DEQ must rely on the best data available.

Some commenters note that the national and Asian and Pacific Islander studies included fish purchased rather than harvested by the consumer. While some of the purchased fish may have been harvested locally, much of it, particularly in the case of the national study, is not local. The 90th percentile values for the national and Asian and Pacific Islander studies are 199 and 236 grams per day, respectively; the 95th percentile values are 278 and 306 grams per day. DEQ considered the data in these studies in terms of supporting the conclusion that there are groups of people eat large amounts of fish, however, DEQ did not select these values for the recommended consumption rate.

Some commenters suggest taking more time to gather more information before proceeding with establishing a new fish consumption rate. The DEQ believes that the work completed to date to review the fish consumption rate of relevant regional and local studies provides sufficient information to move forward with a new fish consumption rate at this time. In light of EPA's formal disapproval in June 2010 of the criteria Oregon adopted in 2004 based on 17.5 grams per day, and federal requirements for EPA to now promulgate criteria for the state, it is imperative that Oregon set a rate and establish new human health toxic criteria in the very near future. Should additional data on fish consumption become available, DEQ will evaluate whether the data warrants revisions to the water quality standards in a future standards review.

DEQ notes that one commenter raised concerns regarding the Lake Whatcom study. This was not one of the five studies DEQ relied on to select a fish consumption rate.

No changes were made to the proposed rules in response to these comments.

C. Use of salmon and marine species in the fish consumption rate

Salmon and marine fish should not be included in the consumption rate.

Several commenters stated that salmon and marine fish should not be included in the fish consumption rate, as salmon spend the majority of their life cycle in the ocean where Oregon water quality standards do not apply. (0028 – Judith Kirby; 0042 – Baker County Board of Commissioners; 0062 – Malheur Soil and Water Conservation District, 3 commenters 0079 – Oregon Water Quality Standards Group; 0110 – Baker County Republican Central Committee; 0116 – Burnt River Irrigation District; 0124 – Alfred J. Hansen; 0160 – Chuck Lang)

“The survey also demonstrates that the majority of the fish consumed by the respondents are salmon (90%) and trout (70%). In relation to this, another reference, EPA's Columbia River Basin Fish Contaminant Survey, 1996-1998, rainbow trout and salmon contained the lowest concentration of pesticides. Sturgeon, consumed by 25% of the respondents had the highest concentration of pesticides, and the standards were based in large part on Sturgeon consumption. Again, the proposed standards are based on factors that barely relate to each other.” (0149 – Water Environment Services)

“The current proposed rules confound [pollutants] for marine fish with [pollutants] from fresh water fish. The marine ... fish consumption is best dealt with with a fish advisory consumption... the people for their traditions are going to continue to eat - consume the fish, be they salmon, with most of their [pollutants]

coming from the ocean, or be it tuna, or shellfish, or whatever, they're not going to be affected by Oregon's rules.” (0157 – Clinton Shock, oral testimony at Ontario hearing)

“The human health focus group minutes of May 21st, 2007 indicate that EPA informed [DEQ] that marine species were not directly calculated in the fish consumption rate and that there was a factor that was used to calculate those numbers because the majority of the bio-accumulated toxins in the fish are accumulated from the ocean. There is a significant body of study, which EPA has recognized, and Alaska has used significantly, that actually identifies that almost all of the methyl mercury accumulated in Pacific salmon comes at their life stage within the ocean. Yet we're going to set water quality standards for fresh water based upon toxins that are gotten from the ocean and will have no effect on fifty percent of the diet that we're basing this upon. There will be no human health effect. Most of that has been documented from both India and China as pollutants out in the ocean. Yet the focus group clearly stated in the 2008 report that Pacific salmon were to be directly calculated as consumption. They refuted that they should be considered as marine species, even though there are a number of studies, like I said, that refute that. They should have most likely considered them marine. The fish consumption rate should be recalculated before you adopt it, with Pacific salmon being considered a marine species. This will have significant effect on the 175 grams per day.” (0190- Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

“Most of the fish you people eat here don't come from these waters; they come from someplace else. Most of them spend most of their time other places, not in these waters. Yes, it's important that the waters we have here are clear of mercury, because that's the ag trade, that's the smolt trade, very, very important. But it's accumulatory, and you can go out - I've done it, my degree's in marine biology - you can go out and take samples of algae out in the Alaska area, or here, it doesn't make any difference. What do you find in the algae? You'll find chromium in some of 'em, not many, but a lot of mercury. So these fish are eating fish that are eating the algae that's there.” (0203 – Tom Forgatsch, Coos County Soil and Water Conservation District, oral testimony at Coos Bay hearing)

DEQ Response: DEQ evaluated several options regarding which species to consider in the selection of the fish consumption rate. Water quality standards apply to fresh, estuarine and near coastal waters, and human activity may impact all of these waters. People generally eat a mixture of fish and shellfish from these environments. Marine species from off shore ocean waters are also a large part of the seafood diet for many people, but pollutant concentrations in the ocean are not likely to be influenced by Oregon water quality standards. DEQ sought to select a fish consumption rate that reflected these considerations, among others.

Anadromous fish, such as salmon, add to the complexity of this determination because they spend part of their life cycle in freshwater and estuaries and then spend a large portion of their life in ocean waters, where much of their growth occurs, and the data are uncertain regarding how much toxic pollutant accumulation occurs in these different environments. EPA considered Pacific salmon a marine fish but acknowledges that states could make a different choice due to the importance of salmon in the Northwest. DEQ and the Human Health Focus Group recommended that salmon be included in the fish consumption rate for several reasons, including:

- salmon are a large portion of the locally caught fish diet,
- the cultural significance of salmon, particularly for the tribes,
- salmon spend a portion of their lifecycle in Oregon's fresh and coastal waters,
- uncertainty about how much toxics accumulation occurs in salmon in fresh vs. estuarine vs. marine waters, and
- pollutants may be carried by rivers to estuaries and important near coastal waters.

One commenter asserted that contamination in salmon has been documented as coming from both India and China as pollutants out in the ocean. DEQ is unaware of any such documentation, and the commenter did not provide a citation for such a conclusion.

In reaching this conclusion DEQ evaluated an alternative approach that did not include salmon in the fish consumption rate, but instead, accounted for potential exposure to pollutants in anadromous and marine species through a “relative source contribution” (RSC) factor. The RSC is used in the equation for calculating criteria for pollutants that are not cancer-causing, but have other health effects. These criteria are based on a total dose from all sources of exposure, including drinking water, freshwater fish, marine fish and air and dermal exposures. If a state bases their water quality criteria on exposure only from drinking water and eating fish from fresh water, they may use the RSC factor as described in EPA guidance to estimate other exposure routes and adjust the criteria that apply to fresh and estuarine waters accordingly. However, to date only 15 RSC values have been derived out of 47 non-carcinogen pollutants. Where RSC values have not been derived, EPA recommends assuming that the freshwater fish and water ingestion accounts for 20% of a person’s total exposure as a default in the absence of data, and that 80% of their exposure is from other sources (marine fish, inhalation, absorption through the skin). This result is criteria that are significantly more conservative.

The Human Health Focus Group recommended that DEQ include salmon and near coastal marine fish in the consumption rate rather than using the RSC, concluding that using the 20% default value has greater uncertainty and is less scientifically based than including the salmon and marine fish in the consumption rate. DEQ accepted this recommendation and proposed a consumption rate that accounts for the consumption of salmon by some groups of people and also includes the consumption of marine species by others. DEQ did not use the highest values from studies that included large amounts of marine fish.

DEQ acknowledges that because the 20% default RSC would apply to only 32 pollutants, including salmon/marine fish in the consumption rate, which is used to derive all the human health criteria, as an alternative to the RSC is a conservative choice for the remainder of the pollutants.

One commenter notes that salmon are less likely to bioconcentrate pesticides than other fish species. DEQ acknowledges that rates at which pollutants concentrate in species differ by both the species and the pollutant. These differences are due to how species metabolize pollutants and the pollutant’s chemical properties, among other factors. The equations used by both EPA and Oregon to calculate the human health criteria use pollutant-specific variables other than the fish consumption rate to account for these differences.

No changes were made to the proposed rules in response to these comments.

Support for including salmon in the fish consumption rate

“CRITFC’s fish consumption survey provides a reasonable estimate of the fish consumption rates and patterns of tribal peoples who are members of the four tribes and reside in, and consume fish from the Columbia River Basin. This survey reports that 97 percent of the people interviewed eat fish and 88 percent of the fish that is consumed by tribal members originates in the Columbia River Basin. This is significant because all of these fish are affected by the quality of Oregon waters for all or part of their lifecycle. Based on the survey’s measure of tribal fish consumption, the human health toxics criteria of 175 grams per day would provide a firm, diet-based rational for managing contaminants to levels deemed safe for 95 percent of the tribal members at their current consumption rates.” ([0143 – Columbia River Inter-tribal Fish Commission](#))

DEQ Response: DEQ acknowledges the comment supporting consideration of salmon in the fish consumption rate. As described in the preceding response, DEQ agrees with this approach.

D. Geographic considerations

The fish consumption rate does not reflect all regions in Oregon

Several commenters suggested developing water quality standards for specific geographic locations. ([0007 - Walter Reim](#), and commenters quoted below)

“As usual, we in Eastern Oregon are being required to follow statistics from the western half of the state. I find your fish consumption rates biased... In our area of the state, you should be using onion and beef consumption rates... This is a prime example of that one standard does not fit all, especially when Ontario gets water from Idaho that does not have to meet these requirements. And the Snake River flows from Idaho to Ontario through Oregon, yet all the other rivers in Oregon are already in Oregon when they get to the other side of the state. So they will have other cities following rules that make the water better by the time they get further downstream. I encourage DEQ to create rules that are area specific, and can help everyone in the State of Oregon for a greener state.” (0034 – Joe Dominick, mayor of Ontario, oral testimony at Ontario hearing)

“The fish consumption rate (175 grams per day or approximately 23 8-ounce fish meals per month) used to determine human health criteria were drawn from the main stem of the Columbia and Willamette rivers. Information drawn from these areas is not applicable to other major rivers in the state or to many of the streams that feed the Columbia and Willamette main stems. Fish consumption rates (FCR) and the industrial toxics of concern are much lower when you leave the main stem Columbia and Willamette Rivers. Based on the original recommendation by ODEQ's Technical Advisory Committee (TAC), a tiered approach to the FCR, taking into account variable fish consumption across Oregon, should be developed which then would affect water quality standards for human health toxic pollutants.” (0087 – Oregon Department of Agriculture)

“We believe the water quality standard that is being proposed is too high to apply to all Oregon streams and water bodies in general. It should otherwise vary across the state to reflect the local needs and uses of a particular stream and water body. For example, the fish consumption rates would be different on streams that do not have the higher consumption numbers that may be found on the Columbia River.” (0136 – Marion Soil and Water Conservation District)

“Given the natural characteristics of the Tualatin watershed and the river, its native fish species, and historical use, it is unlikely that fish from the river are being consumed at the fish consumption rate (FCR) of 175 g/day, and therefore it is uncertain how the proposed rules (and related revisions to water quality standards) will result in any meaningful reduction in toxics or improvement in protection of human health.” (0137 – Clean Water Services)

DEQ focused on data from a few regions (i.e. coastal areas, the Columbia and Willamette) but there has not been a lot of overall statewide work. (0161 – City of Medford, oral testimony at Medford hearing)

“[DEQ] put together a technical advisory committee and they recommended a tiered approach to the fish consumption level. Yet it was ignored, because it was too difficult, in the words of DEQ, to perform. This is no matter to be ignored. It would have significant effects throughout Oregon if you used a tiered approach to your fish consumption. Fish consumption is not the same throughout the State of Oregon.” (0190- Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

DEQ Response: Commenters raise several issues regarding the geographic applicability of the fish consumption rate used to calculate the proposed human health criteria. One commenter asserts that the studies only evaluate data from the mainstem Willamette and Columbia Rivers. This is inaccurate. The CRITFC study focused on the Columbia River basin, which includes the Columbia River and its tributaries. Other studies focused on different geographic areas, including coastal waters. DEQ did not exclude studies that included waters outside of Oregon, but rather sought to determine whether the areas and analysis of fish consumption rates in those areas would be expected to be similar to patterns within Oregon. As a result, DEQ did not do a waterbody-by-waterbody analysis and reach a conclusion that the fish consumption rate would represent the fish consumed from a waterbody as a sole source of fish. Rather, DEQ's objective in setting standards would be that individuals who consume 175 grams of fish per day or less from any individual waterbody or a combination of waterbodies in Oregon would be protected from adverse health effects.

Some commenters suggest use of a geographically tiered consumption rate and refer to DEQ's previous efforts in the development of its water quality standards in 2004 to pursue such an approach. During the 2004 toxic criteria development, DEQ and the Policy Advisory Committee discussed a possible three-tier approach to setting human health toxics criteria based on varying fish consumption rates. Criteria based on different fish consumption rates could be assigned to particular waters the state based on the level of fish consumed from those waters: low (17.5 g/day), moderate (142.4 g/day), or high (389 g/day). This would generally mean that the lower reaches of streams would have the highest fish consumption rate, and therefore, the most stringent criteria. A basin or regional approach presumes people only eat fish caught in basin or region where they live and that fish remain within those identified basins, which is often not the case. In addition:

- Nearly all of the major river basins in Oregon include usual and accustomed fishing areas for Oregon tribes; and
- More stringent criteria would apply to lower reaches and main stems of river systems, but upstream contributions of the pollutants would still need to be accounted for and controlled, particularly for persistent pollutants.

DEQ did not adopt such an approach in 2004 given the complexity of the issues and the concerns stated above. For these reasons, the final proposed rule continues to use a single statewide consumption rate.

No changes were made to the proposed rules in response to these comments.

The fish consumption rate should only consider Oregon, not Washington.

"Why does DEQ put neighboring state Washington's fish in this equation?" (0062 – Malheur County Soil and Water Conservation District board members, 3 commenters)

"Why was the fish consumption of Puget Sound tribes used as a guideline to base fish consumption from Oregon streams?" (0116 – Burnt River Irrigation District)

DEQ Response: As described in the preceding response, DEQ did not exclude studies that included waters outside of Oregon, but rather sought to determine whether the areas and analysis of fish consumption rates would be expected to be similar to patterns within Oregon.

No changes were made to the proposed rules in response to these comments.

The fish consumption rate should be consistent in the region

"Even if all fish was correctly recorded and were only exposed to fresh water in the Columbia and its tributaries, it must be noted that the Columbia River drains water from seven states and British Columbia... I do think that the same rules should be implemented at the same time in all states." (0028 – Judith Kirby)

"Why must Oregon impose significantly more stringent water quality standards than our neighboring states when much of our water either originates in those states or at least passes through them?" (0116 – Burnt River Irrigation District)

"Since both the fish, and the waters that they are exposed to, are not confined to the governmental boundaries of the State of Oregon, it is appropriate to review the human health standards as part of a regional strategy that includes Oregon, Washington, and Idaho. Since Washington and Idaho currently have human health standards based on a much lower fish consumption rate and have no stated plans to adopt standards similar to those proposed by DEQ, the proposed rules cannot by themselves prevent fish contamination, but will put Oregon businesses and industries at an economic disadvantage compared to those in bordering states." (0137 – Clean Water Services). This comment was supported by others. (0149 – Water Environment Services)

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DEQ Response: Several commenters suggested that rules incorporating the fish consumption rate should occur in conjunction with neighboring states or as part of a regional strategy. DEQ acknowledges that Oregon has a shared responsibility with Washington and Idaho for the protection of the Columbia and Snake Rivers, as well as other waters. However, DEQ's authority to establish water quality standards are limited to its jurisdictional waters. DEQ must revise its water quality standards to incorporate a protective fish consumption rate to address EPA's June 2010 disapproval of DEQ's previous water quality standards that relied upon a fish consumption rate of 17.5 grams per day. DEQ agrees, in principle, that effective toxics reduction in shared waterbodies would be best accomplished by a coordinated effort by states with shared waterbodies, but such an effort is outside Oregon's authority and the scope of this rulemaking.

The Washington Department of Ecology is preparing to address fish consumption rates through its sediment management standards, parts of which EPA considers to be water quality standards. The Department of Ecology is developing a 5-year plan for water quality standards work based on triennial review scoping and public input conducted in fall 2010. This plan will address adoption of human health-based water quality criteria. Idaho does not have plans to review their human health criteria in the near future.

No changes were made to the proposed rules in response to these comments.

E. Proposals for alternate fish consumption rates

"The Baker County Board of Commissioners urges the Department of Environmental Quality to set the fish consumption rate at 87.5 grams/day. This consumption figure would reflect a 5 times increase."
(0042 – Baker County Board of Commissioners)

DEQ Response: DEQ appreciates the commenter's proposal of an alternative value for DEQ's consideration. The commenter did not provide additional information regarding how it arrived at the proposed rate of 87.5 grams/day, therefore, DEQ is unable to offer further evaluation of the merits of the proposed alternative. No changes were made to the proposed rules in response to this comment.

DEQ should not modify current fish consumption rate

Two commenters suggested that DEQ not modify the current fish consumption rate.

"I think that the DEQ should use the default level of 6.5 gr/day or 8 oz./week. That seems like a much more realistic figure than the proposed figure of 175 g/day." (0066 – Dave Pranger, Morrow County Weed Control Supervisor)

"We urge you to not adopt the proposed 'Toxics rule', but instead to match the EPA recommendation of 17.5 g/day of fish consumption." (0135 – Baker County Natural Resources Advisory Committee)

DEQ Response: DEQ does not agree that maintaining the fish consumption rate reflected in its current water quality standards is a viable option. In 2004, DEQ adopted revised human health criteria based on a fish consumption rate of 17.5 grams/day. EPA disapproved these standards because they concluded that the rate of 17.5 g/d does not sufficiently protect Oregonians who consume fish. If DEQ does not revise Oregon's criteria based on a higher fish consumption rate, EPA will promulgate human health criteria for the State of Oregon.

No changes were made to the proposed rules in response to these comments.

F. Opposition to 175 grams per day fish consumption rate

Several commenters expressed general opposition to a fish consumption rate of 175 grams per day (g/day). (0012 – Associated Oregon Industries; 0087 – Oregon Dept. of Agriculture; 0106 – CropLife; 0120 - Martin Kerns)

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“And I'm sure that what I've heard from the presentations tonight, that trying to reach some standard that sounds as if it hasn't even had all the facts put into it, I don't know how you make new rules when you don't have all the facts. Those numbers seem unreasonable, and I would like someone to assure us that they have the input that you've heard here tonight that pulls those numbers together, because like we always say, we're ruled by Portland and Eugene for the rest of the state. and we're tired of it.” (0164 – Don Rowlett, oral testimony at Medford hearing)

DEQ Response: DEQ acknowledges that some commenters believe the proposed consumption rate is too high. The following paragraphs provide a summary of the process DEQ used to reach this value. To the extent that commenters offered specific comments with regard the fish consumption rate, those comments are addressed in the responses on the preceding pages.

The fish consumption rate recommended by DEQ reflects a goal to provide sufficiently clean water in the state such that people who wish to regularly eat fish for cultural, health or economic reasons may do so without risk of adverse health effects due to contaminants contained in those fish. DEQ evaluated the data available regarding fish consumption and used that data to inform its decision regarding an appropriate fish consumption rate.

Between 2006 and 2008, DEQ conducted extensive outreach and information gathering in collaboration with EPA and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). The three governments held seven public workshops to solicit broad public input and consulted with a group of public health experts (the Human Health Focus Group) to review and evaluate the available fish consumption information. Based on the workgroup discussions and the review of available fish consumption studies, DEQ concluded that a fish consumption rate of 175 grams per day (g/day), or about 23 8-oz fish meals per month, is a protective rate to use as the basis for Oregon's human health criteria.

In 2010, EPA disapproved Oregon's criteria concluding that the national default consumption rate of 17.5 g/d is not protective of Oregonians and that DEQ did not use the available local data to determine an appropriate consumption rate for Oregon. The disapproval confirmed that the state must rely on the best currently available data to establish human health criteria. If DEQ or another party is able to conduct new scientifically valid studies, that information could be considered in a future review.

The EPA, the Confederated Tribes of the Umatilla Indian Reservation, and DEQ issued a joint recommendation to the Environmental Quality Commission on Oct. 23, 2008 to revise Oregon's toxics criteria for human health based on a fish consumption rate of 175 g/day. The commission directed DEQ to proceed with a rulemaking process to revise the criteria.

Selecting a fish consumption rate involves policy considerations informed by the best available scientific information. The 175 grams per day rate used in the calculation of the human health criteria represents the 95th percentile of known adult fish consumers from a study of four Columbia River basin tribes (CRITFC study) and is well supported by other regional studies of Pacific Northwest fish consumption. Use of this data is consistent with EPA guidance that directs states to use local or regional fish consumption data when available and is in the range of EPA's default national recommendations for subsistence fishers. EPA's guidance recommends a default subsistence rate of 142 grams per day. Further, EPA strongly emphasizes that States and authorized tribes consider developing criteria to protect highly exposed population groups. This is consistent with other environmental programs DEQ administers that ensure protection of susceptible groups, such as recognizing effect of air pollution on people with asthma.

The 175 g/day rate reflects the 95th percentile value from the Columbia River Inter-Tribal Fish Commission (CRITFC) study and is within the range of the 90th percentile values from a total of 5 studies; 4 conducted in the Northwest and one national study. The 175 g/day rate is consistent with the Human Health Focus Group recommendations to:

- use the 90th or 95th percentile value from the consumption studies to ensure protection of the surveyed population,
- use a fish consumption rate that represents fish consumers, rather than a per capita rate of the general population, which would include both consumers and non-consumers of fish, and
- include salmon and other marine species in the rate.

No changes were made to the proposed rules in response to these comments.

G. Support for 175 grams per day fish consumption rate

General Support for 175 Grams per Day

Many commenters expressed support for DEQ's proposal to revise state water quality standards based on a fish consumption rate of 175 grams per day. (0009 – Matthew Riley; 0025 – Larry Kelley; 0030 – Pacific Coast Federation of Fishermen's Associations; 0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearing, 66 commenters; 0068 – Tony DeFalco; 0071 – Brett VandenHeuvel, Columbia Riverkeeper, oral testimony at Pendleton hearing; 0072 – Confederated Tribes of Siletz Indians; 0083 – U.S Environmental Protection Agency, Region 10; 0092 – Tim Delzer; 0093 – Sandra Joos; 0114 – Wayne Miller; 0132 - Form letters from members of Tribal Nations, 198 commenters; 0151 – Mary Moffat; 0155 – Carl Merkle, oral testimony at Pendleton hearing; 0170 – John Steele, oral testimony at Eugene hearing; 0176 – Affiliated Tribes of Northwest Indians; 0177 – Jack Giffen, Jr., oral testimony at Portland EQC meeting; 0178 – Ryan Bransetter, oral testimony at Portland EQC hearing; 0193 – Confederated Tribes of the Warm Springs Reservation of Oregon; 0194 – Ivan Maluski, oral testimony at Salem hearing; 0198 – Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians; 200 – Tom Younker, Coquille Tribe vice-chair, oral testimony at Coos Bay hearing)

Many commenters support moving quickly to adopt Oregon's draft human health criteria for toxics based on the fish consumption rate of 175 grams per day. (0045 – Northwest Center for Alternatives to Pesticides form letter, 44 commenters)

Commenters supported the joint recommendation of the U.S. Environmental Protection Agency ("EPA"), Confederated Tribes of the Umatilla Indian Reservation, and DEQ to adopt toxics standards based on the accurate fish consumption rate of 175 grams per day. (0071 - Columbia Riverkeeper, et al.) Several commenters mirrored these comments. (0044 – Columbia Riverkeeper form letter 153 commenters; 0060 – Oregon Toxics Alliance form letters, 3 commenters; 0131 – Carla and Fred Hervet)

"A higher Fish Consumption Rate will result in decreasing the levels of toxic pollution that are considered "allowable" in our rivers, lakes, and streams." (0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearing, 66 commenters; 0132 - Form letters from members of Tribal Nations, 198 commenters)

"The new fish consumption rate needs to drive the derivation of the criteria, and the human health criteria need to be based solidly on this new rate." (0107 – Ray Kinney)

"We applaud DEQ for their leadership in protecting all of Oregon's citizens." (0113 – City of Portland)

DEQ Response: DEQ acknowledges the comments in support of the 175 grams per day fish consumption rate. As described in the preceding responses, DEQ agrees it is an appropriate and protective rate to use in the calculation of revised human health criteria for toxic pollutants.

Use of a 175 grams per day fish consumption rate protects tribal members and others who eat fish.

Many commenters voiced support for a fish consumption rate of 175 grams per day because it protects tribal members and others who eat fish. (0030 – Pacific Coast Federation of Fishermen’s Associations; 0036 – Rosalind C. Sampson; 0083 – U.S Environmental Protection Agency, Region 10; 0090 – Kalmiopsis Audubon Society; 0094 – Dave Kruse; 0126 - The Confederated Tribes of the Grand Ronde Community of Oregon; 0143 – Columbia River Inter-tribal Fish Commission; 0181 – Klamath Tribes, oral testimony at Portland hearing; 0189 - David Liberty, oral testimony at Portland EQC meeting; 0198 – Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians;)

“The OHA commends DEQ for updating the fish consumption rate to 175 g/day. This consumption rate is well supported for the subsistence and Tribal fishers in Oregon, and this is an important step to ensure that our waters are safe and usable by all Oregonians.” (0003 - Oregon Health Authority)

“Oregon’s current estimated fish consumption rate, and that previously proposed, is not adequate to protect people that eat healthy amounts of fish from our local lakes, rivers and streams.” (0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearing, 66 commenters)

“So you know, right now, if we have two fish meals a month, is the current assumption DEQ uses. And while there might be people in this audience that don't eat that much fish, there sure are a lot of people do eat way more than fish meals per month. And it's not just about tribal members, although you know, certainly that's - you know, tribal members historically eat a lot of fish. But there's a lot of people, you know, that eat far more fish than that. And this is designed to protect people who regularly consume fish from getting cancer. I mean, it's a matter of human health.” (0071 – Brett VandenHeuvel, Columbia Riverkeeper, oral testimony at Pendleton hearing)

“During April 2008 the CTSI Tribal Council passed resolution number 2008-164 which stated ‘...therefore be it resolved, that the Siletz Tribal Council hereby chooses the fish consumption rate...of 248 grams of fish per person per day...and that that rate should include all finfish and shellfish...’ The Tribe then informed the Oregon Department of Environmental Quality (DEQ) of the Tribes’ recommended consumption rate relative to the toxics rule making process that was in process at that time. After the DEQ proposed the 175 g/day rate the Tribes informed the State that the Tribe would support the reduced rate as a means of moving forward an improving water quality and therefore protection of the health of the citizens of the State. Since that time Tribal Council met with the EQC twice. During these meetings we have continued to show support for the 175 g/day.” (0072 – Confederated Tribes of Siletz Indians)

“Our public health and safety laws must protect all Oregonians, not just the average Oregonian. That’s why the proposed fish consumption rate and the related water quality standards were designed to protect vulnerable populations, including tribal communities for whom fish are a culturally important subsistence food protected by treaty.” (0084 – Oregon Environmental Council)

“The current EPA national default value of 17.5 grams per day was determined on a per capita basis for the general U.S. population, including both fish consumers and non-consumers. With Oregon’s historic and current use of the Columbia River, its tributary fisheries, and our coastal tributaries, it is plain that this national standard is inappropriate for Oregon.” (0085 – Confederated Tribes of the Umatilla Indian Reservation)

“Improved human health is the driving force behind this entire effort. The proposed water quality standards incorporate a fish consumption rate (FCR) that is more protective of tribal members and other Oregon citizens who consume fish. Confederated Tribes of the Umatilla Indian Reservation and other tribal members eat more fish than the average population. The proposed higher FCR recognizes and acknowledges this fact. As you have stated, Oregon’s “currently effective human health toxics criteria are based on a fish consumption rate that does not provide adequate protection for the amount of fish and

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shellfish consumed by Oregonians... The higher fish rate is designed to better protect Oregon's more sensitive fish consumer. This is similar to, and consistent with, Oregon's decision to adopt air quality standards that protect people with asthma. The approach is to be respectful of, and protective of, people with higher health risks and vulnerabilities. This makes sense for air quality standards, and it makes sense for water quality standards." (0085 – Confederated Tribes of the Umatilla Indian Reservation)

"Many who sport fish in Oregon regularly consume their catch as well. Strengthening the current standards will reduce the health risks of these fish consumers. We know Oregon Tribes are in support of the proposed regulations and we concur with their recommendations." (0100 – Northwest Sportfishing Industry Association)

More than 150 commenters expressed the cultural importance of fish to their people: "The importance of fish to the tribes cannot be overstated for the fishery resource is not only a major food source for tribal members; they are also our blood line and integral part of our cultural, economic and spiritual well-being and practices. As ceremonial and subsistence fishers, we rely on the protection and enhancement of water quality to a level that is sufficient to protect our water and fish from harmful exposure to waterborne pollutants. (0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearing, 66 commenters; 0132 – Form letters from members of Tribal Nations, 198 commenters; 0143 – Columbia River Inter-tribal Fish Commission; 0193 – Confederated Tribes of the Warm Springs Reservation of Oregon)

"I assure you that families who make their living fishing commercially also consume a great deal more fish & shellfish, much of it harvested by themselves, than even most Oregonians -and almost certainly as much, or more, than members of the Columbia River Tribes. Fish/shellfish consumption patterns of Oregon coastal residents and commercial fishing families have simply not yet been studied. Fish consumption levels by the Tribes has been studied. But there is no reason to believe that fish consumption levels of people who live on the coast, many of whom make their living harvesting seafood, would be any less than fish consumption levels demonstrated the Columbia River Tribes." (0030 – Pacific Coast Federation of Fishermen's Associations)

"Fish is a recommended healthy nutriment, and I enjoy fresh, local caught fish. I don't fish anymore as I do not have the equipment to test whether or not the fish I catch are safe. We need stronger standards against polluting our bodies of water, because current recommendations by public health is that I should not make local fish a daily or even a regular part of my diet without being poisoned." (0059 – Jerry Smith)

"As a 100% disabled Viet Nam veteran I am deeply concerned about the levels of toxic exposure in my environment and the food chain in particular. I live in rural Oregon where there is an inordinate amount of evidence suggesting toxics exposure is very high. Please keep us veterans in mind when making your determination for the draft human health criteria for toxics. I eat a tremendous amount of fish and far more than 175 grams average you propose. Please adopt the draft human health criteria for toxics based on the reasonably accurate fish consumption rate of 175 grams per day." (0121 – Stanley Petrowski)

"Oregon DEQ MUST adopt the revised 175 gram per day fish consumption rate and water quality standards based on it in order to protect All the People of Oregon, but most importantly the innocent, unborn children whose mothers enjoy the benefits of our fish and whose fathers & families have traditionally provided the sustenance of fish and other traditional foods for thousands of years. The great Columbia 'Nchi Wana' River Basin has been a spiritual gathering, a place where families have traded, married, feasted and celebrated. It is our responsibility to stand to protect her great strength and beauty." (0132-C – Cathy Sampson Kruse, CTUIR)

DEQ Response: DEQ acknowledges the comments in support of the 175 grams per day fish consumption rate. As described in the preceding responses, DEQ agrees it is an appropriate and protective rate to use in the calculation of revised human health criteria for toxic pollutants.

1.2 Other Criteria Calculation Variables

A. Risk level

DEQ should use a higher risk level to calculate the criteria.

“Following EPA guidance, the Department derived the proposed human health criteria from several different factors, including fish and water consumption rates, risk levels, and uncertainty factors. The values selected for these factors, however, are not all independent of each other. In particular, the selection of an appropriate fish consumption rate is related to the selection of an appropriate risk level. If the selected fish consumption rate is a rate for the general population, then it is generally appropriate to select a low risk level, such as one in a million (1×10^{-6}), to ensure that persons who consume relatively large amounts of fish are sufficiently protected. Conversely, if the selected fish consumption rate is a rate based on persons or groups who consume large amounts of fish compared to the general population, then it is appropriate to select a higher risk level, such as one in 100,000 (1×10^{-5}) or one in 10,000 (1×10^{-4}). The combination of a low risk level and a fish consumption rate based on individuals who consume relatively large amounts of fish, however, results in extraordinarily protective criteria whose marginally diminishing benefits to human health may not justify the increasingly expensive and technically challenging efforts needed to achieve the criteria—if the criteria can be achieved at all.” (0079 – Oregon Water Quality Standards Group) Several commenters made similar remarks or supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council; 0086 – Northwest Pulp and Paper Association)

“Moreover, even if the Commission elects not to increase the risk level for all pollutants, the Department and the Commission should be prepared to consider increases in the criteria for at least those pollutants for which the likely health benefits of more stringent criteria are substantially outweighed by their costs. An example of this is the Department’s pending proposal to base the human health criteria for arsenic on a higher risk level because natural arsenic concentrations greatly exceed the criteria that would result from using a 1×10^{-6} risk level with a fish consumption rate of 175 grams per day.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ maintains the position that the 10^{-6} risk level (one additional case of cancer in a population of 1,000,000) is appropriate to protect Oregon’s general population from cancer-causing toxic pollutants. The 10^{-6} risk level has been a consistent policy in DEQ’s environmental programs and is strongly supported by the Environmental Quality Commission (EQC). EPA’s *Human Health Criteria Methodology* establishes bounds on states’ discretion to adopt risk rates, stating that in no case should the choice of a risk level result in exceeding a 10^{-4} risk level for the most highly exposed subpopulation. If the criteria are based on a risk level of 10^{-5} rather than 10^{-6} , the organism only criteria would be equal to the 2004 criteria based on a fish consumption rate of 17.5. The water + organism criteria do not change as directly because they also include drinking water exposure. DEQ notes that roughly half the human health toxics criteria are for carcinogens and therefore use the risk level in their calculation. The remaining toxic pollutants are primarily considered non-carcinogens and are not affected by a change in risk level protection.

One commenter references DEQ’s current action to adopt revised arsenic criteria based on a risk level greater than 10^{-6} . DEQ agrees that there may be site-specific or pollutant-specific situations that warrant a different decision. As it did with its development and adoption of the revised arsenic criteria, DEQ will evaluate such situations on a case-by-case basis.

DEQ should have used probabilistic, rather than simplistic, risk assessment.

“The science of risk assessment has improved considerably since fish-ingestion based water quality standards were first developed by the EPA. Today, relatively sophisticated and inexpensive probabilistic

methods are readily available to estimate risk-based water quality standards. Probabilistic risk assessment formally considers both natural variability in factors that determine risk (e.g., variation in diets, bioaccumulation, ingestion rates, etc.), and uncertainty in data or models used in risk assessment. Probabilistic methods can more fully characterize risks associated with fish ingestion and improve decision making.

“There are no compelling reasons to continue using simplistic risk assessment methods to estimate water quality standards. Technically superior methods are available that can be used to develop water quality standards with little or no increase in costs to the DEQ. The DEQ has the expertise to use these alternate methods, has used probabilistic risk assessment methods previously, and has developed guidance on how to use the probabilistic risk assessment when evaluating contaminated sites. The DEQ should always use state-of-the-science methods when developing environmental standards.” (0101 – SLR International Corporation)

DEQ Response: DEQ acknowledges the utility of alternative risk assessment approaches in certain applications and appreciates the thought given to the suggestion of an alternative. In the context of the development of statewide numeric human health criteria, such an approach presents practical limitations and difficulties which prevent DEQ from pursuing such an approach at this time. (1) This is a significant change in the way water quality criteria are currently expressed, which is a threshold concentration. This structure would have to be altered, both technically and from a policy/management perspective, to use a number and its probability instead of just a number. (2) Probabilistic methods are more data-intensive than threshold methods and it is unlikely that such data is readily available for all the criteria pollutants. (3) The data intensity of probabilistic methods makes them well suited to custom applications under specific circumstances but makes them much less suitable for broad use under a variety of circumstances across the entire state. (4) DEQ is not aware of any other water quality program (state or federal) which has established its water quality standards using probabilistic methods and is not aware of any indication that EPA is moving in this direction.

No changes were made to the proposed rules in response to these comments.

1.3 Toxics in the Environment

A. Documented presence of toxic contaminants in Oregon’s fish and associated health effects

Some commenters stated that the presence of toxic contaminants in Oregon’s fish is well-documented.

“Since the last Triennial Review, EPA released an in-depth report on toxic pollution in the Columbia, the Columbia River Basin: State of River Report for Toxics. The report highlights the widespread problem of toxic pollution in the Columbia’s fish, wildlife, sediment, and water. The State of the River Report describes the serious problem of toxic pollution in the Columbia River Basin. As the report explains, “[i]n 1992, an EPA national survey of contaminants in fish in the United States alerted EPA and others to a potential health threat to tribal and other people who eat fish from the Columbia River Basin.” This survey prompted further study on the contaminate fish and the potential impacts on tribal members. In particular, EPA funded four Columbia River tribes, through the Columbia River Intertribal Fish Commission (“CRITFC”), to study contaminant levels in fish caught at traditional fishing sites. The study demonstrated the presence of 92 contaminants in fish consumed by tribal members. Contaminants found in these fish include PCBs, dioxins, furans, arsenic, mercury, and DDE, a toxic breakdown product of DDT. For some pollutants, the study found contaminant levels exceeding water quality standards for aquatic life and human health. Notably, the human health standards are only designed to protect people who eat less than a cracker-sized amount of fish per day.

“The CRITFC study is not alone in demonstrating the serious problem of toxic contamination in our state’s waterbodies. From 1989 to 1995, the Lower Columbia River Bi-State Water Quality Program (“Bi-State Program”), the predecessor to the Lower Columbia River Estuary Partnership (“LCREP”),

generated substantial evidence demonstrating that water and sediment in the Lower Columbia River and its tributaries have levels of toxic contaminants that are harmful to fish and wildlife. “Contaminants of concern include dioxins and furans, heavy metals, polychlorinated biphenyls (PCBs), and organochlorine pesticides such as DDT.” (0071 – Columbia Riverkeeper, et al.)

“The science showing the presence of various toxic contaminants in many fish species throughout Oregon and the Pacific Northwest is also sound. The studies and reports documenting all the facts are reliable and convincing.” (0085 – Confederated Tribes of the Umatilla Indian Reservation)

DEQ Response: DEQ acknowledges the comments highlighting the presence of some of the same toxic pollutants in state waters, sediment and fish that are addressed by the revisions to the human health criteria. DEQ also acknowledges that additional data and information are needed to fully understand the origin, fate and transport of these pollutants in the ecosystem and their effects on human health. DEQ shares the goal to reduce toxic pollutants in Oregon’s environment and acknowledges the need for additional efforts in this area for pollutants that have numeric water quality criteria as well as for those that do not.

No changes were made to the proposed rules in response to these comments.

B. Use alternate methods to protect subpopulations that consume fish at high rates.

DEQ received one comment recommending other means to protect those who consume fish at high rates:

“While the council fully supports protection of all Oregonians through appropriate water quality standards development and application, we also believe there are more effective methods of protecting sub populations that consume fish at relatively high rates. Given our knowledge about the general behavior of the chemicals of interest (DEQs list) and how they are incorporated into the bodies of fish, it seems likely that we could gain better protection by recommending certain preparation, cooking and selection methods. Fish do not accumulate toxins in even proportion across their entire body mass. Fats (lipids) are the primary body element that attract and bind with complex, organic chemicals, and certain body parts of fish accumulate disproportionately higher rates of contaminants. All this information could be used to formulate consumption recommendations for those that adhere to a high fish diet.” (0148 – Crooked River Watershed Council)

DEQ Response: DEQ acknowledges that there are multiple strategies that can be employed to reduce individual’s exposure to toxic pollutants and that one such strategy includes certain preparation methods that may help reduce the amount of toxic pollutants ingested by consuming fish. This is a good practice where fish are known to be contaminated. However these practices do not eliminate DEQ’s policy goal and its responsibility under the federal Clean Water Act to establish water quality standards that protect beneficial uses of the state’s waters, including the ability of people to consume fish on a regular basis.

No changes were made to the proposed rules in response to this comment.

C. Revised criteria will not result in environmental benefit.

Some commenters questioned whether a higher fish consumption rate would result in any environmental benefit. (0137 – Clean Water Services; 0190 - Karla Kay Edwards, Cascade Policy Institute, oral testimony at Portland EQC hearing)

“I am also concerned that if DEQ knows that much of the mercury in our water in Oregon comes from Asian air. How can this be separated from what is occurring naturally or from industry?” (0028 – Judith Kirby)

“The water quality standards adoption process for legacy pesticides and PCBs should take into consideration that these pollutants are banned from manufacture and use, but are still detected because of past use. Since banning is the ultimate management practice, these pollutants will only be reduced over time through decay. An understanding of the relative contributions of different sources is key to understanding how these pollutants can be reduced.” (0137 – Clean Water Services)

DEQ Response: Some commenters questioned whether the proposed rules will result in improved water quality. Water quality standards serve multiple purposes. First, water quality standards serve the baseline for implementing Clean Water Act programs with the objective of preventing pollution from occurring at undesirable levels. When these levels are found to be exceeded, water quality standards similarly serve as benchmarks for implementing restorative actions, including the development and implementation of total maximum daily loads. DEQ does not believe that standards should only be established in reaction to excessive pollutant levels, and that establishing appropriate standards serve an important function in preventing pollution as well. Preventing pollution from occurring is ultimately more cost-effective than attempting to clean up pollution from Oregon’s water bodies. DEQ believes that revising the water quality criteria, based on an increased consumption rate, acknowledges the risks being experienced by some Oregonians and will result in environmental benefit over time.

DEQ acknowledges that changing the water quality standards alone will not eliminate toxics already in the environment or pollutants coming from sources beyond our control. DEQ agrees that these situations should be considered as the criteria are implemented (See also responses in section 8.2). While water quality standards and permitting serve a role in controlling pollution and are complemented by other programs and measures to reduce toxic pollutants in Oregon’s environment.

One commenter specifically questions DEQ’s knowledge of the amounts of mercury coming from foreign sources versus natural or industrial sources. Water quality standards do not inherently address such questions, rather, the objective of water quality standards is to establish levels of the pollutants that if met, ensure that people and aquatic organisms are protected from adverse effects. Water quality standards can serve as an important guidepost for subsequent analyses, such as the development of total maximum daily loads (TMDLs), that can further identify the sources of the pollutant in question.

No changes were made to the proposed rules in response to these comments.

D. Reducing Toxic Pollutants in Fish

“In order to effectively reduce contaminant levels in fish, it is important to identify the chemicals in fish tissue that are suspected as posing the greatest risk to consumers, and it is also important to identify the primary environmental sources of these chemicals and the mechanisms by which contaminants enter fish tissue. For example, salmon may obtain most problematic contaminants (e.g., PCBs) through dietary uptake of impacted prey while foraging at sea. If so, actions that reduce contaminant body burdens in the marine prey species of salmon will likely be the most effective at reducing concentrations in salmon tissues. Identifying the environmental compartments, locations, and processes that structure contaminant loads in fish should be the first step in determining effective management options. If we focus our actions on parts of the process that are relatively unimportant in determining fish body burdens of chemicals, our ability to cause change will be diminished.” (0101 – SLR International Corporation)

DEQ Response: DEQ acknowledges this comment. As stated in the preceding response, water quality standards comprise one role related to controlling toxic pollutants in fish tissue. As described in the documents associated with this rulemaking, DEQ’s objective is to carry out its obligations to implementing the federal Clean Water Act programs by provide tools or mechanisms to implement the criteria that will not result in situations where great expense will be incurred in the absence of environmental benefit. As noted in the preceding response, water quality standards and permitting are complemented by other programs and measures to reduce toxic pollutants in Oregon’s environment.

No changes were made to the proposed rules in response to these comments.

E. Effects of Multiple contaminants

DEQ received three comments regarding the combined effects of contaminants in determining risk.

“Very little work has been done to study the effects of combined pesticides. I think it was the Sandy River that has at least 10 pesticides detected with several above allowable. Aren't you concerned that these in combination with some even below the allowable are likely to act together to increase risk? We can't ignore this high risk, even if there is economic fallout. It has been ignored too long already” (0041 – Ronnie Ferris, Ferris Landscaping)

“I assert that the weight of evidence and theory of the past few decades has taught us that off-target effects and unexpected biochemical interactions of sub-threshold doses of apparently unrelated compounds have become dismayingly common. I therefore urge the DEQ to move toward a ‘precautionary principle’ and to bring new toxicology information into public policy – sooner, rather than later.” (0056 – Thomas H. Sternberg, Ph.D.)

“You've neglected to take into account the synergistic character of multiple toxics. And in fact, nobody does know what it is, but I can tell you right now, it is not good.” (0173 - Cat Koehn, oral testimony at Salem hearing)

DEQ Response: DEQ acknowledges the commenters' suggestion to incorporate the combined effects of toxic pollutants into the development of human health criteria. Such an approach is beyond the scope of the proposed revisions to the human health criteria, which is focused on revising the criteria based on a more accurate fish consumption rate based on EPA's human health methodology. DEQ is not revisiting EPA's methodology or developing alternative methodologies at this time.

No changes were made to the proposed rules in response to these comments.

F. DEQ should document linkage between human health and toxic pollutants.

Several commenters suggested that DEQ collect additional information about the linkage between toxic pollutants and human health concerns.

“As a nurse practitioner, I also think that a research and epidemiological study should have been done to see if this tribe and others who eat more fish from freshwater sources have an increased incidence of illness of any type that could be possibly as a result of an increased fish intake. To not have done this to have this data before these regulations are implemented and afterwards to see if these regulations could show an improvement in health outcomes, make me question if these regulations are really wanted for improvement of human health care or other purposes.” (0028 - Judith Kirby)

“...to what extent will the more stringent criteria result in health benefits, and at what economic, social, and environmental cost? The facilities that are required to achieve the criteria—primarily industrial and municipal point sources—are, in general, responsible for only a small fraction of these pollutants in Oregon's waterbodies. Even if these facilities ceased discharging entirely, there would be a negligible effect on human health risks. The Department cannot legally or practicably regulate most of the sources that are responsible for the pollutants—e.g., nature, widely distributed legacy pollutants, sources outside Oregon, and numerous small, unregulated human activities. Moreover, many persons derive their drinking water from groundwater sources that are not subject to the human health criteria or from

relatively pristine surface waters that are upstream of dischargers and activities that are regulated by the criteria.” (0079 – Oregon Water Quality Standards Group)

“OFIC does not believe the linkage between adoption of far more stringent water quality standards and positive impacts on human health has been well documented. If that linkage were made by documented releases of toxic substances that lead directly to problems with human health, then one could make those releases a violation of water quality standards and stop them. But in practice, releases of these substances are already strictly controlled – any release of significance to human health is already a violation of water quality standards.” (0082 – Oregon Forest Industries Council)

“The public would benefit from a more rigorous assessment of the health consequences of consuming fish harvested from our local rivers and lakes. Specifically, the overall health consequences of various types of diets should be assessed and presented, because if people avoid fish, they will necessarily consume some other type of food.

“Contaminants such as dioxins and polychlorinated biphenyls (PCBs) are present in virtually all meat and dairy products, and most Oregonians are regularly exposed to these chemicals in their diet. Also, there are health consequences to our diets that are unrelated to contaminants in foods. Based on numerous studies, diets high in fish such as salmon appear to be beneficial relative to many common alternative diets. A diet similar to that of many Tribal fish consumers is likely more healthy than most alternatives. Although a more rigorous assessment of the health consequences of fish ingestion will not change the fact that contaminants are present in fish, the information would allow people more informed decisions regarding the consequences of dietary choices.” (0101 – SLR International Corporation)

“The DEQ or others should attempt to estimate how fish tissue levels will change over time as a result of implementing revised water quality standards. In all likelihood, implementation of revised water quality standards will primarily result in reduced loading from uplands to surface water bodies. It would be helpful to understand how reduced loading from stormwater or municipal water is projected to change fish tissue concentrations over time. Due to a number of previous actions (i.e., banning production and use of DDT, PCBs, etc.), environmental concentrations of many of the most important contaminants in fish are already declining. The public would benefit from information regarding the projected further declines that could be expected as a result of implementation of revised water quality standards. Due to the proposed change in water quality standards, municipalities and industry may need to make significant investments in alternative water management practices. The costs of these changes in water management will ultimately be covered by Oregon citizens. An informative cost/benefit analysis of water quality standard revisions will require an understanding of the magnitude and time frame of the potential benefits.” (0101 – SLR International Corporation)

“The survey says that individuals who consume over 140 pounds of fish per year are in danger. If you consumed ½ a pound of fish per day, you would be eating fish 280 days a year. When DEQ representatives were asked what effect eating that much fish would have on a human, the DEQ response was that they did not know as there has never been a study on that exact issue.” (0124 – Alfred J. Hansen)

DEQ Response: Where fish are contaminated at high levels, there can be harm to human beings. Water quality standards are not merely reactionary to pollution, but also serve a preventative purpose. Water quality standards are designed to protect the health of the majority of people, fish and other aquatic organisms that live in the water the majority of the time. There are variations among people, including their susceptibility and sensitivity to effects (e.g., children and women of child-bearing age, the immuno-suppressed) and the activities people undertake that result in exposure to pollutants. Generally, data does not exist for DEQ or scientists to evaluate every exposure scenario, which is one reason why targeting “the average Oregonian” isn’t sufficient.

DEQ relies on EPA’s extensive toxicological data profiles and associated scientific studies to develop criteria for toxic chemicals. EPA evaluates scientific studies and identifies the levels at which adverse effects are likely to

occur (effects other than cancer) and the relationship between the level of exposure to a pollutant and the increase in risk of contracting cancer. DEQ's criteria are based on these extensive scientific evaluations and concludes that this information presents conclusive information that the pollutants addressed by this rulemaking have the potential to cause adverse health effects at the levels and exposure assumptions incorporated in the proposed human health criteria.

No changes were made to the proposed rules in response to these comments.

DEQ should review research done by UC Davis

One commenter suggested that DEQ review agricultural research from the University of California-Davis regarding presence of toxic pollutants and potential effects to human health. (0166 - Shin Taketa, oral testimony at Medford hearing)

DEQ Response: DEQ appreciates the effort of the commenter to identify additional information. Based on the commenter's description of the research conducted related to the presence of toxic pollutants and potential effects to human health, DEQ agrees that this would be helpful information in certain contexts. The proposed criteria revisions are based upon effects that occur at certain levels regardless of how the pollutant found its way into the water. In addition, the commenter did not provide information sufficient for DEQ to identify the specific study the commenter is referencing or information regarding whether the research addressed toxic pollutant exposure through surface waters, which is the focus of this rulemaking. Therefore, DEQ is unable to evaluate the presence of toxic pollutants in this research, the potential effects to human health, and how it relates to this rulemaking.

No changes were made to the proposed rules in response to these comments.

1.4 Comments on Table 40

A. Clarification Regarding Table 40 Language

One commenter made suggestions regarding revisions to the Human Health Criteria Summary section of the proposed rule in regards to how criteria are implemented and the level of risk.

"Notwithstanding these long exposure assumptions, the current and proposed rules do not expressly limit the application of the criteria in either time or space. Read literally (and I believe incorrectly), the criteria may never be exceeded, however briefly, and apply to all surface waters of the state, however unlikely the water is to be used for drinking water or fish or shellfish consumption. This broadly worded application of the criteria risks adding further and unnecessary stringency to criteria that are already very conservatively protective of human health." (0079 – Oregon Water Quality Standards Group). The commenter suggested the following revision:

"A human health criterion is the highest concentration of a pollutant in water that is not expected to pose a significant risk to human health. The concentration for each pollutant listed in Table 40 is a criterion not to be exceeded in waters of the state in order to protect human health except as otherwise provided in OAR 340-041. The criteria for carcinogens are annual average concentrations, and the criteria for noncarcinogens are 30-day average concentrations. Values in Table 40 are applicable to all waters of the state, other than waterbodies that convey only stormwater and wastewater, that are designated for fishing (organism only) or domestic water supply (water + organism) uses and are expressed as micrograms per liter (µg/L). Pollutants are listed in alphabetical order with the corresponding Chemical Abstract Service (CAS) number, whether the criterion is based on carcinogenic effects (can cause cancer in humans), and whether there is an aquatic life criterion for that pollutant (i.e. "y"= yes, "n" = no). The "water + organism" criteria refer to safe limits that have been established for the consumption of drinking water and fish, including shellfish. The "organism only" criteria refer to safe limits that have been established for the consumption of fish and shellfish only. The "organism only" criteria are

solely applicable in waters designated as having a fishing use, but not a domestic or private water supply. All the human health criteria were calculated using a fish consumption rate of 175 grams per day unless otherwise noted. A fish consumption rate of 175 grams per day is approximately equal to 23 8-ounce fish meals per month. For pollutants categorized as carcinogens, values represent a cancer risk of one additional case of cancer in one ~~million~~ hundred thousand people (i.e. 10-~~6~~5), unless otherwise noted. All metals criteria are for total metal concentration. *Italicized pollutants represent non-priority pollutants.*

The commenter also requested a clarification regarding the definition of “waters of the state”

“First, the rules should make clear that the criteria do not apply to waterbodies, such as drainage ditches and stormwater detention ponds and swales, that contain only stormwater runoff and wastewater. These waterbodies are not sources of drinking water or fish or shellfish that might be consumed by humans. OWQSG does not believe that DEQ intends human health criteria to apply to these waterbodies, but the proposed rules state, without qualification, that the criteria apply “in waters of the state.” See OAR 340-041-0033(4)(a) (proposed). Because the term “waters of the state” is defined broadly, albeit somewhat vaguely, to include “all . . . bodies of surface or underground waters, natural or artificial, . . . public or private,” OAR 340-041-0002(72), it would be helpful to clarify that the human health criteria do not apply to waterbodies that contain only stormwater and wastewater.” (0079 – Oregon Water Quality Standards Group). The commenter suggested the following revision:

“(a) Levels of toxic substances in waters of the state other than waterbodies that contain only stormwater and wastewater may not exceed the applicable human health criteria listed in Table 40.”

DEQ Response: DEQ agrees that the proposed language accompanying proposed Table 40 and in the Toxics Substance provision could be misleading if literally interpreted, but the agency does not agree that the suggested language proposed by the commenter should replace current language. This proposed language previously existed in both Table 20 and Table 33A which comprise Oregon’s current toxics criteria. Although DEQ generally agrees that the human health criteria are not to be exceeded over time, programs administered under the Clean Water Act implement the criteria tailored to the implementation approaches necessary for each application (e.g., evaluating ambient and effluent data for the purposes of establishing water quality based effluent limits in NPDES permits). For this reason, DEQ removed the potentially misleading language and instead, added language clarifying that the concentration for each pollutant listed in Table 40 is being established to protect Oregonians from potential adverse health effects associated with long-term exposure to toxic substances resulting from the consumption of fish, shellfish, and water.

In regards to the commenter’s suggestion to revise the cancer risk value from 10⁻⁶ to 10⁻⁵, DEQ disagrees with this change as described in a previous response in Section 1 of this document which addresses DEQ’s policy of using 10⁻⁶ risk levels for human health carcinogens.

DEQ disagrees with the suggestion to specify the that the criteria do not apply to certain types of waterbodies. Although DEQ agrees that the definition of “waters of the state” (See 340-041-0002(72))¹ is broad, this clarification, as suggested, is not appropriate. As a general matter, water quality standards apply to waters defined as “waters of the state.” DEQ sets designated beneficial uses, which establish the goals for specified waterbodies, and then must assign criteria sufficient to protect those uses. If, in any case, the uses identified for a waterbody are not appropriate, DEQ may then revise the use accordingly, consistent with the state and federal requirements

¹ “Waters of the State” means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction

governing water quality standards. To the extent that the criteria are not suitable for any given waterbody, the best approach will be for DEQ to evaluate whether the use and the associated criteria are appropriate, in making any such revision.

Changes were made to this rule based on the comments associated with the interpretation of the criteria, while no changes were made to the Table 40 language in regards to the risk level.

B. Specific Suggestions Regarding Table 40

One commenter made specific suggestions regarding proposed revisions to Table 40.

“The OHA appreciates the way DEQ has divided human health and ecological criteria into separate tables. We believe this makes for more clarity in presentation. “

Specific comments:

1 - Table 40, page 6 of 59, Pollutant #85 – methylmercury -- We recommend that the superscript “j” be shown in the same cell with the value “0.040” on that line and that the change in units (mg/kg rather than µg/L) be mentioned more explicitly in the text of footnote “j” in the next row. We think following this suggestion would make more obvious the use of different units for methylmercury’s criteria value than the units used for the other pollutant criteria.

2- The same as specific comment 1 but applied to page 56 of 59 last line – methylmercury.”

(0003 - Oregon Health Authority)

DEQ Response: DEQ agrees with the commenter’s suggestion to make the units for the methylmercury criterion more explicit than was displayed in the proposed rule. DEQ added “mg/kg” next to the criterion in Table 40. The units were not added to the table on page 56 of the Proposed Revisions to Toxics Criteria Tables 20, 33A, and 33B and Addition of New Human Health Toxics Table 40 because the table on this page will not be included as part of any adopted rule.

Changes were made to this rule based on these comments.

1.5 Comments Regarding Specific Proposed Criteria

A. Mercury

Implementation Plan for Methylmercury

Some commenters questioned how DEQ will implement the proposed criterion for methyl mercury.

“Based on our review of your submission, EPA is assuming that the methylmercury criterion of 0.040 mg/kg will be implemented using the fish tissue residue concentration without a water column translation. As the proposed methylmercury criterion is expressed as a fish tissue concentration as opposed to a water column value, EPA has specific comments regarding the implementation of ODEQ's proposed methylmercury criterion. If ODEQ does not have such a plan at the time of submission, we recommend that your submittal contain information on how ODEQ plans to implement the criterion. EPA encourages ODEQ to develop an implementation plan for tissue based criterion for methylmercury. When ODEQ develops implementation guidance, EPA recommends that ODEQ take public comment on their draft plan for implementation of the methylmercury criterion. This is consistent with pages 21-22 of EPA's April 2010 Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion.” (0083 – U.S. Environmental Protection Agency, Region 10)

“The human health criterion for mercury has been replaced by a criterion for methyl mercury and it is expressed as mg/kg. This means that the criterion is a concentration of methyl mercury in the tissue of a fish specimen. Methyl mercury criterion expressed as a concentration in fish tissue is useful for determining if a water body is impaired, but how will it be used in establishing permit limits? Will the

limits be based upon total mercury or methyl mercury? If total mercury, how will an appropriate limit be derived?

I understand that EPA has a methodology for deriving an in-stream concentration or “reference ambient concentration” or RAC from essentially the same data used to derive the fish tissue criterion. This methodology is described in Chapter 2 of U.S. E.P.A.’s Technical Support Document For Water Quality-based Toxics Control, March 1991. We recommend that Table 40 include both a criterion in terms of mg/kg in fish tissue for listing purposes and one for in-stream concentration in terms of ug/l for use in the Department’s “Reasonable Potential Analysis” or RPA spreadsheet that is used to calculate effluent limits.

The methodology described above has a number of variables many of which would vary from stream to stream and from fish species to fish species. The criterion set forth in Table 40 could cite different fish species or could be based upon the more sensitive species. If a discharger is dissatisfied with the variables used to define the in-stream criterion, it could develop more site specific numbers if it so chose and provide them to the Department for consideration.” (0102 – Dick Nichols)

DEQ should clarify how the criteria for methylmercury will be converted into NPDES effluent limits. (0117—City of Klamath Falls)

DEQ Response: DEQ is proposing a fish tissue-based methylmercury criterion. This differs from the other proposed criteria, which are based on water column values, because the primary human route of methylmercury exposure is through contaminated fish and shellfish, and the rate at which methylmercury bioaccumulates is extremely variable among waterbodies. Several commenters noted that the methylmercury criterion should have implementation procedures identified due to the unique implementation issues it presents. DEQ briefly described in the *Human Health Criteria* issue paper accompanying the final proposed rule how the methylmercury criterion will be implemented into the various Clean Water Act programs relying on EPA’s *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* (April 2010). DEQ will further discuss implementing the methylmercury criterion into DEQ programs once EPA approves the criterion.

No changes were made to the proposed rules in response to these comments.

Concerns Regarding the Methodology Used to Develop the Mercury Limit

“Has the toxics data been reviewed to see how many conservative estimates will be used in producing the new toxics limits? My understanding of the mercury limit is the most sensitive population (pregnant and children) was used, a level of no effect was determined and a safety factor of 10 was added. Couple this with a fish consumption rate from the 95th percentile that is most likely adult males and the new standards would be overly protective. This is not to say protection is bad but the money spent to meet the higher level of protection might be better spent on more productive health initiatives.” (0115 –City of Pendleton)

DEQ Response: DEQ final rules contain a proposed fish tissue-based criterion for methylmercury based on current EPA methodology. DEQ describes its derivation of the criterion in the *Human Health Criteria* issue paper.

The commenter refers to the use of a “safety factor,” which DEQ interprets to mean the same thing as the “uncertainty factor” that EPA uses in its criteria development to account for uncertainty in extrapolating toxicological data between effects observed in animal species to potential effects in humans and to account for variation of toxicological responses among individuals within a species, as well as specific uncertainties associated with the completeness of the database. One or more areas of uncertainty may exist based on the toxicological data for any given pollutant.

DEQ also notes that the commenters concern regarding multiple conservative estimates appears to blend the statistical “cascading conservatism” one can find in risk/hazard assessments with the empirically-based uncertainty factors used to adjust for differences in toxicological test subjects and methods. For methylmercury,

a 5% (not a no effect) benchmark dose level based on human data is adjusted downward by a composite uncertainty factor of 10 to account for: (a) estimating an ingested mercury dose from an internal mercury concentration, (b) relative variability in how different humans may respond to methylmercury, and (c) the expectation that some percentage of the human population could show effects below the lowest methylmercury levels studied. This uncertainty factor is intended to protect against incompletely understood dangers to public health and the environment.

It is appropriate to base a methylmercury criterion on neurological effects to children and fetuses as studies have shown they are the most sensitive to methylmercury toxicity.

No changes to the methylmercury criterion were made based on these comments.

B. Pesticides

Some commenters requested that DEQ adopt toxic standards for current-use pesticides.

Some commenters requested that DEQ use its authority to ensure safe drinking water and poison-free fish by mandating that all forest herbicides are kept entirely out of our streams, drinking water, and bodies, not just the few chemicals in the current proposal. (0008 - Pitchfork Rebellion, 291 commenters; 0103 – no name given; 0171 – Day Owen; 0172 - Reggie DeSoto, oral testimony at Eugene hearing)

“My husband and I are rural landowners who depend on our well water and organic garden. We grow healthy trees that are pesticide free for our benefit and our neighbors. Please help us extend this protection.” (0008-C – Andrea Taylor and Tom Hahn)

“Currently, the rules are designating reduction goals for legacy pesticides, but not for the pesticides that are heavily used throughout the state. Ask the DEQ to include glyphosate, atrazine, 2,4-D, Triclopyr and other herbicides that are causing a toxic burden in the environment. These chemicals are used in forestry, farming and state highway weed control.” (0060 – Oregon Toxics Alliance form letter, 3 commenters). These comments were mirrored by others. (0009 – Matthew Riley; 0131 – Carla and Fred Hervert)

“Allowing endocrine disruptors in rivers will haunt taxpayers in higher health-care costs. Please urge people who use these products to phyto- or myco-remediate, keeping the elements out of the water. Their liability carriers will appreciate it, I am sure.” (0037 – Mary Sanders)

“Incorporate all common or current use pesticides, NOT just legacy pesticides into the proposed standards.” (0046 – Shawn Donnille)

“Pesticides have a half-life endurance that can last for hundreds of years. They all end up in the ocean and consequently in the seafood. The big fish that eat the smaller fish concentrate these toxins to the third and fourth power. Think about what you're doing the next time you're having grilled Halibut at your favorite restaurant.” (0114 – Wayne Miller)

“The DEQ should request that the new Governor do everything he can to shift authority over forest herbicides in Oregon waterways to the Department of Environmental Quality, including, if possible, the designation of DEQ as the lead agency overall all pesticides in Oregon because those pesticides impact the quality of our environment.” (0171 – Day Owen)

DEQ Response: A main objective of this rulemaking is to update the human health toxics criteria to be consistent with EPA’s human health methodology and nationally recommend criteria. DEQ is not undertaking the development of additional criteria for toxic pollutants, including forest herbicides and endocrine disruptors, as part of the scope of this rulemaking.

No changes were made to the proposed rules in response to these comments.

C. Hardness-dependent metal assessment

“And, for hardness-dependent metal assessment, all data gathering should include water hardness as CaCO₃ mg/l, ANC, DOC and DON (especially in any waters of hardness that dips below 30 mg/l as CaCO₃). These metal assessments should also be timed to gather data during buffering challenge events.”
(0107 – Ray Kinney)

DEQ Response: DEQ disagrees that water hardness should be collected for human health toxics criteria data. Human health toxics criteria for metals are not hardness dependent, unlike aquatic life criteria for metals which are dependent on water hardness.

No changes were made to the proposed rules in response to these comments.

Topic 2:

Intake Credits [OAR 340-045-0105]

This topic includes comments and responses addressing proposed rule 340-045-0105, which relates to the consideration of intake pollutants in determining reasonable potential and the consideration of intake pollutants in establishing water quality based effluent limits.

2.1 General Provisions [OAR 340-045-0105(1)]

One commenter suggested that the Department delete the following sentence because it could be read to prohibit an intake credit for any discharger that is subject to a TMDL, regardless whether the TMDL is for another pollutant or whether the intake credit is consistent with the TMDL. The commenter requested the following revision, noting that the revision would result in making the intake credit subject to an applicable TMDL wasteload allocation, which should be sufficient.

~~“These provisions apply only in the absence of a TMDL applicable to the discharge prepared by the State and approved by Environmental Protection Agency (EPA), or prepared by EPA pursuant to 40 CFR 130.7(d). These provisions do not alter the permitting authority's obligation under 40 CFR 122.44(d)(vii)(B) to develop effluent limitations consistent with the assumptions and requirements of any available waste load allocations for the discharge, which is part of a TMDL prepared by the department and approved by EPA pursuant to 40 CFR 130.7, or prepared by EPA pursuant to 40 CFR 130.7(d).”~~
(0079 - Oregon Water Quality Standards Group)

“Section (1) of the intake credit rule should be revised to clarify that an intake credit is available for pollutants in a permittee's intake, even if a TMDL has been issued to control pollutants in a permittee's discharge. There are several instances in the State where TMDLs have been issued, but where such TMDLs do not address all constituents in a permittee's discharge.” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees with the commenters' concern regarding the interpretation of the proposed rule language and has removed the sentence as suggested.

Changes to the intake credit rule were made in response to these comments.

A. Clarification of ‘same body of water’ determination [OAR 340-045-0105(1)(b) and (d)]

“The proposed rule revisions provide for intake credits in establishing water quality based effluent limits. The proposed rule states: “An intake pollutant is considered to be from the “same body of water” as the discharge if the Department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.” However, the proposed rule language does not define “vicinity” or “reasonable period” in a specific way that allows the City of Ontario to be certain that these provisions would be beneficial. The City's drinking water supply intake is located approximately 3 miles upstream of the City's wastewater discharge. The City considers that their intake and discharge are in fact, from the same body of water and in the same vicinity.” (0034 – City of Ontario)

“The City requests clarification as to the meaning of the term “vicinity of the outfall point” as used in Sections (1)(b) and (d) of the intake credit rule. The City extracts groundwater from wells for water supply. In some cases, such groundwater wells are located at a point that is not physically upstream of the City's outfall. The City interprets the term “vicinity of the outfall point” to include groundwater withdrawals that enter a municipal system irrespective of where those withdrawals occur in relation to the

outfall point. Please clarify if the Department has a different interpretation.” (0117 - City of Klamath Falls)

DEQ Response: Some commenters requested clarification of the terms “same body of water” and “vicinity of the outfall” and provided examples of situations. In general, DEQ considers an intake upstream of the discharge to meet the definition of “same body of water” and expects that pollutants associated with an intake directly upstream of the discharge are likely to have reached the “vicinity of the outfall.”

Another commenter has posited that groundwater from wells used for water supply should meet the definition of “vicinity of the outfall point” regardless of its physical location. DEQ does not agree that this situation meets the proposed definition or intent of the rule.

With regards to groundwater meeting the proposed definition and intent of the rule, the aquifer from which the discharger takes the groundwater must naturally discharge into the same surface water upstream of the source’s effluent discharge. Therefore, prior to using this rule, the permittee will need to describe the aquifer’s physical conditions, including a demonstration of its hydrological connection to surface water and a description of the similarity of the water quality characteristics between the intake and receiving waters. This information will enable DEQ to make the finding as described in the final proposed rule that the groundwater is from the “same body of water.” Where groundwater sources of drinking water are not from the same body of water and pollutants present in the groundwater can’t feasibly be treated or removed, DEQ will work with the permittee to identify options for that the specific situation, including whether the conditions can be met for development of a site-specific background pollutant criterion or a variance. If the pollutant of concern also occurs at high levels naturally in the receiving waterbody, DEQ may pursue development of a site specific water quality standards that consider natural background levels of the pollutant, where appropriate.

DEQ expects it will need to evaluate specific situations individually in concluding whether they conform to the definitions included in the proposed rule. As such, the details describing DEQ’s analysis is best suited for inclusion in its IMD and through assessments of individual situations, rather than inclusion in the rule. DEQ will describe how it will make that determination in any specific case in its Reasonable Potential Analysis Internal Management Directive following adoption of final rules.

No changes were made to the proposed rules in response to these comments.

B. Clarification of “background concentration ... in the receiving water” [OAR 340-045-0105(1)(b)(A)]

“The City requests clarification as to the meaning of the term “background concentration of the pollutant in the receiving water” as used in Section (1)(b)(A). The City interprets this term as equivalent to the definition of “background pollutant concentration” under proposed rule OAR 340-041-0033(6)(a)(A). Please clarify if the Department has a different interpretation.” (0117 - City of Klamath Falls)

DEQ Response: While the intention and purpose of the term “background pollutant concentration” in the intake credit rule provisions (proposed OAR 340-045-0105(1)(b)(A)²) and the proposed background pollutant allowance (proposed OAR 340-041-0033(6)(a)(A)³), are referring to the concentration of the pollutant in the receiving stream (and intake water if shown to be hydrologically connected) absent the facility’s discharge, the use of term

² OAR 340-045-0105(1)(b)(A): The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water;

³ OAR 340-041-0033(6)(a)(A): “Background pollutant concentration” means the ambient water body concentration immediately upstream of the discharge, regardless of whether those pollutants are natural or result from upstream human activity

in implementing the two provisions differ. For the background pollutant allowance provision, the pollutant is limited to human health toxics that are carcinogens, while in the intake credit provision, it is not limited to a certain pollutant. The term “background pollutant” in the intake credit rule is used in the context of making the hydrological connection between the receiving waterbody and the intake water of a facility to establish that the intake and receiving water s are from the “same body of water.” Conversely, the definition in the background pollutant allowance is more descriptive in terms of describing the location (i.e. “immediately upstream of the discharge”) of the background pollutant concentration in the receiving stream, as well as the source of the background concentration (i.e. “natural or result from upstream human activity”).

No changes were made to the proposed rules based on this comment.

C. Clarification of “direct hydrological connection” [OAR 340-045-0105(1)(b)(B)]

“The City requests clarification as to the meaning of the term "direct hydrological connection" as used in Section (1)(b)(B). This provision states that "[a]n intake pollutant is considered to be from the 'same body of water' as the discharge if the department finds ... (B) There is a direct hydrological connection between the intake and discharge points." The City interprets the term "direct hydrological connection" to mean that there is a connection between the City's intake and its discharge point, regardless of where the City extracts groundwater if that groundwater is eventually directed to and discharged from its wastewater treatment facility. Please clarify if the Department has a different interpretation.” (0117—City of Klamath Falls)

DEQ Response: DEQ disagrees with the comment that the interpretation of the term "direct hydrological connection" means that there is a connection between the City's intake and its discharge point, regardless of where the City extracts groundwater if that groundwater is eventually directed to and discharged from its wastewater treatment facility. Only those groundwaters and associated pollutants that inevitably reach the point of discharge naturally can be counted for an intake credit. Intake waters and associated pollutants that do not meet the tests for using an intake credit will be evaluated according to all other applicable requirements.

No changes were made to the proposed rules based on this comment.

Site Specific Factors [OAR 340-045-0105(1)(b)(C)]

“Section (1)(b)(C) of the intake credits rule states that "[a]n intake pollutant is considered to be from the 'same body of water' as the discharge if the department finds ... (C) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and receiving waters." When a permittee's intake water is from groundwater, the intake water may differ physically (e.g., in characteristics of temperature, pH, or hardness) as compared to the conditions of the receiving waters. For example, water from a groundwater source may be colder than the receiving water. This provision should be revised as demonstrated below to afford greater flexibility in the determination of whether a permittee's intake is considered to be from the "same body of water.” (0117 – City of Klamath Falls)

Revision requested:

(a) “An intake pollutant is considered to be from the "same body of water" as the discharge if the department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This finding may be deemed established if:

- (A) The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water; and
- (B) There is a direct hydrological connection between the intake and discharge points; and or
- (C) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and

receiving waters.”

DEQ Response: DEQ disagrees with the commenter’s suggestion of adding “or” to (B) above. The conditions included in the proposed intake credit rule are all important elements in determining that a facility’s discharge of intake water does not have an effect on the receiving waterbody beyond current conditions. DEQ expects that to meet the requirement that the intake and receiving waters water quality characteristics be similar DEQ will compare the withdrawn groundwaters to the characteristics of the groundwater naturally exfiltrating into the receiving waterbody. The definition does not require an exact match of the water quality characteristics, but rather will necessitate that DEQ evaluate whether the characteristics are sufficiently different such that the discharge of the intake water will affect the receiving stream’s characteristics in any way. DEQ does not agree that the rule needs to be revised to include this clarification.

No changes were made to the proposed rules based on this comment.

D. Groundwater [OAR 340-045-0105 (1)(d)]

Two commenters suggested revisions to this subsection:

“OAR 340-045-0105(1)(d), exclusion of pollutants in groundwater that are “partially or entirely due to human activity.” The proposed intake credit rule would apply to pollutants in surface water that are attributable to human activity but, under proposed OAR 340-045-0105(1)(d), would not apply to pollutants in groundwater that are attributable to human activity. Although it is reasonable to exclude from the rule pollutants that are attributable to the discharger itself, whether the intake water source is surface or groundwater should not matter if the discharger is only discharging pollutants that would have reached the receiving water in any event if the discharger had not removed the pollutants through its intake water. OWQSG suggests revising proposed OAR 340-045-0105(1)(d) as follows:

(d) An intake pollutant from groundwater may be considered to be from the “same body of water” if the department determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee, except that such a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human past or present activity by the discharger, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.” (0079 - Oregon Water Quality Standards Group)

“Section (1)(d) of the intake credits rule contains an exception to the rule, which states that “a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.” In many instances, it would be cost-prohibitive or impractical to determine if a pollutant in a groundwater source is present either naturally or “partially” or “entirely” “due to human activity.” This provision should be revised to authorize the Department to use its best professional judgment to determine what proportion of the pollutants in a permittee’s intake are due to natural causes and to authorize an intake credit for the pollutants of natural origin.” (0117—City of Klamath Falls). The comment suggested the following revision:

“(d)An intake pollutant from groundwater may be considered to be from the “same body of water” if the department determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee, except that such a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes. If the groundwater contains a pollutant that is only partially due to human activity, then the department will use its best professional judgment to determine what proportion of the pollutant in a permittee’s intake is due

to natural causes and will authorize an intake credit for the estimated amount of a pollutant of natural origin.”

DEQ Response: DEQ evaluated to the suggested revisions by commenters regarding situations when groundwater may have pollutants present due to human activity. DEQ does not agree that pollutants present in groundwater due to human activity other than the permittee’s should be treated similarly to surface waters meeting the same condition. DEQ notes that the incorporation of groundwater in using intake credits is premised upon the fact that the pollutants will otherwise reach the vicinity of the outfall point in the receiving water. If only a fraction of the groundwater used by a discharger will reach the vicinity of the outfall, using a contaminated groundwater source becomes a more prominent issue than dischargers with 100 percent of their intake water from an upstream source, since the use of a contaminated groundwater source potentially introduces additional pollutants into the environment. For that reason, DEQ retained the language included in the proposed rule that states that a “...pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity...”

No changes were made to the proposed rules in response to these comments.

E. Determinations [OAR 340-045-0105(1)(e)]

(e) The determinations made under Sections (2) and (3), below, shall/will be made on a pollutant-by-pollutant and outfall-by-outfall basis. (0079 – Oregon Water Quality Standards Group; 0117—City of Klamath Falls)

DEQ Response: DEQ agrees with the omission noted by the commenter and added the word “shall” to the referenced sentence.

Changes to the intake credit rule were made in response to this comment.

F. Clarification regarding General Provisions

“The City requests clarification and confirmation that an intake credit is available for a pollutant, even if the users of a municipal collection system add the pollutant to a municipal wastestream. The City interprets the intake credits rule to authorize intake credits in such circumstances. In such instances, the permit writer can use their best professional judgment to estimate the amount of a pollutant in intake water that has not been added by the users of the collection system or the permittee and authorize an intake credit for that amount. Please clarify if the Department has a different view.” (0117—City of Klamath Falls)

DEQ Response: There are two components to the Intake Credit rule. The first is a Reasonable Potential (RP) procedure and the second is a Water Quality Based Effluent Limit (WQBEL) calculation procedure. The Reasonable Potential procedure addresses only pollutants DEQ determines originated from qualifying sources. If a facility’s effluent contains pollutants from other, non-qualifying sources, the Reasonable Potential procedure cannot be used. However, the WQBEL procedure does permit the addition of non-qualifying pollutants as long as a comparable mass of the pollutant is removed prior to discharge.

In the example cited, the intake credit for the RP procedure can’t be used where the pollutant is added to the municipal collection system unless the municipality can show that 100% of the pollutant was drawn from the same body of water and would have inevitably reached the receiving water body. The municipality could use the WQBEL procedure, although the resulting effluent limit will only reflect the credited amount of pollutant from the qualifying sources and any amount of additional mass must be removed prior to discharge.

No changes were made to the proposed rules based on this comment.

2.2 Consideration of Intake Pollutants in Determining Reasonable Potential [OAR 340-045-0105(2)]

A. Demonstrating “no reasonable potential” [OAR 340-045-0105(2)(a)]

“Satisfaction of the Department”

One commenter suggested the following revision to this subsection and OAR 340-045-0105(2)(a) and OAR 340-045-0105(3)(a):

“[Regarding] department discretion. Although the Department does not intend to give itself the authority to arbitrarily raise or lower each discharger’s burden of persuasion, language in these subsections suggests just that by using phrases such as “to the satisfaction of the Department” and “deemed necessary by the Department.” The rule sets forth the criteria that must be met to obtain an intake credit, and the discharger is ultimately responsible for ensuring that there is a sufficient factual basis for the Department to find that the criteria are met. There is no need to add to the rule these unnecessary phrases that wrongly imply that the Department will make any decision that it feels like making. OWQSG suggests that the phrases be deleted...

(a) The Department may determine that there is “no reasonable potential” for the discharge of an identified intake pollutant to cause or contribute to an excursion above a narrative or numeric water quality criterion contained in Oregon’s water quality standards where a discharger demonstrates ~~to the satisfaction of the Department~~ (based upon information provided in the permit application or other information ~~deemed necessary by the Department~~) that:” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ agrees with the edits suggested by the commenter and has revised the rule accordingly.

Changes to the intake credit rule were made in response to this comment.

Suggested Revisions to Clarify Use of Relevant Water Quality Criteria

“Section (2)(a) should be revised to reflect the fact that, when performing a reasonable potential analysis to determine whether a discharge could cause or contribute to an excursion above a narrative or numeric water quality criteria, a permit writer should use the relevant water quality criteria, which would include any basin or site-specific criteria.”(0117—City of Klamath Falls)

DEQ Response: The commenter accurately describes current DEQ requirements and policy to use relevant water quality criteria during permit development. DEQ takes this approach regardless of whether the provisions governing intake credits is used. Consequently, specific revisions to the intake credit rule are unnecessary.

No changes were made to the proposed rules in response to this comment.

100% of Intake Water from Same Waterbody [OAR 340-045-0105 (2)(a)(A)]

“Section (2)(a)(A) should be revised to address those instances where a facility cannot demonstrate that it withdrawals 100 percent of its intake water containing a pollutant from the "same body of water" into which it discharges its effluent. In such instances, the Department's permit writer should use his or her best professional judgment to delineate what percentage of the intake water is from the same body of water into which the discharge is made and only apply the reasonable potential analysis to the flow-weighted proportion of the intake that is NOT from the "same body of water." This revision is necessary to ensure a permittee is not penalized in the reasonable potential analysis simply because a portion of its intake water comes from groundwater sources that may be geologically isolated from the receiving water body.

“In light of these comments, the City recommends that Section (2) of the intake rule be revised as follows:

“(2) Consideration of Intake Pollutants in Determining Reasonable Potential:

(a) The Department may determine that there is "no reasonable potential" for the discharge of an identified intake pollutant to cause or contribute to an excursion above a narrative or numeric water quality criterion contained in Oregon's water quality standards or applicable basin or site-specific criteria where a discharger demonstrates to the satisfaction of the Department (based upon information provided in the permit application or other information deemed necessary by the Department) that:

(A) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made, or if a facility cannot make this demonstration, the Department will use its best professional judgment to delineate what percentage of the intake water is from the same body of water into which the discharge is made and only apply the reasonable potential analysis to the flow-weighted proportion of the intake that is not from the same body of water;” (0117—City of Klamath Falls)

DEQ Response: There are two components to the Intake Credit Rule. The first is a Reasonable Potential (RP) procedure and the second is a Water Quality Based Effluent Limit (WQBEL) calculation procedure. The Reasonable Potential procedure addresses only pollutants determined to originate from qualifying sources. Any addition of pollutants from other, non-qualifying sources, is not allowed and would disqualify the use of the Reasonable Potential procedure. However, the WQBEL procedure does permit the addition of non-qualifying pollutants as long as a comparable mass of the pollutant is removed prior to discharge.

In the example cited where a facility cannot reasonably demonstrate that it withdraws 100% of the intake water from the same body of water, the RP procedure can't be used. However, where the facility demonstrates that a portion of the pollutant is sourced from the “same body of water” the WQBEL procedure can be used. That demonstrated portion can be used to establish a credit used in the WQBEL calculation.

No changes were made to the proposed rules based on this comment.

OAR 340-045-0105(2)(a)(C)]

One commenter suggested revisions to *OAR 340-045-0105(2)(b)(C)*, regarding *reopener based on new information*:

“This paragraph requires a permit reopener authorizing modification or revocation and reissuance of the permit “if new information shows changes in the conditions in subsection (a)(A) through (E) of this section.” Changes in information, however, should only lead to modification or revocation of a permit if the criteria in (A) through (E) are no longer met. A change in circumstances that does not affect compliance with these criteria should not be a basis for modifying or revoking the permit. OWQSG suggests that the paragraph be revised to read as follows: “The permit contains a re-opener clause authorizing modification or revocation and re-issuance of the permit if new information shows the discharger no longer meets ~~changes in~~ the conditions in subsection (a) (A) through (E) of this section.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ agrees with the suggested changes.

Changes to the intake credit provision were made in response to this comment.

2.3 Consideration of Intake Pollutants in Establishing WQBELs [OAR 340-045-0105(3)]

One commenter suggested a formatting edit to the title of this subsection.

“(3) Consideration of Intake Pollutants in Establishing Water Quality-Based Effluent Limits (WQBELs):”
(0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ agrees with these revisions.

Changes to the intake credit rule were made in response to this comment.

A. Demonstration of conditions to be met [OAR 340-045-0105(3)(a)]

“Section (3)(a) should be revised to insert a "(3)" in lieu of "III." This revision will ensure readers know which provision of the intake credit rule is being referenced.” (0117—City of Klamath Falls and 0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ agrees with these revisions.

Changes to the intake credit rule were made in response to this comment.

Does not increase intake pollutant concentration [OAR 340-045-0105(3)(a)(D)]

“Section (3)(a)(D) and (3)(b) should be revised to address instances where a facility does increase the identified intake pollutant concentration at the point of discharge. In such instances, an increase in concentration of the intake pollutant should be allowed if the Department makes a finding that the increased concentration does not cause or contribute to an increase of over 3 % in the background concentration of the receiving water body after completely mixing with 100 % of the receiving water body as calculated using the most recent 10 year harmonic mean flow of the receiving water body.” (0117—City of Klamath Falls). The commenter suggested the following revisions:

“(D)The facility does not increase the identified intake pollutant concentration, as defined by the Department, at the point of discharge as compared to the pollutant concentration in the intake water, however, an increase in concentration is allowed if the Department makes a finding that the increased concentration does not cause or contribute to an increase of over 3 % in the background pollutant concentration in the receiving water body after completely mixing with 100% of the receiving water body as calculated using the most recent 10 year harmonic mean flow of the receiving water body;”

The commenter also suggested companion revisions to subpart (b):

(b) Where the conditions in subsection (a) of this section are met, the Department may establish a water quality-based effluent limitation allowing the facility to discharge a mass and concentration of the intake pollutant that are no greater than the mass and concentration found in the facility's intake water. However, a discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water. A discharger may also increase the concentration of a pollutant in its intake water if the Department makes a finding that the increased concentration does not cause or contribute to an increase of over 3 % in the background pollutant concentration of the receiving water body after completely mixing with 100% of the receiving water body as calculated using the most recent 10 year harmonic mean flow of the receiving water body.

DEQ Response: The commenter suggests expanding the scope of intake credits to include situations where the permittee's discharge exceeds the intake pollutant concentration. DEQ considered such an option as part of the rule development and did not pursue such an option based on EPA input that such an expansion would not conform to applicable federal requirements. DEQ developed an additional implementation tool, site-specific

background pollutant criteria (as termed in the final rule) to address the situation described by the commenter.

No changes were made to the proposed rules based on these comments.

B. Limitations that reflect lower mass [OAR 340-045-0105(3)(c)]

“Section (3)(c) should be revised to provide permittee's additional "intake credits" if the permittee's wastewater collection system intercepts, treats, and reduces the level of naturally-occurring pollutants such as arsenic in groundwaters that would otherwise enter a water body at higher levels.” (0117—City of Klamath Falls). The commenter made the following suggested revisions:

“(c) Where proper operation and maintenance of a facility's treatment system results in the removal of an intake water pollutant, the Department may establish limitations that reflect the lower mass and concentration of the pollutant achieved by such treatment; however, these limitations will also provide an intake credit to account for a pollutant that is intercepted by a permittee's collection system and treated by the permittee where such pollutant would otherwise enter a water body at a higher level.”

DEQ Response: The commenter suggested expanding the provision to extend additional credits where the permittee's wastewater collection system intercepts, treats, and reduces the level of naturally-occurring pollutants. The key issue intended to be addressed by this provision is to acknowledge pollutants that pass through a permittee's facility. DEQ concludes that revisions to give further credit to facilities that remove intake pollutants are not necessary to achieve this objective.

No changes were made to the proposed rule based on this comment.

C. Intake from multiple sources [OAR 340-045-0105(3)(e)]

“The City requests clarification as to the meaning or intent of Section (3)(e) of the intake credits rule. That provision states "[w]here a facility discharges intake pollutants from multiple sources that originate from the receiving water body and from other water bodies, the Department may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit." Please clarify the circumstances under which this provision would be used. Please also clarify whether this provision can be used to address instances where a permittee draws groundwater into its intake from multiple groundwater sources and where some of those sources may not be hydrologically connected to the receiving water body.” (0117—City of Klamath Falls)

DEQ Response: DEQ expects that the cited provision will typically be used where a permittee with multiple water and pollutant inputs (i.e. I&I and groundwater withdrawals) requests an intake credit as part of the WQBEL calculation procedure. This situation may require that the permittee conduct a geotechnical study identifying which inputs are from the “same body of water” and quantifying the portion of the mass load that would have inevitably reached the vicinity of the outfall. DEQ will evaluate any such studies and detail its findings in the calculation of the WQBEL.

Any groundwater sources that are not from the “same body of water” (i.e. hydrologically connected) will not be considered in the calculation of the WQBEL.

No changes were made to the proposed rules based on this comment.

D. Information considered [OAR 340-045-0105(3)(h)]

“The City requests clarification as to the meaning or intent of Section (3)(h) of the intake credits rule. This provision states: “(h) When determining whether WQBELs are necessary, information from chemical-specific, whole effluent toxicity and biological assessments shall be considered independently.” It is unclear from the provision whether a WQBEL could be deemed necessary based on any one of these forms of information, or whether all forms of information must be considered. Please clarify the meaning or intent of this provision.” (0117—City of Klamath Falls)

DEQ Response: DEQ must consider the assessments referenced in section (3)(h) as part of the normal permit development process. The purpose behind the referenced statement is to ensure that department continues this practice even when an intake credit is applied.

No changes were made to the proposed rules based on this comment.

E. Permit limits [OAR 340-045-0105(3)(i)]

“The intake credit rule should be revised to clarify that an intake credit lasts for the duration of the permit. Further, if the permit is administratively extended, the intake credit will continue to be in effect during the period of the administrative extension.” (0117—City of Klamath Falls). The commenter made the following suggested revision:

“Once an intake credit is issued and incorporated into a permit, the intake credit lasts for the duration of the permit. If the permit is administratively extended, the intake credit will continue to be in effect during the period of the administrative extension.”

DEQ Response: DEQ will consider whether the permittee’s discharge meets the conditions described in the final proposed rule during the normal permit development process. Where the discharge meets the specified conditions, DEQ will incorporate the intake credit into the reasonable potential analysis and development of water quality-based effluent limits, as appropriate. As a result, the final permit with its associated limits and requirements will incorporate any relevant findings and will continue throughout the duration of the permit. Therefore, DEQ concludes that it is not necessary to separately state in the rule that the intake credit lasts for the duration of the permit.

No changes were made to the proposed rules based on this comment.

2.4 Comments Regarding Implementation [OAR 340-045-0105(4)]

A. Intake credits will not work for municipalities.

Several commenters noted that intake credits will not be available to municipalities. (0081 - Oregon Association of Clean Water Agencies, et al.; 0113 – City of Portland; 0137 – Clean Water Services)

DEQ Response: The intake credit provision proposed under the permitting regulations are, in large part, modeled after the intake credit allowance adopted under the Great Lakes Initiative in 1995. As such, the proposed provision is fairly narrowly defined in order to meet both water quality standards and permitting regulations under the Clean Water Act. Although the proposed language does not specifically preclude the availability of intake credits for municipal discharges, DEQ acknowledges that the requirement for the intake water to be hydrologically connected to the receiving stream could be difficult for many municipalities to meet given different source water intake needs. However, municipalities which receive water from multiple sources may still use an intake credit for those sources demonstrated to be hydrologically connected to the receiving stream. In these circumstances, DEQ may derive an effluent limit reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit.

No changes were made to the proposed rules in response to these comments.

2.5 General Comments Regarding Intake Credits

A. Support for Intake Credits

A few commenters voiced general support for Intake Credits as an implementation tool.

“OWQSG supports the proposed intake credit rule, which is to be codified at OAR 340-045-0105. One of OWQSG’s chief concerns regarding the stringency of the proposed human health criteria is that natural and legacy pollutants could cause exceedances of many of the criteria. In general, when a waterbody exceeds a water quality criterion, discharges to the waterbody must meet water quality criteria at the point of discharge, even if it is not feasible to do so, and even if the source of the pollutants is not the discharger but the discharger’s intake water. The proposed intake credit rule would provide some relief for this problem by allowing a facility to discharge a pollutant obtained through its intake water at up to the same concentration as the intake concentration, notwithstanding that the intake concentration may exceed the applicable water quality criterion.” (0079 – Oregon Water Quality Standards Group)

“The City supports the Department's proposed creation of an "intake credits" rule to be promulgated at OAR 340-045-0105” (0117—City of Klamath Falls)

“In addition to the proposed criteria revisions based on the fish consumption rate of 175 g/day, the Tribe supports DEQ’s proposed compliance options for point-source dischargers, which include intake credits, background pollutant allowance, and other variances.” (0126 – Confederated Tribes of the Grand Ronde Community of Oregon)

DEQ Response: DEQ appreciates the commenters’ support for inclusion of rules addressing intake credits.

No changes were made to the proposed rules in response to these comments.

B. Need clarification regarding applicability of intake credits to new dischargers

One commenter requested additional clarification regarding Intake Credits.

“Since EPA approved the [Great Lakes Initiative], the Ninth Circuit Court of Appeals issued its landmark *Friends of Pinto Creek v. U.S. EPA*, 504 F.3d 1007, 1012 (9th Cir. 2007). As clarified and explained by the Ninth Circuit, 40 C.F.R. § 122.4(i) “is very clear that no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards [that resulted in the inclusion of the receiving waters on the 303(d) list],” unless both requirements of § 122.44(i)(1) and (2) are satisfied. *Friends of Pinto Creek v. U.S. EPA*, 504 F.3d 1007, 1012 (9th Cir. 2007).

When a new discharge would add a pollutant of concern to a 303(d) listed waterbody, it is proper to presume that the addition would contribute to the violation of water quality standards. As the Washington Pollution Control Hearings Board has held in an appeal of a previous version of Washington’s Construction Stormwater General Permit, in the context of 40 C.F.R. § 122.4:

The § 303(d) listing process, by definition, identifies bodies of water that currently fail to meet applicable water quality standards for specified pollutants. It follows that allowing new or additional discharges of an identified pollutant to an impaired water body would necessarily cause or contribute to the existing violation of water quality standards. Such an action is contrary to state and federal law and would cause harm to the receiving water that is not easily repaired.

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Question: How does the draft intake credit rule protect impaired waters and square with Pinto Creek? Please explain.” (0071 – Columbia Riverkeeper, et al.)

DEQ Response: The commenter requests clarification regarding the applicability of the intake credit rules to new dischargers. DEQ notes that the proposed intake credit rule establishes a procedure that describes the circumstances under DEQ may conclude that the return of unaltered intake water pollutants to the same body of water does not cause, have the reasonable potential to cause, or contribute to an excursion above water quality standards. In those circumstances, WQBELs for that pollutant are not needed. Because the pollutant mass and concentration in the discharge water does not exceed the pollutant’s mass and concentration of the receiving waterbody there is no contribution to an exceedance of water quality standards. For the same reason, the intake credit rule can be used for new dischargers if the same conditions are met.

No changes were made to the proposed rules in response to this comment.

Allowing Discharger to Add Mass of the Pollutant

One commenter requested additional information regarding a specific provision in the proposed intake credit rule language:

“Question: What is the rationale behind OAR 340-045-0105(3)(b), which allows discharger to add mass of the pollutant if it removes the pollutant from its intake water? Please explain.” (0071 – Columbia Riverkeeper, et al.)

DEQ Response: The purpose of the “no net addition” provision is to allow incidental additions of a pollutant from a process or storm water as long as it is subsequently removed. This results in the same endpoint regardless of whether mass is added and subsequently removed. This provision has its basis in the original Great Lakes Initiative Rule.

No changes were made to the proposed rules in response to this comment.

Topic 3: Toxic Substances/Site-specific Background Pollutant Criteria [OAR 340-041-0033]

This topic contains comments and responses regarding proposed revisions to OAR 340-041-0033, which includes revisions to the Toxics Substances section to reflect revisions to Tables 20, 33A, and the new Table 40, and the new proposed section addressing site-specific background pollutant criteria.

3.1 Human Health Criteria [OAR 340-041-0033(4)]

Two commenters suggested that rule language reference implementation tools proposed for the larger rulemaking package.

“The proposed amendments to the toxics substances rule (OAR 340-041-0033) should be revised to reference the NPDES implementation policies that are also proposed for adoption in this rule-making.”
(0079 – Oregon Water Quality Standards Group; 0117—City of Klamath Falls)

One commenter suggested the following language to reflect the compliance tools incorporated in OAR Division 41 proposed revisions:

“(4) Human Health Criteria
(a) Levels of toxic substances in waters of the state may not exceed the applicable human health criteria listed in Table 40, except as provided by applicable sections of OAR 340, Division 41.”
(0081 - Oregon Association of Clean Water Agencies, et al.)

DEQ Response: DEQ does not agree this revision is needed. As described in response to comments in Topic 1, DEQ revised section (4) in the toxics substance rule in response to a public comment regarding exceedance of human health toxics criteria. Further, several of the proposed implementation tools are available for criteria in addition to the human health criteria. In some instances, the implementation tools describe how the DEQ will evaluate reasonable potential to exceed water quality standards and develop subsequent permit limits (i.e., intake credits) and other permitting tools do not allow an exceedance but rather, establish alternative water quality standards and permitting requirements (e.g., variances). In such cases, it would be both inaccurate and unnecessary to add such a provision.

No changes were made to the proposed rules in response to these comments.

3.2 Background Pollutant Allowance [OAR 340-041-0033(6)]

“Additional clarifications in the rule language should include a statement in the introductory provision of section (6) that states the 3% increase will not exceed the 10-4 risk level for carcinogenic human health criteria.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees with the commenter and revised the final site-specific background pollutant criteria provision to clarify this.

Changes were made to the proposed rules in response to these comments.

A. “Same water body” or “hydrologically connected” [OAR 340-041-0033(6)(a)(C)]**Should Apply to All Sources of Intake Water**

Proposed -0033(6)(a)(C) and -0033(6)(b)(A) both included references to the “same water body,” therefore, comments addressing this term in both subsections are addressed here.

Several commenters stated that background pollutant allowance should apply to all sources of intake water.

“The rule needs to eliminate the “same water body” requirement for municipalities so that they only need to meet the maximum 3% increase to the discharge water. Note that even this will be difficult and expensive for municipalities to calculate.

Municipalities have intake water from a variety of sources. Even intake water drawn from groundwater wells located near surface water bodies likely will not be able meet the requirement for being “*hydraulically connected*” to the discharge water body.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by another commenter. (0137 – Clean Water Services)

One commenter suggested removing all of subsection (6)(a)(C):

“The proposed rule would limit the background pollutant allowance to facilities that withdraw their intake water from the same waterbody to which the facility discharges. OWQSG believes that this limit on the scope of the rule is unnecessary, and it suggests that the Department expand the proposed rule to all intake water. Although this would allow pollutant load increases to the receiving waterbody if the intake water is from groundwater or another surface water that is not upstream of the discharge point, human health is affected by the concentration of the pollutant in the receiving waterbody, not the mass load. Indeed, an increase in mass load could actually be accompanied by a decrease in the receiving water concentration if the discharge concentration is below the background concentration. Particularly given the narrow scope of the rule, categorically excluding facilities that obtain their intake water from other waterbodies would be unreasonable.” (0079 – Oregon Water Quality Standards Group)

The same commenter suggested the following revision to Subsection (6)(b)(A):

“(A) The mass of the pollutant in the discharge does not exceed the mass of the pollutant in the facility's intake water ~~taken from the same water body that receives the discharge and, therefore, does not increase the mass load of the pollutant in the receiving water body.~~” (0079 – Oregon Water Quality Standards Group)

Another commenter suggested similar revisions to Subsection (6)(b)(A)

“Section (6)(b)(A) of the background rule states that, as a condition for a background pollutant allowance, the “mass of the pollutant in the discharge does not exceed the mass of the pollutant in the facility's intake water taken from the same water body that receives the discharge and, therefore, does not increase the mass load of the pollutant in the receiving water body.” This provision should be amended to delete the “same water body” requirement and the requirement that the discharge “does not increase the mass load of the pollutant in the receiving water body.”” (0117—City of Klamath Falls)

“If a permittee's discharge does not result in an increase of over 3% in the background pollutant concentration of a water body, it should not matter, from a human health perspective, whether or not the permittee's intake water is from the “same water body” into which the permittee discharges. Further, there may be instances where a permittee's intake water is not from the “same water body,” but where the intake

water has a lower concentration of a pollutant than the background concentration of the pollutant in the water body into which the facility discharges. In such instances, the permittee could add a pollutant load to the receiving water (in terms of mass), but, because the discharge has a lower concentration than the receiving water body, it would result in a lower concentration of the pollutant in the receiving water body.” (0117—City of Klamath Falls)

“The Department should revise the background rule to eliminate the requirement that there must be a hydro logical connection between a permittee's intake water and the receiving water body before a permittee is entitled to a background pollutant allowance. The City's intake water originates from groundwater; however, it would be extremely difficult and costly to determine the extent to which all of this groundwater is hydrologically connected to the receiving water body. It is also unclear why the Department has restricted the availability of the background pollutant allowance to instances where groundwaters are hydrologically connected to the receiving water body. Accordingly, the background rule should be revised to eliminate the requirement of a hydro logical connection between a permittee's intake water and the receiving water body.” (0117—City of Klamath Falls). This commenter suggested the following revision:

“(C) The source of the mass of pollutant in the facility's intake water can be from: (i) water deliberately drawn into or introduced into a facility's water supply or distribution system, or (ii) water that inadvertently infiltrates into a facility's water collection system. intake water is from the "same water body" if it is taken into the facility from the receiving water body or a hydrologically connected water such that the intake pollutant would have reached the vicinity of the outfall in the receiving water within a reasonable period had it not been removed by the permittee. This definition is intended to be the same as and is further explained in the "intake credits" rule in OAR 340-045

(b) Conditions for a background pollutant allowance:

(A) For dischargers whose intake water is from the same water body into which it discharges, the mass of the pollutant in the discharge does not exceed the mass of the pollutant in the facility's intake water or the mass of the pollutant added through inadvertent infiltration into the facility's water collection system.

For discharges whose intake is not from the same water body into which it discharges, the mass of the pollutant shall not exceed that which would cause more than a 3% increase above the background concentration of the receiving water body, taken from the same water body that receives the discharge and, therefore, does not increase the mass load of the pollutant in the receiving water body.”

DEQ Response: DEQ disagrees with some commenters’ suggestion to remove the requirement that the intake pollutant be from the same body of water. DEQ concludes that the use of a site-specific background pollutant criterion is appropriate where the discharge has an insignificant effect on the receiving waterbody. A fundamental basis for reaching this conclusion is that the discharger will not increase the pollutant load to the waterbody and that the pollutant would have reached the vicinity of the outfall point had it not been intercepted by the discharger.

No changes were made to the proposed rules in response to these comments.

3.3 Conditions for a Background Pollutant Allowance [OAR 340-041-0033 (6)(b)]

A. Discharge pollutant mass does not exceed intake mass [OAR 340-041-0033(6)(b)(A)]

One commenter stated that there should not be a limit on discharge mass as long as concentration is within bounds:

“...human health is affected by the concentration of the pollutant in the receiving waterbody, not the mass load. Indeed, an increase in mass load could actually be accompanied by a decrease in the receiving water concentration if the discharge concentration is below the background concentration.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ disagrees that it should not limit mass as long as the concentration is within bounds. As described in the preceding response, DEQ concludes that the use of a site-specific background pollutant criterion is permissible in instances where the discharge has an insignificant effect on the receiving waterbody. A fundamental basis for reaching this conclusion is that the discharger is not increasing the pollutant load to the waterbody. Further removing the prohibition on addition of mass would conflict with the water quality objectives for the waterbodies DEQ expects to be eligible for a site-specific background pollutant criterion. DEQ expects it will be used in situations where the waterbody exceeds applicable water quality criteria and is either listed as impaired or is expected to be listed based on the available data. In this situation, the Clean Water Act requires DEQ to develop a total maximum daily load (TMDL) and for sources to reduce pollutant loading to the waterbody in order to attain the criteria. Because the objective of the TMDL is to reduce the pollutant load in the waterbody, additional mass discharges of the impairment pollutant are not allowed until the TMDL is complete and demonstrates that assimilative capacity for an additional load is available and that the additional load of pollutant will not reduce the likelihood of attaining standards in the waterbody.

No changes were made to the proposed rules in response to this comment.

B. Calculating 3% increase in pollutant [OAR 340-041-0033(6)(b)(B)]

“... there are hurdles to calculating the Background Pollutant Allowance and Intake Credits that would be extremely difficult for municipalities to meet, particularly calculation of the harmonic mean stream flow in some smaller streams.

More flexibility should be provided in the harmonic mean calculation – a range of acceptable harmonic means should be allowed, rather than limiting it to either 100% or 25%. Case-by-base analysis of the harmonic mean should be allowed.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by another commenter. (0137 – Clean Water Services)

DEQ Response: DEQ acknowledges the commenters concern regarding the availability of data, particularly for small streams, that may constrain the ability to calculate a harmonic mean stream flow. DEQ’s current guidance states that permit writers may use alternative, commonly accepted hydrologic and statistical approaches for instances where available flow data is limited. DEQ revised provisions addressing the use of harmonic mean flow value to be consistent with this guidance and practice.

The proposed rule language has been clarified by the addition of the term “mainstem” to better describe the segments of the Willamette and Columbia rivers where calculations are based upon 25% of the harmonic mean flow. For all other waters, DEQ revised the rule language to acknowledge that DEQ will use the “harmonic mean flow or similar critical flow value” to reflect current state and federal practice and acknowledge that sufficient flow data will not always be available to calculate the harmonic mean flow.

Changes were made to the background pollutant provision based on these comments.

Further Definition to Calculation of Harmonic Mean

“Section (6)(b)(B) of the background rule concerns how the background pollutant concentration is calculated. The rule should clarify the relevant period of time to calculate the harmonic mean. The City suggests that the harmonic mean be calculated based on the past ten years of flow data.” (0117—City of Klamath Falls)

DEQ Response: DEQ disagrees that the rule should include the relevant time period for calculation of the harmonic mean flow. This flow statistic is used throughout the permit development process in addition to the use of this flow statistic in the proposed provision. Including this level specificity in the site-specific background pollutant criteria is unnecessary and not appropriate to address within this rule. Further, as noted in the preceding response, permit writers may currently adjust the relevant time frame or use other accepted hydrologic and statistical approaches depending upon site specific issues such as data availability or local hydrology.

No changes were made to the proposed rules based on this comment.

Fluctuating Background Levels

“As written, the background rule seems to only contemplate the availability of background pollutant allowances where a permittee's discharge will increase by 3% or less the background pollutant concentration of a water body. The rule should be expanded to ensure background pollutant allowances are also available, if necessary, for a permittee that discharges pollutants at a level higher than the State's generic water quality criteria, but lower than the background levels of the receiving water. For example, the State's generic criteria for arsenic may be set at 2.1 ug/l, but the average background level of arsenic at the mouth of Link River (immediately upstream of the City) is 6.45 ug/l. *See* City's February 22, 2011 public comment letter on arsenic criteria at 4. If a permittee discharged arsenic at a level that was lower than 6.45 ug/l, then the resulting concentration in the river below the discharge would be less than the background. In this case, the protection of human health would be increased. The background rule should be revised to reflect and encourage such discharges into a receiving water body.

On a related note, background levels of pollutants in a permittee's intake and in a receiving water body will fluctuate. There may be times when levels of background pollutants in intake are lower than the levels in the receiving water and other times when these levels are higher than levels in the receiving water. Given these circumstances, it is plausible that a permittee may, at some point, need to rely on a background pollutant allowance to address fluctuating amounts of background pollutants in its system. Therefore, the background rule should be expanded to reflect these circumstances.” (0117—City of Klamath Falls)

DEQ Response: If DEQ understands the commenter's example using arsenic, an intake credit could be used in this case, rather than proposing additional language in the background pollutant allowance to account for the situation where a permittee's effluent is of better quality than the background upstream water quality. As long as the discharge concentration and mass do not exceed the intake's concentration and mass and the intake water source is hydrologically connected to the receiving water as described by the proposed rule, an intake credit could be employed.

In response to the second question that requests DEQ to expand the rule to account for fluctuations of a pollutant that may occur in intake water, DEQ acknowledges that background concentrations of pollutants, flow, and other waterbody characteristics fluctuate on a seasonal, yearly, or long term basis. Therefore, DEQ accounts for these fluctuations as part of the statistical analyses that are used in a Reasonable Potential Analysis. Likewise, the implementation guidance for determining and calculating the site-specific background pollutant criterion as described in the final proposed rule will also account for fluctuations in waterbody conditions. DEQ does not agree that this level of detail should be included in the rule provision.

No changes were made to the proposed rules in response to these comments.

C. Human health risk level [OAR 340-041-0033(6)(b)(C)]

A 1×10^{-4} risk level is not protective.

A few commenters questioned whether a 1×10^{-4} risk level is still protective of designated use.

“Riverkeeper and the Sierra Club find DEQ’s rationale for why the background concentration rule does not present an increased human health risk deeply troubling. . . Under DEQ’s rationale, many toxic discharges could qualify as *de minimis* and not warrant Clean Water Act regulation. Moreover, DEQ’s rationale views discharges authorized under the Background Concentration in a vacuum. For example, DEQ fails to account for toxic discharges from other point and nonpoint sources, and the cumulative impact of authorizing increased toxic pollutant concentrations.” (0071 – Columbia Riverkeeper, et al.)

“The proposed rule is based on a false premise, namely that an increase of risk by two orders of magnitude “does not result in a significant change in human health protection.” It is difficult to imagine what level of change in protection the DEQ believes is significant if it isn’t a risk level that goes from one in a million chances of cancer to one in ten thousand. This rationalization appears to be founded more on the maximum level of cancer risk that EPA allows a state to adopt rather than any actual analysis of significance.” The commenter provided several examples supporting a claim that DEQ’s evaluation of the risk to human health posed by the provision is inadequate. (0078 – Northwest Environmental Advocates)

“If Oregon is to apply the performance-based approach, ODEQ must first develop a process in its water quality standards regulation to ensure that designated uses are protected when lowering the protection from a 10^{-6} risk level, potentially all the way to a 10^{-4} risk level, in the waterbody. *EPA’s 2000 Human Health Methodology* says that states should “... ensure that the risk to more highly exposed subgroups (sport fishers or subsistence fishers) does not exceed the 10^{-4} level.” Without a process or analytical methodology adopted in regulation and submitted to EPA, the protection of designated uses cannot be ensured, even if a risk level up to 10^{-4} is consistent with EPA guidance for sensitive subpopulations.” (0083—U.S. Environmental Protection Agency)

One commenter added that the proposed provision provides less protection when current quantitation limits are factored in.

“...the lack of adequate monitoring technology already provides a large cushion between NPDES sources and meeting water quality standards. For the half of the new criteria where the quantitation limits are higher than the criteria, waters that are not listed as impaired may very well be impaired by levels of pollution that defy detection. In all of those instances, NPDES permittees can discharge pollutants with virtual impunity without even obtaining coverage under this background concentration provision.” (0078 – Northwest Environmental Advocates)

“DEQ has not established that the geographic extent of the proposed rule will be as limited as it states. It simply has not established any indication of the geographic extent of the rule and its relationship with the use of fish consumption. And the rule has no limitations on the degree to which waters of the state can go from one risk level to another. Finally, DEQ has not acknowledged that the increased risk it considers insignificant does not include the yet higher risk associated with the discharges prior to their being fully mixed with the receiving waters.

“Again, the geographic extent of these yet higher risk waters has not and will not be revealed, even after the rule is applied, but they are an integral part of the proposed rule.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ significantly revised this provision to affirm that the provision results in a site-specific criterion and to clearly establish requirements specifying that the resultant site-specific criterion will be the most protective of the following results: the current ambient pollutant concentration after discharge; the background concentration plus three percent; or the criteria value calculated at a 1×10^{-4} risk level. This value will be further constrained if needed to ensure that the discharger does not increase the mass of the pollutant in the receiving water. As a result of taking the most stringent requirement of all of these values, DEQ concludes that, at most, the discharge will result in a three percent increase in the waterbody’s pollutant concentration. In addition, DEQ will calculate effluent limits based on this site-specific criterion based on the appropriate dilution flow, which will be

less than the full stream flow. In the scenarios DEQ evaluated in developing the revised provision, this approach will further limit the resultant ambient pollutant concentration to levels less than the calculated site specific criterion. As a result, given all of the conditions that must be met to use the provision, in addition to the constraints embodied in the calculation of the site-specific criterion and subsequent effluent limits, DEQ expects the resultant increase in concentration to be much less than three percent.

DEQ also points out that in no case will implementing this provision result in an actual increase of the instream pollutant concentration associated with a 1×10^{-6} risk level to a concentration associated with a 1×10^{-4} risk level. Such an increase in concentration far exceeds the maximum three percent increase in the ambient concentration and is inconsistent with the rule's requirements.

One commenter asked about the geographic extent of the proposed background pollutant allowance. There are two geographic considerations included in the final proposed rule. First, the final proposed rule requires that the background pollutants be from the "same body of water" as defined in the rule. This requirement results in only those pollutants that would have inevitably reached the point of discharge to be considered in the site-specific criteria development. The second is the zone of mixing, where DEQ has extensive published guidelines (Regulated Mixing Zones IMD) that governs the siting and sizing of these zones.

Once the criterion has been developed and a mixing zone identified, DEQ will calculate the in-stream pollutant concentration following mixing of the discharge into the receiving water. Mixing will be determined based on current dilution or dilution values calculated through DEQ's Reasonable Potential Analysis IMD guidance or the flows specified for specific calculations as described in the rule.

No changes were made to the proposed rules in response to these comments.

Would Sanction Mixing Zones in Impaired Waters

A commenter interpreted the proposed rule language to mean that the 3 percent increase is calculated after the discharge has been "fully mixed" by the respective flows.

"This means that in the unknown length of a waterbody before the discharge is diluted or mixed, the concentration will actually be higher than the 3 percent increase over the risk level of 10^{-4} . It is impossible for the public to know now how much higher that risk will be or for what length of the receiving stream it will apply under the proposed rule. In other words, this provision would authorize a mixing zone that no state mixing zone general policy could endorse...Standing EPA's policies on their head, the Department's proposed rule seeks to sanction plumes of highly concentrated toxic chemicals – i.e., mixing zones – where there is no remaining assimilative capacity whatsoever." (0078 – Northwest Environmental Advocates)

The commenter also noted that the proposed rule is also inconsistent with Oregon's mixing zone rules.

"In short, Oregon's existing mixing zone rules provide a far greater assurance of information, analysis, environmental protection, and public disclosure than the proposed rule which does not even require that DEQ establish the location of the plume allowed by the rule." (0078 – Northwest Environmental Advocates)

DEQ Response: With regard to the commenter's concern that the proposed revision will sanction mixing zones in impaired waters, DEQ thinks the appropriate point of analysis is whether the resultant discharger requirements will further impair the waterbody for the pollutant in question. DEQ concludes that the rule, in its final proposed form, will not. The background pollutant allowance establishes a site-specific criterion in specific circumstances. As stated in the rule, DEQ may establish a site-specific background pollutant criterion in conjunction with the development of an individual discharger's NPDES permit. The resultant site-specific criterion will be the most protective of the following results: the current ambient pollutant concentration after discharge; the background

concentration plus three percent; or the criteria value calculated at a 1×10^{-4} risk level. This value will be further constrained if needed to ensure that the discharger does not increase the mass of the pollutant in the receiving water. In addition, DEQ will calculate effluent limits based on this site-specific criterion based on the appropriate dilution flow, which will be less than the full stream flow. These limitations will result in spatially limited minor increases in ambient concentration and no increase in the total load of the pollutant in the waterbody. If the waterbody is listed as impaired under Clean Water Act section 303(d), the limitations and the prohibition on loading contained in the final proposed rule will ensure the discharge does not contribute to further impairment in the interim until DEQ develops a total maximum daily load for the waterbody.

In addition, DEQ revised the provision to clarify that the site specific criterion will be used for the sole purpose of establishing limits for an individual discharger and will apply within the immediate vicinity of the discharge. All other relevant water quality standards remain applicable for the individual discharger, and all of the water quality standards, including the original criterion, will be used for implementing Clean Water Act programs, such as developing permits for other dischargers, assessing waters for impairment under CWA section 303(d) and preparing total maximum daily loads. Based on this approach and associated limitations, DEQ concludes that the resultant site-specific criteria value and approach to implementing this criterion and water quality standards will continue to protect the designated uses of the water body as a whole.

No changes were made to the proposed rules in response to these comments.

Request to delete human health risk condition from background pollutant rule

“The proposed Background Pollutant Allowance conditions include a restriction that the background concentration is less than 97 percent of the value that represents a 10^{-4} human health risk. This appears to significantly limit the potential utility of providing a Background Pollutant Allowance by establishing restrictions on the background conditions that are uncontrollable due to natural conditions.” (0034 – City of Ontario)

“Section (6)(b)(C) of the background rule provides that, as a condition of a background pollutant allowance, the background pollutant concentration is less than 97% of the value that represents a 1×10^{-4} human health risk level. This condition should be deleted. The purpose of the background rule is to authorize permittees to discharge into water bodies where there are elevated levels of toxic substances in a permittee's intake that are above the State's generic water quality set by rule. If this provision remains in the background rule, it could potentially undercut the purpose of the rule. Irrespective of human health risks, a permittee should be able to rely on a background pollutant allowance particularly where the background levels of a toxic substance like arsenic are naturally-elevated in the receiving water body.” (0117—City of Klamath Falls)

DEQ Response: DEQ disagrees that the 10^{-4} human health risk level should be deleted from the background pollutant allowance. The purpose of this provision was not intended to allow up to a 3% increase in concentration for any NPDES permittee discharging into a waterbody exceeding human health criteria. Discussions with the rulemaking stakeholder group centered around facilities where intake water was cycled through a facility multiple times, thus concentrating the amount of pollutant in its discharge. These non-contact cooling facilities do not, as a general matter, contribute any pollutant mass to its discharge, but because the facility concentrates the pollutant, an intake credit is not available. The facility could reduce the amount of intake water recycling and, conceivably, meet effluent limits and/or be eligible for an intake credit, but the facility would be required to use larger quantities of water, thus defeating the purpose of water conservation practices. Based on the discussions with the stakeholder workgroup, this provision has broadened to include other kinds of circumstances, as long as the conditions stated in the provision are met.

This provision sets the procedures for developing a site-specific background pollutant criterion. Establishing a not to exceed human risk level of 10^{-4} falls within an acceptable risk range for carcinogens based on a protective fish consumption rate of 175 g/day. Any risk level greater than this level would compromise the rationale of the alternate site specific criterion as still being protective of the designated use.

No changes were made to the proposed rules in response to these comments.

Intake water may have lower pollutant levels than receiving water

“As noted above, the City requests that the human health risk condition (Section (6)(b)(C)) be deleted from the background rule. If the Department retains the condition, then, at a minimum, it should recognize that, in many instances, a permittee's intake water may have less of a naturally-elevated pollutant than the level of this same pollutant in the receiving water body. Under these circumstances, the permittee's discharge would be more protective of human health than the background conditions in the receiving water body. Thus, in the event the Department retains the condition, Section (6)(b)(C) should be revised to state:

“(C) The background pollutant concentration is less than 97% of the value that represents a 1×10^{-4} human health risk level. This value is calculated using EPA's human health criteria derivation equation for carcinogens (EPA 2000). This condition does not apply where the permitted discharge will result in a pollutant concentration in the water body that is less than the background concentration of the receiving water body after completely mixing with 100 % of the receiving water body as calculated using the most recent 10 year harmonic mean flow of the receiving water body.

“On a related note, if the Department rejects this proposal and retains Section (6)(b)(C) (as proposed) then it should either not apply this provision to background conditions of arsenic or explain how this condition would apply to arsenic. The proposed arsenic criteria (unlike other toxic substances criteria) includes two different criterion derived from two different human health risk factors. Given this unique situation, it is unclear how this condition could or would be applied for arsenic.” (0117—City of Klamath Falls)

DEQ Response: The commenter requests DEQ delete proposed subsection (6)(b)(C) which constrains the applicability of the proposed background pollutant allowance to situations where the risk level associated with ambient concentrations is 1×10^{-4} or less. The commenter cites conditions where the discharge may be of better quality than the receiving water in support of this request. As described in previous responses, DEQ significantly revised this provision, however, it continues to prohibit any resultant instream concentration greater than a 1×10^{-4} risk level. As explained in the preceding response, this constraint remains an essential element of the proposed rule. Further, as described in DEQ's response to comments in section 3.3.B of this document, an intake credit will be available for the situation the commenter describes, if the discharge and the receiving waterbody meet the conditions described in the final proposed intake credit rule.

DEQ expects the use of this provision for arsenic will be limited because the newly adopted water + organism criterion for arsenic⁴ is already based on a risk factor of 10^{-4} . If the arsenic “organism only” criterion is the only applicable arsenic value (which is based on a 1.1×10^{-5} risk level) for a waterbody in question, this provision will be available.

No changes were made to the proposed rules based on these comments.

Clarification Regarding 1×10^{-4} Human Health Risk Level

“The language in section (6)(b)(C) should be revised to clarify that the waterbody value shall not exceed a 10^{-4} risk level. As written, it could be interpreted that a discharger is allowed a 3% increase in concentration beyond the 10^{-4} risk level which EPA understands is not ODEQ's intent.” (0083 – U.S. Environmental Protection Agency, Region 10)

⁴ The newly proposed human health criteria for arsenic was adopted by the EQC on April 21, 2011, but will not become effective until after EPA approval.

DEQ Response: DEQ agrees with the commenter. DEQ's revisions to the proposed rule reflects this intent.

Changes were made to the rule based on these comments.

3.4 Technologically and economically feasible reduction measures [OAR 340-041-0033(6)(c)]

“The condition in the proposed rule that “The Department may require the discharger to use any technologically and economically feasible pollutant reduction measures that are known to be available to prevent or minimize a pollutant concentration increase in the receiving water body...” seems especially restrictive as a potential consequence to pursuit of a background pollutant allowance. By focusing narrowly on a concentration basis solely on the City of Ontario's effluent outfall, the discharge would appear to exceed DEQ's proposed 2.1 ug/L arsenic standard. However, this is misleading since on a system wide mass basis, the City actually reduces arsenic in the Snake River. The City would not expect to be subject to a narrowly focused analysis based on concentration that results in a DEQ requirement “to use any technologically and economically feasible pollutant reduction measures” as a condition to qualify for a background pollutant allowance.” (0034 – City of Ontario)

DEQ Response: In revising the provision, DEQ specified that as a condition of developing the site-specific criterion, the permittee must use any feasible pollutant reduction measures known to minimize the pollutant concentration in their discharge. If employing known and available pollutant reduction measures will enable the permittee to meet the calculated WQBEL (with or without an intake credit), this is preferable to developing a site-specific background pollutant criterion. Further, where this provision is used to develop a site-specific background pollutant criterion, known and available pollutant reduction measures should be used to ensure that any increase in concentration is minimized. In its evaluation of whether pollutant reduction measures are feasible, DEQ will consider whether the pollutant reduction measure will result in adverse environmental effects. Due to the variability of facilities and range of options that may or may not be available to minimize the pollutant in question, DEQ expects this analysis will vary by facility. Not all situations will warrant pollutant reduction measures, depending on the circumstances.

No changes were made to the proposed rules in response to this comment.

3.5 General comments regarding Background Pollutant Allowance

A. Background Pollutant Allowance will not work for municipalities

“One flexible permitting mechanism that could be considered is to address elevated background levels of arsenic by allowing for a “background pollutant allowance” where “an increase of 3% or less in the background pollutant concentration of a water body that approaches or exceeds an applicable human health criterion does not result in a significant change in human health protection and may be allowed...” It is my understanding that this background pollutant allowance is available for an industry but not a city? Why is that allowance not being made available to municipalities? At the variance meeting on January 25th, representatives of EPA indicated that cities could not use this option.” (0034 – City of Ontario)

“The Background Pollutant Allowance rule as drafted is not workable for municipalities because they will generally be unable to meet the requirement that the intake water is from the “*same water body*” as the discharge (e.g., Intake Credit rule at OAR 340-045-0105(2)(a)(A) & Background Pollutant Allowance portion of toxics rule at OAR 340-041-0033(6)(a)(C) and (6)(b)(A)).” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services; 0184 – City of Salem)

“It appears that the intake credits and background pollution levels will primarily benefit industrial permittees, and most municipal wastewater treatment plants expect that they will need to apply for a variance. This is sad evidence of the fact that we still have a lot of work to do if we are to achieve the goals of the Clean Water Act. It does not mean that we should make our standards weaker than what is actually needed to protect human health and the environment.” (0084 – Oregon Environmental Council)

DEQ Response: Although the final proposed site-specific background pollutant criteria provision does not specifically preclude municipalities, DEQ acknowledges that the establishment of a hydrological connection between a permittee's intake water and the receiving waterbody to establish eligibility for a site-specific background pollutant criterion could be difficult given that municipalities may have multiple sources of intake water and may have pollutants entering the distribution system through infiltration and inflow contributions. In revising the provision, DEQ added more detail to provide a better description of what such an analysis will look like, should a municipality pursue the use of this tool.

No changes were made to the proposed rules in response to these comments.

B. Background Pollutant Allowance should not apply to new sources.

Some commenters stated that the background pollutant allowance should not apply to new sources.

“DEQ’s proposed background concentration rule would cover new as well as existing sources. DEQ has not explained why, as a matter of policy, the state would want to allow new sources to increase the concentration of a toxic pollutant for which a waterbody is already impaired... DEQ’s proposed rule is clearly an attempt to avoid the constraints that EPA’s NPDES permitting regulations already place on new sources that seek to discharge a pollutant into a waterbody that is impaired for that same pollutant. Using Oregon’s water quality standards to avoid the permitting regulations is both impermissible and poor public policy. EPA’s regulations prohibit the agency’s issuing an NPDES permit “when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA” or “when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states.” Specifically, EPA’s regulations prohibit the issuance of an NPDES permit for a new discharge where the discharge may “cause or contribute to the violation of water quality standards.” EPA NPDES regulations allow for one limited exception to this prohibition of discharges into impaired waters. In order for a discharge of the pollutant at issue to be allowed, the regulations require strict assurances that the receiving water can handle the new discharge and meet water quality standards and that specific plans are in place to ensure that it will be restored from its condition of impairment.” (0078 – Northwest Environmental Advocates)

“Question: Could DEQ apply the Background Concentration Allowance rule to new or expanded discharges? What is the rationale behind this decision?” (0071 – Columbia Riverkeeper, et al.)

DEQ Response: DEQ agrees that the background pollutant allowance provision should not be used for new dischargers. DEQ added language that prohibits new dischargers from seeking a site-specific background pollutant criterion.

Changes were made to the proposed rules in response to these comments.

C. Clarifications Regarding Groundwater

Groundwater as Intake Water

“The Department should revise the background rule to clarify that, when a permittee's intake water is from groundwater (which is the case for the City), an increase resulting in 3% or less in the background pollutant concentration of a water body will be measured by comparing the concentration of the pollutant

above the discharge to the concentration of the pollutant in the water body below the discharge after complete mixing. This revision will clarify that the background rule can be applied to permittees whose intake originates from groundwater as opposed to a water body immediately upstream of a permittee's discharge.” (0117—City of Klamath Falls). The commenter suggested the following revision:

“(6) Any permitted discharge that causes either a decrease in the background pollutant concentration or causes an increase of 3% or less over in the background pollutant concentration of a water body that approaches or exceeds an applicable human health criterion for a carcinogen does not result in a significant change in human health or aquatic resource protection and may be allowed under the conditions established in subsection (b) of this section. When a permittee's intake water originates from groundwater, an increase of 3% or less in the background pollutant concentration of a water body will be measured by comparing the concentration of the pollutant above the point of discharge to the concentration of the pollutant in the receiving water body below the discharge and after complete mixing of the discharge.”

DEQ Response: DEQ does not agree that this change needs to be made. As long as there is a hydrological connection established between the groundwater source and the receiving water discharge point, a background pollutant allowance may be used as long as all other conditions of this proposed provision are met. Calculations to determine a site-specific background pollutant criterion will be conducted based on a combination of flow-weighted mass balances, if there are multiple sources, and hydrologic studies.

No changes were made to the proposed rules in response to these comments.

Groundwater Infiltration

“The Department should revise the background rule to address the fact that a permittee's intake water can include groundwater deliberately drawn into or introduced into a municipality's intake and/or groundwater that inadvertently infiltrates into its municipal collection system. Thus, the City requests that the background rule be revised to clarify that allowances can also be issued to account for pollutants that enter a municipal collection system through inadvertent infiltration.” (0117—City of Klamath Falls)

DEQ Response: The site-specific background pollutant criteria provision does not preclude groundwater drawn into or introduced into a municipality's intake and/or groundwater that inadvertently infiltrates into its municipal collection system. Rather the provision requires any such sources to be hydrologically connected to the receiving stream of the discharge. In the event this demonstration can be made, the types of intake water can account for part or all of these sources.

No changes were made to the proposed rules in response to these comments.

D. Duration of a Background Pollutant Allowance

“A new provision (6)(b)(C) should be added to the background rule to clarify that a background pollutant allowance lasts for the duration of the permit. Further, if the permit is administratively extended, the background pollutant allowance will continue to be in effect during the period of the administrative extension.” (0117—City of Klamath Falls)

DEQ Response: In developing and implementing the site-specific background pollutant criteria, DEQ will establish the criterion and effluent limit concentrations, which will be effective for the duration of the permit. DEQ added language noting it will evaluate any new ambient and effluent data at permit renewal in deciding whether to continue the use of a site-specific background pollutant criterion. If continued, DEQ will evaluate whether the associated criterion and effluent limit concentrations will need to be revised. DEQ also added language clarifying that in the event a pollutant waste load allocation has been assigned to the permittee as part of

a TMDL, DEQ will discontinue the criterion. DEQ does not believe additional language addressing the duration of the site-specific background pollutant criterion is needed.

Clarifying changes were made to the proposed rules in response to this comment.

E. Clarifications Regarding Implementation

One commenter sought clarification regarding whether it would be eligible for background pollutant allowance.

“If the Department retains the requirement that a permittee's intake water and the receiving water must be from the "same water body" (e.g., a hydrological connection between the intake water and the receiving water body) then the City requests clarification as to whether it would be a candidate for a background pollutant allowance. At least some of the City's intake water, including water that inadvertently enters its collection system, is hydrologically connected to the Klamath River. Thus, even if the rule is not revised as requested above, the City would presumably qualify for a background pollutant allowance for at least some of the water entering its intake system. Please clarify if the Department has a different interpretation.” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees with the commenter that if the portion of water that inadvertently enters its collection system from inflow and infiltration is hydrologically connected to the receiving stream (i.e. Klamath River), the City will meet that qualification for a site-specific background pollutant criterion. As described in the final proposed rule, DEQ will address these sources of intake water by considering the flow-weighted amount of each source of the pollutant. The final proposed rule states that situations where the intake water is hydrologically connected to the receiving waterbody are eligible for a site-specific background pollutant criterion.

Clarifying changes were made to the proposed rules in response to this comment.

F. Proposed rule is inconsistent with EPA requirements.

More justification needed to be approved as a water quality standard: site specific criteria and performance-based approach.

One commenter provided specific details regarding DEQ's need to develop a process in its water quality standards regulation to ensure that designated uses are protected under the Background Pollutant Allowance provision.

“As currently written, this provision authorizes site-specific criteria changes to human health criteria for carcinogens without providing for appropriate Clean Water Act (CWA) 303(c) and 40 CFR 131 review since the provision allows a change to the intended level of protection for human health in the waterbody. Site-specific criteria are allowed by regulation but are subject to EPA review and approval. The federal water quality standards regulation at section 131.1 l(b)(l)(ii) provides states with the opportunity to adopt water quality criteria that are " ... modified to reflect site-specific conditions." Site specific criteria, as with all water quality criteria, must be based on a sound scientific rationale in order to protect the designated use. Site-specific criteria are most commonly used for aquatic life protection. A site-specific criterion is intended to come closer than the national criterion to providing the intended level of protection to the aquatic life at the site, usually by taking into account the biological and or chemical conditions (i.e., the species composition and or water quality characteristics) at the site (EPA WQS Handbook 1994).” (0083 – U.S. Environmental Protection Agency, Region 10)

The same commenter also sought additional clarification regarding lowering the protection from a 10^{-6} risk level.

“One approach to resolving this issue would be to add additional text to the provision, making clear that implementation of this provision requires submitting each individual background pollutant allowance for

EPA review and approval consistent with the requirements for criteria changes in CWA 303(c) and 40 CFR 131.

A performance-based approach may also be a viable alternative. EPA has provided guidance for developing a performance-based approach consistent with the CWA and EPA's implementing regulations. This approach may be used to streamline state and tribal adoption of criteria (*EPA Review and Approval of State and Tribal Water Quality Standards*, 65 FR 24648)...

Finally, for either approach, the rule language needs to be clear that the rule will be implemented on a facility-by-facility basis in association with a NPDES permit and identify the extent to which the criteria apply to the remainder of the waterbody. Although this is arguably implied from the current language, it must be clearly stated in the rule language itself.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees that the proposed background pollutant allowance effectively establishes a site specific criterion for that pollutant. DEQ extensively revised the background pollutant provision to reflect the establishment of a site specific criterion as an outcome of this process. Further, the revised provision now included additional detail reflecting a performance based approach to develop and implement any site specific criteria. DEQ revised the provision in accordance with the options and descriptions provided by EPA’s comments. In addition, DEQ followed EPA’s current guidance on a performance based approach (*See EPA Review and Approval of State and Tribal Water Quality Standards*, 65 FR 24648). If this performance based approach is approved by EPA, there is no further requirement to submit each site-specific background pollutant criterion to EPA for approval. Rather, as described in the final proposed rule, the criterion will be developed and implemented in the affected NPDES permit at the time DEQ develops and issues the permit.

Significant changes to the proposed background pollutant allowance were made in response to these comments.

Inconsistent with Antidegradation Policy

One commenter stated that allowing a new source to increase the concentration of a pollutant causing an impairment is also contrary to the antidegradation policy.

“By definition, an increase in the concentration of a pollutant causing an impairment is decreasing the level of water quality necessary to protect existing uses and likely impairing those existing uses. This violates the mandate of Tier I protections. DEQ has not explained why it believes that it can embed a violation of Tier I protections of the antidegradation policy into narrative water quality standards or general policies that implement standards. The proposed rule would allow unlimited degradation by new sources of an impaired water up to the maximum permitted risk level of 10-4 (and beyond that risk level in the area prior to complete mix) despite Oregon’s having adopted a risk for carcinogens of 10-6...Such a change in allowable levels of toxic constituents might jeopardize those existing uses.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ significantly revised the proposed background pollutant allowance provision, in part to clarify that the provision results in a site-specific change in criteria. This provision continues to target situations where a facility passes through pollutants it receives from its upstream intake water and prohibits the addition of mass of any pollutant. This prohibition, coupled with a three percent cap on increasing the receiving water concentration, results in no additional pollutant load and minimizes any change in the resultant concentration. Separately, DEQ regulations and Internal Management Directives require permit renewals that result in the discharge of a new or increased load to conduct an antidegradation review. This provision does not obviate those requirements. Further, DEQ clarified that this rule is only applicable to facilities with existing NPDES permits, which addresses the concern raised by the commenter regarding the potential for unlimited degradation by new sources.

Changes were made to the proposed rules in response to these comments.

De minimis Exception is Impermissible

One commenter stated that the proposed rule's *de minimis* exception is impermissible.

“Nationally, the concept of *de minimis* has been used primarily if not exclusively in the context of Tier II of the antidegradation policy. The rationale for using a *de minimis* rule in applying Tier II protections is to limit the analysis required when evaluating whether a source should be allowed to use remaining assimilative capacity in a waterbody... This, however, is not the context of the background concentration rule because, by definition, the waters affected by this proposal are impaired waters, not waters with assimilative capacity... In other words, allowing a provision that automatically adjusts the numeric criteria to accommodate new or existing pollution sources that would otherwise be deemed to cause or contribute to violations of numeric criteria would be precedent-setting and undermine the fundamental principles of NPDES permitting.” (0078 – Northwest Environmental Advocates)

DEQ Response: As noted in preceding responses, DEQ significantly revised the proposed background pollutant allowance provision, in part to clarify that the provision results in a site-specific change in criteria. The commenter's concern raised issues with the proposed rule's concentration exception. As a result, this aspect of the commenter's concern is now moot. The commenter further raises concerns regarding the precedent-setting nature of the provision and the extent to which the provision undermines “the fundamental principles of NPDES permitting.” DEQ pursued this provision because it concluded that there was a significant gap in the state's current regulations to address situations where facilities do not contribute new or increased loads to receiving waters, but receive contamination associated with other anthropogenic or natural activity through their intake water. A TMDL is ultimately the correct vehicle to identify sources of the pollutant in question and to allocate responsibilities for reduction. In cases where the facility in question is not a source and is not contributing a load of the pollutant to the water, reductions should most appropriately be assigned to the pollutant sources. This will also result in the most cost-effective reduction of the pollutant. For these reasons, this provision does not undermine DEQ's approach to NPDES permitting.

Changes were made to the proposed rules to respond in part to these comments.

Would Establish Water Quality Standards Without the Requisite Rulemaking and EPA Review

A commenter noted that site-specific criterion require analysis, justification, public process, clarity as to the resulting criterion, geographic location to the extent of the new criterion, and submission to EPA.

“In its proposed rule DEQ suggests that it may derive new water quality criteria on a source-specific basis without conducting a site-specific analysis of the level of protection provided by the result, without producing a site-specific criterion to replace the otherwise applicable statewide standards, without clarifying where and when the new criterion applies, and without the opportunity for a public hearing and satisfying the public notice requirements required for revising water quality standards. For this reason, the background concentration rule is wholly inconsistent with EPA requirements.

The proposed background concentration rule adjusts the level of acceptable pollutant concentration in a waterbody at an individual site based on the existing ambient concentration plus 3 percent with a cap of a risk level of 10⁻⁴. Each time DEQ would apply this provision it would constitute a revision to Oregon's water quality standards and would be subject to EPA action. Therefore, EPA cannot approve this provision in advance of its application and cannot approve it as an acceptable methodology because it does not contain any of the provisions that apply to actions that are subject to water quality standards revisions, such as public notice and comment under 40 C.F.R. §131.20(b) of its regulations.” (0078 – Northwest Environmental Advocates)

DEQ Response: As described in DEQ's response to comments throughout this section, DEQ significantly revised the proposed background pollutant allowance provision, in part to clarify that the provision results in a site-specific change in criteria. DEQ followed EPA's current guidance on a performance based approach (*See EPA Review and Approval of State and Tribal Water Quality Standards, 65 FR 24648*). If this performance

based approach is approved by EPA, there is no further requirement to submit each background pollutant allowance to the EPA for approval.

No additional changes were made in response to this comment.

Creates An Ever-changing “criterion”

A commenter stated that the proposed rule would effectively “automatically change a criterion with a risk level of 10^{-6} to one with a risk level as high as 10^{-4} without any review of that change as an alteration to a water quality standard. As such, it neither meets the requirements of a criterion nor of a variance.” (0078 – Northwest Environmental Advocates)

DEQ Response: As described in DEQ’s response to comments throughout this section, DEQ made a number of revisions to the background pollutant allowance provision, in part to clarify that the provision results in a site-specific change in criteria. DEQ also points out that in no case would the implementation of this provision result in an actual increase in the pollutant’s concentration from 1×10^{-6} to 1×10^{-4} . Such an increase in concentration would exceed the maximum three percent increase in the ambient concentration, at a minimum.

No additional changes were made in response to this comment.

Suffers a Series of Flaws

“As drafted, the proposed Background Concentration Allowance rule, OAR 340-041-0033(6), does not comply with the federal Clean Water Act. The rule would allow sources that take pollutants in their intake water and concentrate those pollutants, without adding any additional mass loading, to discharge a more highly concentrated effluent without being considered in violation of Oregon water quality standards... The Background Concentration Rule suffers from a series of flaws, including:

- authorizing facilities to concentrate intake water pollutants, even if the sources of the pollution is upstream human activity;
- allowing increased health risks of pollution as a de minimis increase;
- establishing water quality standards for a wide range of toxic pollutants without meeting the Clean Water Act’s requirements from establishing standards, protecting beneficial uses, complying with antidegradation
- review, and the public process and EPA action required for water quality standard development; authorizing mixing zones and increased pollution discharges in impaired waters.” (0078 – Northwest Environmental Advocates)

DEQ Response: As described in DEQ’s response to comments throughout this section, DEQ made a number of revisions to the proposed background pollutant allowance provision, in part to clarify that the provision results in a site-specific change in criteria. DEQ addressed the commenter’s summarized concerns in responses throughout this section. DEQ’s revisions either address or moot many of the commenter’s concerns. Where DEQ disagreed with the commenter’s comment or conclusions, DEQ described the basis for its perspective in the relevant response.

No additional changes were made in response to this comment.

G. Concerns about Background Pollutant Allowance (General)

Strong Opposition

Some commenters expressed strong opposition to the Background Pollutant Allowance provision. (0173 – Cat Koehn, oral testimony at Salem hearing)

“Surfrider objects to the proposed revisions establishing a “background pollutants allowance,” which would basically allow “de minimus” violations of the human health criteria so long as a pollutant already

exists in the discharger's intake water, and the discharger is not adding the pollutant to the same water body. The allowance is inappropriate because it applies to dischargers whose industrial processes increase the concentration of a pollutant, which contributes to the problem, even if the discharger is not adding the pollutant. Moreover, a background pollutants allowance fails to ensure that public health is adequately protected from toxic pollutants. This approach has only been employed as an implementation mechanism to allow de minimus increases in temperature or turbidity above ambient levels that already exceed aquatic life criteria, not human health criteria for toxics. Unlike temperature and turbidity, toxic pollutants generally are not part of the natural environment and do not have a high degree of variability. The human health criteria for toxics are derived from calculations that take into account exposure and risk to human health; allowing any increase above this criteria would threaten public health and fail to protect swimming and fishing uses. Moreover, the allowance would be difficult, if not impossible, to monitor and enforce, furthering increasing threats to human health from toxic pollutants. While DEQ's desire to encourage facilities to employ multiple cooling cycles is laudable, the proposed background pollutants allowance is not the appropriate means to do so and presents an unacceptable risk to human health.” (0049 – Surfrider Foundation)

“The proposed “Background Pollutant Concentration Allowance” does not square with the Clean Water Act. If adopted, Oregon would be the first state with a Background Pollutant Concentration Allowance for toxics. As EPA explained during the October NPDES rulemaking workgroup meeting, this rule is not consistent with the Clean Water Act. Moreover, the rule is unnecessary given DEQ’s proposed revisions to the variance rule.” (0060 – Oregon Toxics Alliance form letters, 3 commenters; 0071 - Columbia Riverkeeper, et al.; 0131 – Carla and Fred Hervert)

“In its efforts to ensure that the new stringent toxic criteria apply to no point sources, DEQ has included a provision that would make a mockery of those criteria and if EPA approved it would establish a precedent that would likely be used across the country, making Oregon a leader in undermining the Clean Water Act.” (0078 – Northwest Environmental Advocates)

“It appears that the intake credits and background pollution levels will primarily benefit industrial permittees, and most municipal wastewater treatment plants expect that they will need to apply for a variance. This is sad evidence of the fact that we still have a lot of work to do if we are to achieve the goals of the Clean Water Act. It does not mean that we should make our standards weaker than what is actually needed to protect human health and the environment.” (0084 – Oregon Environmental Council)

DEQ Response: DEQ acknowledges statements generally stating objections to the proposed background pollutant allowance. DEQ acknowledges that EPA will be reviewing the final proposed site-specific background pollutant criteria provision to determine whether it can be approved under section 303(c) of the Clean Water Act. DEQ appreciates that this provision is innovative and has not yet been proposed or adopted by any other state. Nonetheless, DEQ has worked through the rule development process and through its consideration of the comments received and subsequent revisions to develop an implementation tool for NPDES dischargers that accounts for background pollutants already present in ambient waters, yet is still protective of the beneficial uses of that waterbody.

No changes were made to the proposed rules in response to these comments.

H. Support for Background Pollutant Allowance

“The OWQSG strongly supports the proposed background pollutant allowance and appreciates the effort that the Department has devoted to developing this concept. Because, as discussed above, the proposed intake credit rule would apply to only a few dischargers, a background pollutant allowance is needed to prevent unreasonable applications of the human health criteria to facilities at which background pollutant concentrations already exceed an applicable criterion.” (0079 – Oregon Water Quality Standards Group)

“In addition to the proposed criteria revisions based on the fish consumption rate of 175 g/day, the Tribe supports DEQ’s proposed compliance options for point-source dischargers, which include intake credits, background pollutant allowance, and other variances.” (0126 – Confederated Tribes of the Grand Ronde Community of Oregon)

DEQ Response: DEQ acknowledges commenters’ support for this provision.

No changes were made to the proposed rules in response to these comments.

I. Interaction with Other DEQ Programs

One commenter listed numerous concerns regarding the background pollutant allowance provision’s interaction with other water programs, namely NPDES permitting, TMDLs, and 303(d) impaired waters listing.

“A general concern across all water programs is whether this provision would be applicable to new sources and, if so, whether measures will be used to ensure the facility evaluates all potential alternatives prior to using this provision. In addition, how will ODEQ address cumulative impacts in a manner that the protection of human health is ensured?” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees that further clarification was needed on how the final proposed site-specific background pollutant criteria apply to other CWA programs. Consequently, DEQ added language in section (6) indicating that the underlying water body criterion will continue to be applicable in all other Clean Water Act programs. DEQ also clarified that a site-specific background pollutant criterion will only be established in situations where a discharger has a currently effective NPDES permit.

The background pollutant allowance establishes a site-specific criterion in specific circumstances. As stated in the rule, DEQ may establish a site-specific background pollutant criterion in conjunction with the development of an individual discharger’s NPDES permit. The resultant site-specific criterion will be the most protective of the following results: the current ambient pollutant concentration after discharge; the background concentration plus three percent; or the criteria value calculated at a 1×10^{-4} risk level. This value will be further constrained if needed to ensure that the discharger does not increase the mass of the pollutant in the receiving water. In addition, DEQ will calculate effluent limits based on this site-specific criterion based on the appropriate dilution flow, which will be less than the full stream flow. These limitations will result in spatially limited minor increases in ambient concentration and no increase in the total load of the pollutant in the waterbody.

DEQ also revised the provision to clarify that the site-specific criterion will be used for the sole purpose of establishing limits for an individual discharger and will apply within the immediate vicinity of the discharge. All other relevant water quality standards remain applicable for the individual discharger, and all of the water quality standards, including the original criterion, will be used for implementing Clean Water Act programs, such as developing permits for other dischargers, assessing waters for impairment under CWA section 303(d) and preparing total maximum daily loads. Based on this approach and associated limitations, DEQ concludes that the resultant site-specific criteria value and approach to implementing this criterion and water quality standards will continue to protect the designated uses of the water body as a whole.

Changes were made to the proposed rules in response to these comments.

Topic 4:

Variances OAR 340-041-0059

This section summarizes comments and responses regarding the proposed rule in OAR 340-041-0059, which states that subject to the requirements and limitations set out in the proposed rule, a point source may request a variance. The Director of DEQ will determine whether to issue a variance for a source covered by an existing NPDES permit. The commission will determine whether to issue a variance for a discharger that does not have a currently effective NPDES permit.

4.1 Applicability [OAR 340-041-0059(1)]

A. Authority to Grant Variances

One commenter stated that the proposed rule vests too much authority in the Director, it might impermissibly allow for expanded loads, and it fails to include needed reporting to the Commission.

“At a minimum, such dischargers should have to apply to the Commission, rather than the Director, for a variance. We urge, preferably, that the rule prohibit the issuance of a variance to a source seeking to increase its loading... Finally, we urge that the Commission be responsible for issuing all variances.” (0078 – Northwest Environmental Advocates)

Another commenter requested a specific change to the rule language.

“(1) Applicability. Subject to the requirements and limitations set out in sections (2) through ~~(8)~~(9), below, the department or the commission may grant ~~a point source may request~~ a variance from water quality standards. The director of the department, or the director’s delegatee,...” (0079 – Oregon Water Quality Standards Group)

DEQ Response: Two commenters provided suggestions for DEQ to revise who has the authority to grant variances on DEQ’s behalf. One commenter requested that DEQ’s Environmental Quality Commission approval all variances. DEQ disagrees that all variances must be approved by the commission. To foster efficiency in the administrative process for granting variances, DEQ proposed revisions to allow the director of DEQ to grant variances for existing individual NPDES permittees and the commission to grant variances for permittees that do not have a currently effective NPDES permit. The EQC generally meets every two months, however, agendas are typically very full and items brought to the EQC require an additional six weeks lead time for DEQ staff to prepare the materials. A backlog of variance requests may lead to delays in approval. Because DEQ expects variance requests to be closely linked with the permit evaluation and the drafting of the permit, the process for granting the variance should occur at the same time as the permit issuance. By giving authority to the DEQ director, the variance approval process will be more efficient and timely. DEQ is proposing that the commission grant variances in circumstances where a discharger does not have a currently effective NPDES permit.

Another commenter also suggested that “the director’s delegatee” be included as an authorized person to grant variances. DEQ believes, that as a general matter, the authority to grant variances should reside with the director (for existing NPDES permittees) and with the commission (for a discharger that does not have a currently effective NPDES permit). Further, existing DEQ policy addresses the delegation of authority in the director’s absence.

The commenter also requests DEQ prohibit the issuance of a variance to a source seeking to increase its loading. DEQ does not agree that an explicit prohibition needs to be included as part of the rule.

B. Should Apply to Sources Other Than NPDES Permits

One commenter suggested the following revisions to this Subsection:

“(1) Applicability. Subject to the requirements and limitations set out in sections (2) through ~~(8)~~(9), below, the department or the commission may grant ~~a point source may request~~ a variance from water quality standards. The director of the department, or the director’s delegatee, will determine whether to issue a variance for a source covered by an existing NPDES permit dischargers. The commission will determine whether to issue a variance for a new dischargers or sources or for categories of dischargers that does not have a currently effective NPDES permit.” (0079 – Oregon Water Quality Standards Group)

Similarly, the same commenter suggested the following revisions to this Subsection:

“(a) The variance applies only to the ~~specified point source permit~~ dischargers or category of dischargers and only to the pollutant(s) specified in the variance; the underlying water quality standard(s) otherwise remains in effect.” (0079 – Oregon Water Quality Standards Group)

The same commenter stated that variances should apply to all dischargers, not only NPDES facilities. For example, a stream restoration or other project (e.g., the construction of a new outfall to improve water quality) that requires a section 404 permit and section 401 water quality certification might need a variance from water quality standards in order to receive the permit and certification. The commenter suggested the following revised language:

“(D) The variance is for a new discharge or source ~~A point source does not have a currently effective NPDES permit~~, unless the variance is necessary to:...” (0079 – Oregon Water Quality Standards Group)

DEQ Response: The commenter suggested several revisions to the “Applicability” and other sections to broaden the rule to apply beyond individual NPDES permittees, to include permittees who receive general permits, who may be subject to Clean Water Act section 401 certifications, and other sources. DEQ disagrees that this is an appropriate or needed revision. DEQ is unaware of any situations where the granting of a variance to NPDES permittees who receive general permits or to non-NPDES sources would be necessary or recommended. The commenter specifically noted activities that receive federal permits and section 401 certifications as a situation where variances may be needed. Section 401 of the Clean Water Act requires any federal permit or license that results in a discharge to a state waterbody to meet water quality standards. For various construction activities conducted on a waterbody that receive 401 certifications, allowing a variance would circumvent the objectives for this program. Furthermore, the nature of discharges (i.e. short term, intermittent) associated with activities that typically receive Clean Water Act section 401 certifications is very different from discharges receiving individual NPDES permits for end of pipe discharges and would require significant modification of the variance rule provision to reflect this difference. DEQ is aware of one prospective situation that may be different from the typical conditions described above. DEQ may evaluate a section 401 certification for the removal of the J.C. Boyle dam on the Klamath River, if the Department of Interior decides the dam should be removed. DEQ has initiated a process to revise its water quality standards specific to the particular facts of that situation, a process which may or may not consider the use of variances in that context. Beyond that instance, DEQ does not think the variance rules should be revised to apply to sources other than individual NPDES-permitted sources.

The commenter also suggests revisions to include “categories of dischargers” as types of sources that can be included under this provision. To the extent this suggested revision encompasses the commenter’s suggestion for DEQ to consider multiple discharger variances, the suggested revision and other similar comments are addressed under the multiple discharger variances section of this topic.

No changes were made to the proposed rules in response to these comments.

C. Applicability of variances to different types of criteria

Variances revisions should not apply to pollutants other than human health criteria.

Several commenters stated that DEQ should limit the variance rule only to human health criteria that are affected by this rulemaking. (0045 – Northwest Center for Alternatives to Pesticides form letter, 44 commenters; 0090 – Ann Vileisis, Kalmiopsis Audubon Society)

“To the extent the final regulation allows for variances, they should not apply to aquatic life criteria. The rationale behind using variances as an implementation tool is to provide flexibility to dischargers who are unable to immediately comply with the revised human health criteria for toxics. In contrast, because the aquatic life criteria are not being revised, the same rationale does not apply; there is no reason to issue variances from water quality standards that protect aquatic life. Moreover, DEQ has not specifically considered how these revisions will affect attainment of the standards protecting aquatic life. Moreover, if a threatened or endangered species may be affected, EPA’s approval of a variance from an aquatic life criterion will trigger an ESA consultation, which will only increase administrative delay.” (0049 – Surfrider Foundation)

“DEQ should not make variances easier to obtain for water quality standards that are not becoming more stringent. DEQ’s new variance rule, which allows the agency to issue variances without EQC approval, should only apply to standards that are becoming more stringent: the toxics standards for human health. Other standards, including Oregon’s temperature and bacteria standards, will not change as a result of this rulemaking. In turn, the EQC should not make variances easier to obtain for standards that are not becoming more stringent.” (0071 - Columbia Riverkeeper, et al.; 0060 – Oregon Toxics Alliance form letters, 3 commenters; 0107 – Ray Kinney; 0131 – Carla and Fred Hervert)

DEQ Response: No discharger has previously sought, and as a result, DEQ has not previously granted a variance under its current rules. As a result, DEQ finds little basis for a conclusion of variances issued under the proposed rules being easier or more difficult to obtain.

Some commenters cite the more stringent proposed human health criteria as the driving factor for revising the variance rules. DEQ agrees that concerns related to subsequent permitting requirements as a result of the revised criteria resulted in an increased focus on a need to revise the variance rules to make them more usable. DEQ disagrees, however, that the revisions are only applicable to human health criteria. One of DEQ’s objectives with the proposed rule revisions is to align the process for granting a variance with the existing process to develop and issue an NPDES permit. In addition, DEQ sought to put in place requirements that will ensure further progress toward meeting water quality standards during the term of the variance. As does the currently effective variance rule, the proposed rule also allows facilities to apply for variances for any water quality criteria, including toxics criteria for human health and aquatic life, as long as certain requirements are met. The proposed changes will significantly improve variance issuance and implementation, with more specificity regarding minimum requirements and required actions that will ensure progress toward meeting water quality standards. As a result, the proposed improvements apply to all criteria. The proposed variance provision has been developed to set up a framework for how all variance requests are assessed and processed and does not alter the applicability of the provision to different types of criteria. If DEQ revised the variance rules to limit it to human health criteria, any variance sought for aquatic life criteria would need to be granted under the current rules. DEQ concludes that such a situation is unnecessary and administratively inefficient, and therefore, did not make such a revision.

DEQ also notes that variances granted to individual NPDES dischargers must be subsequently approved by EPA. In addition, aquatic life criteria variances submitted to EPA for approval are subject to Endangered Species Act (ESA) consultation requirements. Section 7(a)(2) of the ESA requires that federal agencies, in consultation with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration Fisheries Service, ensure that their actions are not likely to jeopardize the existence of federally listed species or result in the adverse modification of designated critical habitat of such species. EPA has stated that they envision the

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consultation will be tiered such that the detailed assessment of potential affects will occur at the time of EPA action on individual variances. Extended time for ESA consultation will need to be built into the standard variance approval timeframe for variances that require such consultation.

No changes were made to the proposed rules in response to these comments.

Clarification Regarding Pollutants With No Water Quality Standard

One commenter asked whether a variance could be obtained for a pollutant when there is no underlying water quality standard:

“DEQ should revise Sections (3)(a) and (b) of the variance rule to clarify that a variance can be obtained for a pollutant even when there is no underlying water quality standard for that pollutant. In the Klamath River, there are extremely high amounts of phosphorus that enter the Lake Ewauna segment of the river from Upper Klamath Lake and this phosphorus causes downstream water quality impacts on pH and DO. However, there is no water quality standard for phosphorus. The variance rule should reflect the fact that variances can be obtained for pollutants that cause an exceedance of a water quality standard.” (0117—City of Klamath Falls)

DEQ Response: DEQ evaluated the commenter’s question in regards to the applicability of variances for pollutants where there are no underlying water quality standards. The proposed rule does not explicitly prohibit variances for these kinds of pollutants (e.g. phosphorus). If these situations arose, DEQ would need to further evaluate how this concept could be developed to meet variance requirements and rules.

No changes were made to the proposed rules in response to these comments.

One Variance Provision For All Criteria Types is Preferable

One commenter stated that it is preferable to have a single variance process that applies to all criteria in the State in order to provide for clarity and consistency.

“As each variance must be assessed for protectiveness, receive public notice and comment, and be approved by EPA prior to becoming effective, any issues relative to protectiveness of individual criteria that may not have been thoroughly reviewed during the workgroup process will be evaluated by ODEQ, available for public comment and reviewed by EPA on a case-by-case basis. We believe this provides opportunity for all interested parties to provide sufficient input into the process while maintaining clarity in the process.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees with the comment stating a preference for a single variance process.

No changes were made to the proposed rules in response to this comment.

D. Conditions for not granting a variance [OAR 340-041-0059(1)(b)]

Not Granting a Variance Based on Implementation of ‘technology-based effluent limits’ [OAR 340-041-0059(1)(b)(A)]

One commenter stated that the rule is neither sufficiently clear nor does it contain sufficient requirements for DEQ to implement the proposed technology-based requirements.

“The proposed rule precludes the issuance of a variance if ‘[t]he effluent limit sufficient to meet the underlying water quality standard can be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act. Given the lack of clarity concerning technology-based requirements, i.e., the obligations of DEQ to identify using best professional judgment (BPJ) the technology required for NPDES sources, DEQ must be more specific as to the meaning and intent of this provision. We urge DEQ to clarify the rule language in two ways. First, the Department should commit to using BPJ to update technology-based effluent requirements

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established by EPA when those are clearly outdated. Second, the Department should clarify that it intends to use BPJ when EPA has not yet issued such national effluent guidelines. The Department should not issue variances based on inadequate technology when the technology is readily available but EPA has not taken the steps to update its requirements.” (0078 – Northwest Environmental Advocates)

DEQ Response: With regard to the commenter’s request that DEQ commit to using best professional judgment to update EPA’s technology-based requirements, DEQ notes that such requirements are beyond the scope of this rulemaking provision.

In section (1)(b), DEQ states that it will not grant a variance if the discharger can meet the standards by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act. This provision is the floor of consideration for DEQ to consider granting a permittee a variance. Subsequent provisions require further evaluation of treatment or alternative options, and may require the use of additional treatment technologies through the required pollutant reduction plan. As such, including further requirements as a condition of DEQ’s initial consideration is unnecessary.

No changes were made to the proposed rules in response to this comment.

‘Nonpoint sources under the control of the discharger’

One commenter listed legal and policy reasons why DEQ should not issue the proposed language that restricts the nonpoint source controls to those under the control of the discharger.

“DEQ has chosen to use *part* of the language from the [Great Lakes Initiative] rules instead; these rules only require pollution controls on nonpoint sources over which the discharger has control. In claiming to follow the GLI, however, the Department jettisons the more stringent GLI requirement that the nonpoint source controls be achieved by the discharger before the variance is granted. Instead, DEQ’s proposed language is at best ambiguous as to the timing of such controls and could be read to be concurrent or in the future. Thus, DEQ has proposed to be less protective than either the GLI or the nationally-applicable regulations by narrowing the scope of nonpoint sources to be controlled and by allowing those controls to happen concurrently or in the future.” (0078 – Northwest Environmental Advocates)

“Section (1)(b)(A) of the variance rule seems to suggest that a permittee can only qualify for a variance if it also implements cost-effective and reasonable best management practices for nonpoint sources under its control. The City recognizes that best management practices are necessary to control nonpoint sources. Nonetheless, non-point source control bears no relation to whether a point source should qualify for a variance. The premise underlying a variance is that a point source cannot meet water quality-based criteria at its outfall or with a mixing zone. The Department should delete this condition and focus the variance qualifications on matters that concern point sources.” (0117—City of Klamath Falls)

DEQ Response: In response to the comment requesting DEQ delete the requirement for implementing cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger, DEQ concludes that this requirement is an essential part of its variance rules and necessary to meet federal requirements. While the federal water quality standards regulations (40 CFR 131) do not specifically address nonpoint source BMP requirements in conjunction with the issuance of variances, the regulations require states to evaluate whether or not a use could be attained in a water body if the waterbody were not being impacted by point or nonpoint sources of pollution when evaluating whether designated uses can be removed. These latter requirements form the basis of EPA’s review of state’s variance regulations.

EPA has generally regarded the regulations governing use designation and removal to be applicable for granting variances, which are viewed as analogous to a use change for an individual discharger. In that context, EPA

previously interpreted the federal regulations to require those BMPs that may be implemented by a particular discharger be implemented prior to granting a variance⁵. Part of this rationale relates to the applicability of the variance request. Variances, as described by DEQ's regulations, are facility-specific, and do not result in removing the designated use on a waterbody segment. Rather, the effect of the variance is to change the water quality standards applicable to the facility, and keep the underlying water quality standards in effect for all other purposes. If the permittee can implement cost-effective and reasonable BMPs for nonpoint sources (i.e. sources not covered under a NPDES permit) over which it has control, the permittee should implement those BMPs either before requesting a variance for its point source discharge or as part of the requirements the facility would implement as part of its variance. For example, if a discharger owned and/or controlled large tracts of land which contributed to nonpoint sources of the pollutant impacting its point source discharge, it will be incumbent upon the discharger to implement BMPs to reduce pollutant levels as part of its approved pollutant reduction plan or, alternatively, before requesting a variance the BMPs will result in the permittee meeting the calculated water quality based effluent limits based on the water quality standards. DEQ does not expect this latter example to frequently occur; as a result, BMP implementation will more frequently occur as part of the pollutant reduction plan.

No changes were made to the proposed rules in response to these comments.

Suggested revisions to language describing “nonpoint sources under the control of the discharger”

“Activities to which best management practices could be applied might not be limited to nonpoint source activities.” (0079 – Oregon Water Quality Standards Group). The commenter suggested the following revisions to this Subsection:

“(A) The effluent limit sufficient to meet the underlying water quality standard can be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act, and or by implementing cost-effective and reasonable best management practices for ~~nonpoint sources~~ activities under the control of the discharger; or ”

DEQ Response: DEQ disagrees these revisions need to be made. Effluent limits required under section 301(b) and 306 of the federal CWA and implementing cost-effective best management practices need to be met by the discharger, not one or the other. Substituting “activities” for “nonpoint sources” may actually be interpreted to be more inclusive, however, DEQ declines to make this revision so that the existing language remains consistent with federal language contained in 40 CFR 131.10.

No changes were made to the proposed rules in response to these comments.

Request to Add Information Regarding Nonpoint Source Best Management Practices Discharger is Implementing

One commenter noted that the rule does not contain requirements for sufficient information from applicants for variances to support DEQ decision making.

“...the Department cannot issue a variance if it finds that (1) nonpoint sources under the control of the permittee applicant do not or will not have cost-effective and reasonable best management practices, (2) the variance would likely jeopardize threatened or endangered species or result in destruction or adverse modification of critical habitat, (3) the variance would result in an unreasonable risk to human health, and (4) no existing uses will be impaired or removed. In addition, where EPA has not issued technology-based effluent limits, DEQ should apply its best professional judgment as to what technology should

⁵ Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID) (EPA-820-B-95-001), March 1995

apply under OAR 340-041-0059(1)(b)(A) for which information will likely be needed. Yet the application submittal requirements of subsection (5) make no reference to the information needed to make any of these findings.” For example, “...there is nothing in the variance application submittal requirements that requires permittees to submit information to DEQ concerning the ‘nonpoint sources under its control’, what practices are currently in place for those sources, and what additional practices might be considered reasonable and cost effective. Without the information being submitted, it is not clear how DEQ will make the initial determination required by OAR 340-41-0059(1)(b)(A). (0078 – Northwest Environmental Advocates)

DEQ Response: The commenter requests DEQ make several revisions to the section describing the variance submittal requirements. DEQ agrees with the commenter that the proposed rule did not include a requirement for the permittee to submit information about best management practices the discharger is implementing. DEQ added such a requirement to the variance submittal requirements in the final rule’s section (4). With regard to the other conditions that will result in DEQ not granting a variance, DEQ concludes that the proposed submittal requirements sufficiently address the types of information appropriate for the permittee to provide to DEQ. In some instances, DEQ, EPA, or the federal fisheries services may need to identify additional information or conduct additional analyses in order to evaluate the conditions described in (1)(b)(A).

Changes were made to the proposed rule in response to these comments.

Additional Protections for Federal Candidate Species in Addition to Threatened or Endangered Species [OAR 340-041-0059(1)(b)(B)]

“DEQ has incorporated no protections for species that are federal candidate species, in other words those species that might be threatened or endangered and on the verge of extinction but which have not yet been listed. Nor has DEQ incorporated any provisions that would protect species that nationally are not threatened with extinction but which are an Oregon threatened, endangered, or candidate species or species that have been identified as a “sensitive” species under Oregon’s Sensitive Species Rule.” (0078 – Northwest Environmental Advocates).

DEQ Response: DEQ disagrees that additional regulatory provisions are needed to ensure protection of “federal candidate species.” DEQ’s proposed revisions to the variance rule contain numerous requirements that must be met in order for DEQ to grant a variance and to ensure further progress toward meeting water quality standards. These include the requirement to ensure that “no existing use will be impaired or removed as a result of granting the variance,” which is aimed at ensuring that, for aquatic organisms, the species and water quality that have existed since 1975 remain protected. Further, the rule prohibits granting a variance if it “would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species’ critical habitat.” EPA and the federal fisheries services must reach this conclusion in order for EPA to approve a variance for aquatic life criteria. Further, the commenter has not provided any information, nor is DEQ aware of any data or information indicating that species that are federal candidate species are any more sensitive to toxic pollutants than other species and that the proposed requirements are not be sufficient to protect these particular species. Adding specific provisions related to the protection of federal candidate species is not required and is not necessary.

No changes were made to the proposed rules in response to these comments.

Clarification Regarding ‘Unreasonable risk to human health’ [OAR 340-041-0059 (1)(b)(C)]; Findings Regarding Threatened or Endangered Species

Several commenters questioned how DEQ will determine an unreasonable risk to human health.

“The obligation to make specific findings regarding endangered species, existing water quality uses, and unacceptable risks to public health should be made by DEQ, not by the variance applicant. These findings are subjective, and will be difficult for local governments to undertake on their own. Should DEQ be

unwilling to make these findings themselves, detailed guidance on how these finding should be made will be needed.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0137 – Clean Water Services; 0128 – City of Stayton; 0130 – City of Astoria; 0158 – City of Prineville; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0184 – City of Salem)

“Section (l)(b)(C) of the variance rule should be revised to clarify that the Department will make the determination of whether a variance poses an "unreasonable risk to human health." It is inappropriate to require a permittee to corral the data on human health effects of a variance.” (0117—City of Klamath Falls)

“A new provision should be added as Section (l)(c) to the variance rule to clarify that, if the granting of a variance does not increase the amount of a pollutant already in a waterbody, than the variance would not: (a) jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of such species' critical habitat; or (b) increase the risk to human health.”(0117—City of Klamath Falls)

DEQ Response: Several commenters requested DEQ clarify that DEQ is responsible for determining whether the issuance of a variance will cause an unreasonable risk to human health. DEQ revised the rule to clarify that it will make this determination and notes that the permittee may be asked to submit water quality data and analyses to assist DEQ in making this determination.

Other commenters requested DEQ to clarify how it intends to reach a conclusion that a variance would not result in an unreasonable risk to human health. If a permittee is not increasing its pollutant load under a variance from that of its previous permit, it may be reasonable to conclude that the conditions allowed by the variance will not result in an unreasonable risk to human health. However, site specific considerations, including the magnitude of pollutant exceedance, need to be examined before DEQ can make any such conclusions. DEQ is developing an Internal Management Directive for variances and will include details regarding this analysis, rather than further clarified in the proposed rule as requested by some commenters. A draft of the *Implementing Water Quality Standards Variances for NPDES Permittees* Internal Management Directive will accompany the June 2011 EQC Staff Report and rulemaking package. While DEQ will share this draft with interested stakeholders, DEQ will not solicit public comment on the document. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval.

Other commenters requested that DEQ clarify that it will be responsible for making determinations regarding whether an action will jeopardize threatened and endangered species. DEQ agrees that permittees will not be responsible for drawing such a conclusion and further notes that the responsibility for drawing conclusions regarding threatened and endangered species lie with EPA and the appropriate federal fisheries services. As a result, DEQ did not revise the rule as requested by one commenter how DEQ would evaluate variances in respect to threatened and endangered species. Aquatic life criteria variances submitted to EPA for approval are subject to Endangered Species Act (ESA) consultation requirements. EPA envisions the consultation will be tiered such that the detailed assessment of potential affects will occur at the time of EPA action on individual variances. Extended time for ESA consultation will need to be built into the standard variance approval timeframe for variances that require such consultation.

Revisions clarifying responsibilities for making various determinations were made to the proposed rules in response to these comments.

Request to remove “conditions allowed by”

Another commenter suggested the following revisions to this Subsection:

“(C) The ~~conditions allowed by the~~ variance would result in an unreasonable risk to human health; or”
(0079 – Oregon Water Quality Standards Group)

DEQ Response: A commenter suggests removing the phrase “conditions allowed by the” from subsection (1)(a)(C) and did not provide further explanation for the suggested edit. DEQ concludes that the requirement as stated in the proposed rule adequately describes the intention of the provision.

No changes were made to the proposed rules in response to these comments.

Use caution when applying to new sources [OAR 340-041-0059(1)(b)(D)]

“Section (1)(b)(D) allows the department or commission to consider granting variances for new dischargers. EPA believes this may be appropriate under very specific and limited circumstances and that analysis would need to be done on an individual variance basis. In general, caution should be used in issuing variances for new sources. The variance request would need to meet the requirements in section (1)(b)(D) and other alternatives for addressing the pollutant should be considered before beginning the variance process.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees with the comment regarding granting variances for new dischargers.

No changes were made to the proposed rules in response to these comments.

Should Not Apply to New Sources

Two commenters stated that DEQ cannot allow new discharges into an impaired waterbody for that pollutant.

“Surfrider objects to the proposed revisions that would allow variances to be issued to new facilities if it would prevent or mitigate a public health threat, provide a net environmental benefit, or remediate water contamination pursuant to RCRA or CERCLA. A variance is designed to provide existing dischargers with certain degree of flexibility in attaining water quality standards that are difficult to meet in the short-term. Issuing variances to new dischargers would legalize water pollution and undermine the objectives of the CWA. Although the exceptions for public health, net environmental benefit, and CERCLA/RCRA remediation appear logical, they could be broadly construed to impermissibly shift the burden of pollution on water users in contravention of the CWA.” (0049 – Surfrider Foundation)

“DEQ has not explained why ...the state would not want to require new sources to either comply at the date of initial discharge or be subject to compliance schedules. With a compliance schedule, a permittee is held to a date certain to meet an effluent limit certain. Surely this is the standard to which Oregon would want to hold new pollution sources. Instead, DEQ proposes to allow new sources to discharge into impaired waters, contributing additional loading that will make clean-up and restoration of water quality yet more difficult, by giving them a “temporary” alteration to water quality standards through a variance. The Department has not provided a sufficient policy rationale for the four exceptions to the general proposal that a source without a “currently effective NPDES permit” will not be allowed to obtain a variance. The first exception proposed is for sources that are necessary to “prevent or mitigate a threat to public health or welfare.” It is unclear what this would encompass because the Department does not discuss this section of the proposed rule in its issue paper. NPDES permits are not generally associated with urgent actions to protect the public health or welfare leaving the reader to believe that this provision would be used to justify granting variances to new or expanded sewage treatment facilities. There is no justification for such facilities’ not having to meet water quality standards at the time of construction when the best technology can be used to assure sufficient treatment. Likewise, it is not clear that an NPDES permit would ever be needed to address the condition posited in subsection (ii) for a water quality or habitat restoration project.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ received several comments regarding new permittees being allowed to receive variances in limited circumstances. One commenter questioned why DEQ would not want new sources to comply at the point of discharge or to be subject to compliance schedules. DEQ's preference is for new discharges to meet calculated water quality based effluent limits rather than grant a variance. If appropriate, DEQ also prefers to use a compliance schedule for these types of facilities, where needed, to achieve water quality standards. However, allowing a compliance schedule for new sources and dischargers may only occur on a limited basis⁶.

In the proposed variance regulations, DEQ will not grant a variance to a point source that does not have a currently effective NPDES permit, except in very limited circumstances. This rationale is based on the assumption that these facilities are able to mitigate and implement compliance strategies before discharging to a water body, in keeping with the overall objectives of the CWA. In addition, the *Friends of Pinto Creek* court decision⁷ limits the ability of new dischargers to discharge into a waterbody that was already impaired for that pollutant. These rules do not attempt to change or circumvent the Ninth Circuit's interpretation of law in that case. Similarly, any activity that proposes to discharge a new or increased load (beyond loads presently allowed in an existing permit) or that will lower the water quality of a water body identified as a high quality water is subject to an antidegradation review.

Despite these overriding principles, there may be circumstances in which facilities without currently effective NPDES permits may be allowed a variance based on social or environmental benefits. For example, the proposed rule may grant an exception and grant a variance for a permitted source that is needed to prevent or mitigate a threat to public health or welfare. Another proposed exception will be allowed for a newly NPDES permitted source that occurs in conjunction with a water quality or habitat restoration project, that may cause short term water quality exceedances, but will result in long term water quality or habitat improvement benefits. One commenter noted that it is not clear that an NPDES permit will ever be needed for a water quality or habitat restoration project. DEQ is unaware of any present situations where a permit would be needed to conduct such an activity. If no permits are issued, this provision would not be applied.

DEQ further analyzed the fourth condition that would have enabled DEQ to grant a variance for new permittees where a variance was necessary to remediate water contamination pursuant to the Comprehensive Environmental Response Compensation and Liability Act and concluded that variances would be unnecessary in these circumstances. State and federal requirements governing remediation of clean up site are sufficient to address issues that may arise, and as such, DEQ removed this provision.

Overall, staff would closely analyze any requests from expanding facilities or newly permitted facilities to determine if a variance was warranted.

No changes were made to the proposed rules in response to these comments.

Clarification Regarding Eligibility of New Sources Based on "Widespread" Socioeconomic Benefit

"There is no reason to limit new or expanded facilities to those that provide a "widespread" socioeconomic benefit—whatever that may ultimately be interpreted to mean. The facility might need to demonstrate such a benefit to receive a variance, but there are five other reasons under section (2)(b) for

⁶ DEQ may issue compliance schedules for new sources or new dischargers that are under construction and have not begun discharging if all of the following are true: (1) This is the first NPDES permit to be issued for the source; (2) A new, revised or newly interpreted water quality standard was issued less than three years before commencement of the relevant discharge (see 40 CFR § 122.47(a)(2)), and (3) The new, revised or newly interpreted standard was issued or revised after commencement of construction.

⁷ *Friends of Pinto Creek v. U.S. E.P.A.*, 504 F.3d 1007 (9th Cir. 2007), *cert. denied*, 129 S. Ct. 896 (2009)

issuing a variance, of which (2)(b)(A) and (2)(b)(C) in particular could potentially be used by facilities that would provide benefits (economic, social, or environmental) that might outweigh the environmental costs of lowering water quality.” (0079 – Oregon Water Quality Standards Group). The commenter suggested the following revised language:

“(D) A point source does not have a currently effective NPDES permit, unless the variance is necessary to:

- (i) prevent or mitigate a threat to public health or welfare;
- (ii) allow a water quality or habitat restoration project that may cause short term water quality standards exceedances, but will result in long term water quality or habitat improvement that enhances the support of aquatic life uses;
- (iii) provide a widespread socioeconomic benefits that is demonstrated to outweigh the environmental costs of lowering water quality. This analysis is comparable to that required under the antidegradation regulation contained in OAR-041-0004(6)(b); or...”

DEQ Response: DEQ agrees that the commenter’s revised wording in (D)(iii) more closely mirrors DEQ intent, which, as explained in the *Implementing Water Quality Standards for Toxic Pollutants in NPDES Permits Issue Paper*, is to mirror DEQ’s process by which a facility demonstrates a lowering of water quality is necessary under its antidegradation High Quality Waters Policy (OAR 340-041-004(6)) and the *Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications*.

Changes were made to the variance rule in response to these comments.

Information and Demonstration (1)(b)(E)

One commenter suggested that DEQ delete the proposed subsection (1)(b)(E) because the requirement is both unnecessary and potentially confusing.

“(D) A point source does not have a currently effective NPDES permit, unless the variance is necessary to:

- (i) prevent or mitigate a threat to public health or welfare;
- (ii) allow a water quality or habitat restoration project that may cause short term water quality standards exceedances, but will result in long term water quality or habitat improvement that enhances the support of aquatic life uses;
- (iii) provide a widespread socioeconomic benefit that is demonstrated to outweigh the environmental cost of lowering water quality. This analysis is comparable to that required under the antidegradation regulation contained in OAR-041-0004(6)(b); or
- (iv) remediate water contamination pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 42 U.S.C. 9601 et seq. as amended through July 1, 2006), or the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. 6901 et seq. as amended through July 1, 2006); or

~~“(E) The information and demonstration submitted in accordance with section (5) below does not allow the department or commission to conclude that a condition in section (2) has been met.”~~
(0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ disagrees that this language is not needed. This language reinforces and clarifies that if information needed to support a variance is not provided or is insufficient to make the preceding determinations, DEQ will not grant the variance.

No changes were made to the proposed rules in response to these comments.

4.2 Conditions to Grant a Variance [OAR 340-041-0059(2)]

A. Requirement to demonstrate that ‘no existing use will be impaired’ [OAR 340-041-0059(2)(a)]

One commenter stated that variances must include a requirement to maintain and protect existing uses and the water quality necessary to support them.

“This provision falls short of what is necessary to meet EPA’s implementing regulations because: (1) it does not explicitly require variances to meet the antidegradation policy, and to the extent that it functions as a prohibition it falls short of the full protection of existing uses that is required, (2) it makes no reference to the water quality that is required to maintain and protect existing uses, (3) DEQ has no implementation methods for Tier I of the antidegradation policy which it could use to ensure that this provision is followed and to demonstrate precisely what protects this provision provides, and (4) the Department is unlikely to enforce this provision without explicit Commission demands to do so because it has consistently over 35 years failed to acknowledge that existing use protection is a required aspect of water quality standards in its TMDLs, its NPDES permits, its 303(d) lists of impaired waters, and its 401 certifications.” (0078 – Northwest Environmental Advocates)

The same commenter included several examples supporting the argument that implementation methods are necessary for Tier I protections.

“...the GLI rules explicitly require that in addition to the six factors governing use attainability, the variance seeker show the antidegradation requirements have been met...Oregon has no implementation methods identified for Tier I protections and, in this rulemaking, has declined to engage in a discussion concerning the need for or the content of such methods.” (0078 – Northwest Environmental Advocates)

The commenter stated that variances must include substantive requirement for reasonable progress towards attainment and variance renewal must be based on substantial information.

“DEQ has stated that the only difference between a source with a compliance schedule and a source with a variance should be that the latter is not able to commit to a date certain by which it can meet waste load allocations. We support this general policy. In order that this policy may be carried out, however, conditions for pollution control and monitoring must be included in the variance and incorporated into the applicable NPDES permit... The studies and monitoring required should not be limited to ensuring compliance with the variance conditions but also so that DEQ, and the public, can determine in the likely event of an application for renewal whether the water quality is improving or deteriorating and whether any reasonable progress has been achieved.” (0078 – Northwest Environmental Advocates)

DEQ Response: The commenter identifies several revisions that the commenter thinks are critical for DEQ to comply with federal requirements regarding antidegradation and existing uses. DEQ disagrees that further revisions are necessary to address the protection of existing uses. Existing uses are addressed in the federal regulation governing states’ adoption and implementation of water quality standards (40 CFR 131.10(g)⁸ and (h)(1)). The regulation and EPA’s interpretation of its regulation result in a prohibition on granting a variance if it results in a removal of an existing use. However, the degree to which an existing use must be protected has not been clearly defined by EPA. Before making a determination of whether or not a variance results in a removal of an existing use, the existing use must also be identified. An existing use is defined by whether or not the use has actually been attained in the water body on or after November 28, 1975, as well as determining the highest level of water quality corresponding to that use that has been achieved since that date. The commenter notes that the rule does not refer to the water quality needed to protect existing uses and suggests that DEQ must do so. Based

⁸ 40 CFR 131.10(g) States may remove a designated use which is not an existing use, as defined in §131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

on DEQ's understanding of EPA's interpretation of the relevant federal rules, DEQ concluded that adding rule language to this effect is unnecessary to meet the federal requirements governing existing uses. DEQ will describe in more detail the approach it will take to meeting this requirement in its final Internal Management Directive for variances.

DEQ agrees that existing uses cannot be waived when determining whether or not to grant a variance request from a discharger; however, the scale of this determination needs to be considered as part of this analysis. The federal regulations addressing the removal of an existing use per 40 CFR 131.10(g) specifically relate to removing a designated use for a waterbody or waterbody segment when conducting a Use Attainability Analysis. When applied to a variance, which is discharger-specific, the analysis is most appropriately related to whether or not the discharge under a variance scenario results in a removal of an existing use for that waterbody. One way of evaluating whether or not the existing use is protected is by examining any changes to discharge loads. For example, if the discharge pollutant load proposed under a variance scenario is the same as (or lower than) the load under the previous permit, a reasonable conclusion is that there is not a corresponding removal of an existing use attributable to granting the variance. The commenter specifically suggests that DEQ must explicitly require variances to meet the antidegradation policy. DEQ regulations at OAR 340-041-0004 and the *Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications* establish and describe the requirement for new or increased loads to conduct antidegradation evaluations. The proposed variance revisions do not obviate these requirements.

The commenter also notes that DEQ has no implementation methods for Tier I of the antidegradation policy that it could use to ensure that this provision is followed and to demonstrate precisely what protection this provision provides. DEQ's antidegradation policy and implementation procedures have broad applicability beyond the issuance of variances. Further, ensuring the protection of existing uses is not solely a function of antidegradation. The requirement to do so is also contained in other provisions of both state and federal rules. As such, DEQ disagrees that it must revise its antidegradation implementation procedures to contain further specificity for how it will ensure protection of existing uses in the context of issuing a variance. As described in this response, the appropriate document to describe DEQ's approach to ensuring protection of existing uses in the context of granting a variance is in DEQ's Internal Management Directive.

Lastly, the commenter offers an opinion that DEQ has no intention of enforcing this provision. With regard to this latter comment, it is speculative in nature regarding DEQ's future actions; DEQ disagrees that this is its intent. As such, DEQ has not revised its proposed rules in response to these comments.

No changes were made to the proposed rules in response to these comments.

Request to Remove the Word "impaired"

One commenter suggested that DEQ remove the word "impaired" from this subsection, using the following rationale:

"If the facility is causing or contributing to the exceedance of a water quality standard, and if that standard is needed to ensure that the use is not impaired, how would any variance ever satisfy this criterion? A variance should not depend on a demonstration that the standard itself is unnecessarily stringent. Moreover, the basis for the criterion appears to be 40 C.F.R. § 130.10(g), which prohibits the removal of an existing use, but not its impairment.

(2) Conditions to Grant a Variance. Before the commission or department may grant a variance, it must determine that:

(a) no existing use will be ~~impaired or~~ removed as a result of granting the variance and ...” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ disagrees that “impaired” should be removed from this sentence. DEQ worked closely with EPA in developing this language. EPA's most recent guidance and policy regarding state development of

variance provisions is the 1998 Advanced Notice of Proposed Rulemaking on the Water Quality Standards Regulation (ANPRM)⁹ (page 36760). The ANPRM recommends an explicit statement that the granting of a variance may not result in any loss or *impairment* of an existing use. DEQ notes that certain requirements apply for existing uses, while different considerations may be applicable to designated uses.

No changes were made to the proposed rules in response to these comments.

B. Requirement to demonstrate that ‘attaining the water quality standard is not feasible’ [OAR 340-041-0059(2)(b)]

“The obligation to make specific findings regarding endangered species, existing water quality uses, and unacceptable risks to public health should be made by DEQ, not by the variance applicant. These findings are subjective, and will be difficult for local governments to undertake on their own. Should DEQ be unwilling to make these findings themselves, detailed guidance on how these finding should be made will be needed.

“EPA’s criteria for evaluation of ‘substantial and widespread social and economic impact’ are general. Additional information is needed from EPA on how these criteria will be evaluated, the level of information needed from Oregon municipalities to justify variance requests, and how variance request renewals will be handled. The ability to evaluate the ‘social’ impacts on a community is unclear – guidance is only provided for economic impact.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services; 0158 – City of Prineville; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0184 – City of Salem)

DEQ Response: DEQ agrees that several of the variance rule sections did not specify whether DEQ or the permittee is responsible for making specific findings. As a result, DEQ revised the rule to clarify those responsibilities.

DEQ appreciates the input and the commenter’s assessment regarding current EPA guidance about the implementation of the "substantial and widespread social and economic impact" factor. DEQ will use the information to the extent it exists in their guidance and will request additional input from EPA where gaps exist. To the extent that the commenters’ characterization of EPA’s current guidance was directed at action appropriate for DEQ, its Internal Management Directive for variances will be the best venue for addressing this topic. Internal Management Directives are well-suited to addressing DEQ’s expectations regarding the level of information and providing additional clarity regarding its review of information. DEQ expects that the appropriate level of information will vary in different circumstances and as such, is best suited for inclusion in its Internal Management Directive, rather than inclusion in the rule. DEQ is developing an Internal Management Directive for variances and will include details regarding the process DEQ will use and the interactions DEQ will have with permittees regarding the development and granting of variances. The draft *Implementing Water Quality Standards Variances for NPDES Permittees* Internal Management Directive will accompany the June 2011 EQC Staff Report and rulemaking package. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval.

No changes were made to the proposed rules in response to these comments.

Addressing Naturally-Occurring or Anthropogenic Loads

⁹ http://water.epa.gov/scitech/swguidance/standards/handbook/upload/1998_07_07_1998_July_Day-07_w17513.pdf

“The Department should clarify in its response to public comments how Sections (2) and (3) of the variance rule will be applied and interpreted if and when variances from water quality criteria are needed to address naturally-occurring or anthropogenic loads of pollutants upstream of a permittee's discharge that cause an exceedance in the State's generic water quality criteria.” The commenter further describes a specific case study involving arsenic and phosphorus.

“Under the City's interpretation of Sections (2) and (3) of the variance rule, the test for whether a permittee qualifies for a variance is NOT whether a designated use for a river is obtained, but rather, whether “attaining the water quality standard during the term of the variance is not feasible for one or more of the following reasons” including “naturally occurring pollutant concentrations,” “natural conditions” or “human-caused conditions or sources of pollution” that prevent the attainment of the use or cause an exceedance in water quality standards. If the Department has a different interpretation, the City requests DEQ to clarify its view as to how variances can be used to address naturally-elevated levels of arsenic and phosphorus in the Klamath Basin.” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees that if attaining the water quality standard during the term of the variance is not feasible based on several factors, including naturally-occurring and human-caused pollutants, the discharger would be eligible to receive a variance, as long as other requirements were met. The commenter's specific concerns regarding arsenic and phosphorus are best addressed through its Internal Management Directive for variances or through discussions with DEQ staff. Internal Management Directives are well-suited to addressing DEQ's expectations regarding the level of information and providing additional clarity regarding its review of information. DEQ expects that the appropriate level of information will vary in different circumstances and as such, is best suited for inclusion in its Internal Management Directive, rather than inclusion in the rule. DEQ is developing an Internal Management Directive for variances and will include details regarding the process DEQ will use and the interactions DEQ will have with permittees regarding the development and granting of variances. The draft *Implementing Water Quality Standards Variances for NPDES Permittees* Internal Management Directive will accompany the June 2011 EQC Staff Report and rulemaking package. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval.

C. Request to add Section Regarding Variances for 303(d)-listed Waters

“Section (2) of the variance rule should be revised to add a new paragraph (c) to clarify that a variance can be issued for a permittee that discharges into a waterbody that is listed on the State's Clean Water Act Section 303(d) list of impaired waters.

(c) If the granting of a variance does not increase the amount or concentration of a pollutant already in a water body after completely mixing with 100 % of the water body as calculated using the most recent 10 year harmonic mean flow of the water body, than the Department shall make a finding that the variance would not further impair, degrade, or remove an existing or designated use, irrespective of whether that water body is on the State's Section 303(d) list of impaired waters.” (0117—City of Klamath Falls)

“This new paragraph (c) should further clarify that, if a variance does not increase the amount or concentration of a pollutant already in a water body, than the variance would not further impair, degrade, or remove an existing or designated use.” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees that one way of evaluating whether or not the existing use is protected is by examining any changes to discharge loads that occur in conjunction with the proposed discharge associated with the variance. For example, if the discharge pollutant load proposed under a variance scenario is the same as (or lower than) the load under the previous permit, a reasonable conclusion may be that there is not a corresponding removal of an existing use attributable to granting the variance. However, DEQ does not agree that this specificity of analysis should be included in the rule language because there may be additional factors to consider when making this determination. Rather, the details regarding DEQ's evaluation of the impact of the proposed

variance on an existing or designated use is most appropriate for inclusion in DEQ's final Internal Management Directive for variances.

In regards to the commenters suggestion to use a ten year harmonic mean flow for the waterbody, DEQ's guidance regarding the selection of critical flows are contained in the Internal Management Directive addressing Reasonable Potential Analyses. DEQ's evaluations of receiving stream and discharge effluent data will be conducted consistent with this guidance. Consequently, adding rule language within this provision is unnecessary.

No changes were made to the proposed rules in response to these comments.

4.3 Specific circumstances associated with conditions (2)(b)(A) and (2)(b)(C) [OAR 340-041-0059(3)]

Proposed OAR 340-041-0059(3) details three circumstances DEQ could find to be true in determining that naturally occurring pollutant concentrations prevent the attainment of the use, and human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

One commenter stated that the purpose of adding this new section is unclear. (0083 – U.S. Environmental Protection Agency, Region 10).

One commenter stated that the proposed rule misconstrues the conditions under which the state can grant a variance.

“In other words, human sources that cannot be remedied or would cause more damage to remedy are the equivalent of nonpoint sources where enforceable controls are not likely to achieve the standard within the term of the variance. This leaves completely open what the Department means by “enforceable controls” on nonpoint sources, making it impossible to comment on what the agency intends.” (0078 – Northwest Environmental Advocates)

Other commenters suggested specific revisions:

“DEQ should revise Section (3)(c) of the variance rule to specify that "enforceable controls" are limited to those controls that can be enforced or reasonably employed by the variance applicant, as opposed to other "enforceable controls" that might be relevant to the control of the pollutant of concern, but that are not within the control of the applicant.” (0117—City of Klamath Falls)

“The City interprets the term "background concentration of the pollutant" as used in Section (3) of the variance rule to be equivalent to the term "background pollutant concentration" as proposed to be defined under OAR 340-141-0033(6)(a)(A). If this is the case, the variance rule should cross-reference this definition. If this is not the case, DEQ should specify under Section (3) what it considers to be the "background concentration of the pollutant" and why that differs from the definition under OAR 340-141-0033(6)(a)(A).” (0117—City of Klamath Falls)

One commenter suggested removing the phrase “demonstrated to be true” because the phrase is unnecessary and potentially confusing. (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ proposed this subsection to provide more clarity regarding the kinds of situations that can be considered in granting a variance based on a demonstration that either “naturally occurring pollutant concentrations prevent the attainment of the use” or “human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave

in place.” However, based on the lack of clarity and confusion expressed by several commenters in regards to some of the language in this section, DEQ concludes that this subsection does not provide an alternative or a more clear path to receiving a variance. Consequently, DEQ has removed this subsection from the variance rule. This level of information is more appropriate to include in the Internal Management Directive for variances.

Changes were made to the proposed rules in response to these comments.

4.4 Variance Duration [OAR 340-041-0059(4)]

A. Comments regarding variance expiration date

Commenters requested that DEQ only issue variances with an expiration date.

“Oregon’s current variance rule is similar to many states and limits how long a variance can stay in effect. This is a commonsense approach to variances. In particular, issuing a variance with an end-date ensures that it will be timely reviewed, removed, or, if necessary, reissued. Because suspending water quality standards for any amount of time is an extreme measure, at the very least, the EQC must ensure that these waivers cannot self-perpetuate indefinitely.” (0071 – Columbia Riverkeeper, et al.)

“The proposed time period of variances is impermissible and undercuts the statutory requirements of triennial review... Allowing a variance to have an *unlimited time frame*, as DEQ has proposed, is not only inconsistent, it is absurd.” (0078 – Northwest Environmental Advocates)

“Surfrider objects to the proposed revisions that would change the duration of a variance to coincide with the duration of an NPDES permit, which could exceed five years if the permit is administratively extended. Because a variance is essentially a short-term exemption from meeting water quality standards, it should be issued for as brief duration as possible. Otherwise, no incentive exists for the discharger to develop the practices or technology necessary to meet the standards, and the variance becomes a means of circumventing CWA requirements. Additionally, because Oregon has yet to issue a variance, a shorter variance duration would be prudent to ensure the smooth implementation of the program and that variances are not used to avoid meeting otherwise attainable water quality standards. Surfrider instead suggests that DEQ maintain the existing regulatory language, which provides that a variance may not exceed three years or the term of the NPDES permit, whichever is less. This is consistent with EPA’s policy that a variance must be rejustified upon expiration, but at least every three years. The triennial review of water quality standards under CWA § 303—assuming it occurs—does not require review of individual variances and, therefore, will fail to ensure that variances are still warranted, that progress is being made to attain water quality standards, and that existing uses are fully protected.” (0049 – Surfrider Foundation)

“EPA supports the language in section (4) regarding the duration of variances. Although we realize this is ODEQ’s intent, EPA would like to note that individual variances submitted by ODEQ for approval will need to specify the duration of the variance.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: Several commenters expressed concern regarding the proposed revision that will allow the length of a variance to coincide with the term of a NPDES permit, where justified. In the existing variance regulation, a variance is limited to three years or the term of the NPDES permit, whichever is less. DEQ will grant variances only for the length of time supported by the data and information, not to exceed the term of the permit, which by state and federal law is limited to five or fewer years. DEQ will grant variances for the amount of time justified by the permittee’s application; extending the maximum variance duration does not change DEQ’s approach in this regard. Rather, the dovetailing of the variance issuance process with the development of

NPDES permits fosters efficiency in the administrative process for granting variances and provides the opportunity to satisfy the public notice and comment requirements for both the variance and NPDES permit at the same time. In recognition that situations may arise leading to the administrative extension of a permit, DEQ is retaining the requirement for it to give priority to NPDES permit renewals for permits containing variances.

If the applicant's justification indicates a variance is needed for five or fewer years, DEQ will include requirements leading to meeting the water quality-based effluent limit associated with the underlying criterion within the justified timeframe. If the variance applicant justifies a variance duration that is longer than the permit term, DEQ will include additional requirements and associated milestones beyond the term of the permit in the event that the permit is administratively extended. In addition, the permit effluent limits and any other requirements based on the variance and associated pollutant reduction plan will continue to be in effect until the permit is reissued or revoked. Permits may be administratively extended for several reasons, including limited staff resources, aligning permit issuance on a watershed basis, insufficient data, or legal challenges. This alignment allows a variance, where justified, to stay in effect until a new permit is reissued. (DEQ also notes that if a compliance schedule is a more appropriate mechanism in either instance, DEQ's preference is to use a compliance schedule.)

No changes were made to the proposed rules in response to these comments.

B. Duration of variances for other permitted sources or multiple discharger variances

One commenter suggested the revisions to proposed rule 340-041-0059(4) to clarify that this applies to specific sources:

“(a) The duration of ~~the~~ a variance for an individual or general NPDES permittee shall not exceed the term of the NPDES permit. If the permit is administratively extended, the permit effluent limits and any other requirements based on the variance and associated pollutant reduction plan will continue to be in effect during the period of the administrative extension. DEQ will give priority to NPDES permit renewals for permits containing variances and where a renewal application has been submitted to the director at least one hundred eighty days prior to the NPDES permit expiration date.
 (b) The duration of other variances, including variances for categories of dischargers, shall not exceed five years from the date of EPA's approval of the variance. A variance for a category of dischargers that is incorporated into a general or individual NPDES permit may continue in effect for the permit term, including an administrative extension thereof, but the permit shall include a provision that authorizes the department to reopen the permit if the categorical variance has expired and has not been renewed on substantially the same terms.
 (c) When the duration of the variance is less than the term of ~~the~~ an NPDES permit, the permittee must be in compliance with the specified effluent limitation sufficient to meet the underlying water quality standard upon the expiration of the variance.
 (d) A variance is effective only after EPA approval. The effective date will be specified in a NPDES permit or order of the commission or department.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: One commenter provided additional rule language to address the duration of a variance in the circumstance that variances are granted to sources other than individual NPDES permittees or for categories of individual NPDES permittees. DEQ did not revise the rule to expand the applicability of the variance provision to other sources or categories of sources (See response to comments in section 4.1 and section 4.10). As a result, the commenter's additional suggested revisions are not necessary to address these circumstances.

No changes were made to the proposed rules in response to these comments.

4.5 Variance Submittal Requirements [OAR 340-041-0059(5)]

The proposed rule would require a permittee to submit five pieces of information to DEQ to support a variance application.

One suggested revision follows:

“(5) Individual Variance Request Submittal Requirements. To request an individual variance, a permittee must submit the following information to the department:” (0079 – Oregon Water Quality Standards Group)

DEQ Response: A commenter provided suggested revisions to distinguish between applications for individual variances and variances granted for categories of sources. As described in responses to comments in section 4.1 and 4.10, DEQ is not expanding the variance rules beyond individual NPDES permittees, therefore, the revisions suggested by the commenter are unnecessary.

No changes were made to the proposed rules in response to these comments.

A. Need to define “feasibility” of treatment [OAR 340-041-0059(5)(b)]

Proposed OAR 340-041-0059(5)(b) requires that variance applications include a description of treatment or alternative options considered to meet the applicable underlying water quality standard, and a description of why these options are not technically or financially feasible.

“Feasibility must be evaluated in the context of the benefits to be obtained. For example, what is feasible might be evaluated differently for a facility in an isolated area and a facility immediately upstream from a municipal drinking water intake. In addition, feasibility should be evaluated not only in terms of the financial costs to the facility but also in terms of potential adverse environmental or health effects (e.g., using a highly toxic treatment chemical or an energy intensive process to achieve a human health criterion).” (0079 – Oregon Water Quality Standards Group) The commenter suggested the following revision:

“(b) A description of treatment or alternative options considered to meet the applicable underlying water quality standard, and a description of why these options are not technically or financially feasible in relation to the water quality benefits that would be achieved, or why these options would result in adverse environmental or human health effects that would outweigh any water quality benefits that would be achieved;”

DEQ Response: DEQ appreciates the input regarding the different types of analyses that might be considered in an assessment of “feasibility” and agrees that it may encompass different types of considerations in addition to technological and financial feasibility as described by the commenter. In addition, evaluations of feasibility will need to include site-specific considerations, some of which are highlighted by the six different factors cited in the final proposed rule’s section (2)(b). While DEQ did not make the specific revisions suggested by the commenter, DEQ revised the final proposed rule in section (4)(b) to reflect such considerations. In addition, DEQ thinks that the commenter’s concerns can also be addressed through its Internal Management Directive for Variances. Internal Management Directives are well-suited to addressing DEQ’s expectations regarding the level of information and providing additional clarity regarding permittees’ approach to analyzing treatment alternatives and reaching a conclusion that the options are not feasible, which DEQ expects will vary in different circumstances. DEQ has prepared a draft Internal Management Directive that it will finalize following EQC adoption and EPA approval of final rules.

Changes were made to the proposed rules in response to these comments.

Naturally-elevated pollutant levels in intake water should not be subject to analyses of technical or financial feasibility

“The variance rule should be revised to clarify that, when an applicant seeks a variance from a water quality standard due to naturally-elevated levels of a pollutant in its intake, the applicant need not submit information to address "treatment or alternative options considered to meet the applicable underlying water quality standard, and a description of why these options are not technically or financially feasible." Applicants for variances should not be held responsible for reducing naturally-elevated levels of pollutants in a permittee's intake.” (0117—City of Klamath Falls)

DEQ Response: DEQ disagrees that it should remove the requirement for applicants to submit information describing “treatment or other alternative options considered” where the pollutant levels are naturally elevated in an applicant’s intake. First, DEQ expects that in most cases, an applicant would pursue an intake credit or a site-specific background pollutant criteria to address this situation, and that such applications would be infrequent as a result. In instances where a variance is the most viable tool to address this situation, DEQ expects that there may be complexities that may need to be addressed, such as unquantified pollutant sources other than intake water. DEQ’s objective for analyses associated with variances is for the data collection and analyses to be commensurate with the environmental issue being addressed and the associated complexity of those issues. While DEQ agrees that dischargers that are simply passing through pollutants from an upstream to a downstream location should not be responsible for removing that pollutant, DEQ concludes that the revisions suggested by the commenter presume a simplicity in situations that is not always likely to exist, and as a result, did not revise the rule as suggested. DEQ acknowledges, however, that in some cases, there may not be alternatives to meeting underlying water quality standards. In those instances, consistent with its expectations regarding the complexity of information in any particular case, the discharger must describe the analysis it conducted in reaching this conclusion.

No changes were made to the proposed rules in response to these comments.

B. Water quality data and analyses [OAR 340-041-0059(5)(c)]

“Section 5(c) of the variance rule requires the applicant to submit "[sufficient water quality data and analyses to characterize ambient and discharge water pollutant concentrations." The City interprets the term "ambient" to refer to the background concentrations of a pollutant in the receiving water body at or near the point of discharge. Please clarify if the Department has a different interpretation. On a related note, the City requests DEQ to specify in its response to public comment or in guidance how to "characterize ambient and discharge water pollutant concentrations."” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees that the term “ambient” refers to the water quality at or near the point of discharge. DEQ’s Internal Management Directive for conducting Reasonable Potential Analyses describes DEQ’s current approach to characterizing the receiving waterbody by an initial requirement for permittees to conduct a general pollutant toxicity evaluation of their effluent. In the event that a potential for toxicity for a particular pollutant is indicated, the permittee will be required to collect corresponding ambient water quality data and, if required, additional effluent characterization data. Depending upon the issues identified in the screening and potential for recourse under various implementation tools (e.g. variance request), the permittee will develop a sampling plan to provide the necessary data to support the selected implementation tool. DEQ’s Internal Management Directive for conducting Reasonable Potential Analyses describes general characterization methodologies, but any site specific data collection issues will be addressed in the sampling plan.

No changes were made to the proposed rule in response to these comments.

C. Pollutant Reduction Plan [OAR 340-041-0059(5)(d)]**Use of SB 737 Persistent Pollutant Reduction Plan**

Some commenters suggested that the pollutant reduction plan required under this proposed rule be the same as the Persistent Pollutant Reduction Plan required for some permittees under Senate Bill 737 implementation. (0113 – City of Portland)

“The proposed rule should be clear that the proposed pollutant reduction plan can be the same plan as the one developed under SB 737 (a persistent priority pollutant reduction plan) for similar pollutants. We believe this to be the Department’s intension, but clarifying the language would be beneficial.

Commenters proposed the following rule language:

“(d) A proposed pollutant reduction plan...for implementing these measures. A proposed pollutant reduction plan prepared for the same pollutant for which a variance is being requested can be plan developed to meet OAR 340-045-0100(2)(e) as a written persistent pollutant reduction plan. Pollutant reduction plans will be...” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by another commenter. (0137 – Clean Water Services)

“DEQ should work with permittees to identify any pollutants for which a majority of permittees expect to need a variance. DEQ should then provide guidance in developing reduction plans for those pollutants. These plans may focus on pollution prevention, and they may include improved treatment processes. The development of these plans may be similar to the work the DEQ and ACWA have already invested in determining how to develop the reduction plans required by Senate Bill 737. If permittees are unable to meet water quality standards and must request a variance, the strength and effectiveness of these reduction plans will determine whether or not these toxic pollutants are actually reduced in Oregon, and whether we make progress toward the public health goals represented by the higher fish consumption rate. This process would also identify the highest priority toxics for increased attention in the agency wide toxics reduction strategy.” (0084 – Oregon Environmental Council)

“Section 5(d) of the variance rule should be revised to recognize that municipal permittee's may already be required to develop a "pollutant reduction plan" for a toxic substance of concern under OAR 340-045-0100(2)(e) (the implementing regulation of Senate Bill 737). Thus, for pollutants a permittee or users of a collection system add to a waste stream, the proposed rule should clarify that the "pollutant reduction plan" can be the same plan that a municipal permittee may be required to develop under OAR 340-045-0100(2)(e).” (0117—City of Klamath Falls)

DEQ Response: DEQ agrees that pollutant reduction plans developed for the same pollutant under Senate Bill 737 and a variance should not be duplicative. DEQ anticipates the pollutant reduction plans implemented as part of a variance to meet federal and state water quality standards requirements may be more comprehensive than a plan developed in response to Senate Bill 737. Variances and pollutant reduction plans may require the implementation of alternative or different treatment or other actions that may not arise from implementing the Senate Bill 737 requirements. DEQ acknowledges the commenters’ concerns regarding potentially duplicative requirements and believes that the development of one pollutant reduction plan addressing the same pollutant will be adequate, as long as the pollutant reduction plan meets requirements for both variances and Senate Bill 737. To that end, DEQ is separately proposing revisions to its Plan Initiation Level rulemaking to remove the requirement for a pollutant reduction plan under SB 737 if a permittee is subject to more stringent or duplicative requirements for that pollutant.

No changes were made to the proposed rules in response to these comments.

Pollutant reduction plans are not appropriate to reduce pollutants that are naturally in a permittee's intake water

“The variance rule should be revised to clarify that, when an applicant seeks a variance from a water quality standard due to naturally-elevated levels of a pollutant in its intake, the applicant need not submit information to address the "proposed pollutant reduction plan that includes any actions to be taken by the

permittee that would result in reasonable progress toward meeting the underlying water quality standard." Pollutant reduction plans are appropriate to reduce pollutants a permittee adds to its intake water, but are not appropriate to reduce pollutants that are naturally in a permittee's intake water." (0117—City of Klamath Falls)

DEQ Response: DEQ disagrees with this comment. Although the rules require a pollutant reduction plan (PRP) for permittees granted a variance, the PRP will be tailored to specific circumstances of each facility. In some cases, PRPs will be quite extensive, depending upon the degree to which the permittee contributes to pollutant loading and the opportunities available for that pollutant's reduction. In other cases, the contribution may be quite small, or the opportunities to reduce pollutant loadings may be limited. Where there are limited actions the facility can take to reduce the pollutant's loadings into the environment, a PRP will be required, but the expectation for additional actions to further reduce pollutant concentrations will be less.

No changes were made to the proposed rules in response to this comment.

More details needed regarding water quality trading

Some commenters suggested that water quality trading should be discussed for both point and nonpoint sources.

"CWS has successfully utilized trading to cost-effectively meet water quality needs, and trading should be provided and endorsed as an option for compliance under the proposed rules." (0137 – Clean Water Services)

"Proposed rule OAR 340-041-0059(5)(d) discusses the use of pollutant offsets or trading. For the human health criteria most affected by this rule making, that provision of the rule directly conflicts with the DEQ Internal Management Directive on Water Quality Trading (December, 2009) regarding water quality trading... Substantially greater information and direction should be provided in the rule if the DEQ intends to make this a useful tool for NPDES permittees." (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

"DEQ should also explore opportunities for water quality credit trading to meet these standards, as DEQ did to address temperature in the Clean Water Services permit. For pollutants that enter a given body of water through both point and nonpoint source pathways (such as those that bind to sediment), municipalities may be able to finance reductions on agricultural and forest lands that are more significant than what they could achieve within their own systems." (0084 – Oregon Environmental Council)

DEQ Response: Some commenters suggest that pollutant offsets or trading implemented as part of a proposed pollutant reduction plan will conflict with DEQ's *Water Quality Trading for NPDES Permits Internal Management Directive*. In the variance process, DEQ proposes to allow water quality trading in the context of a pollutant reduction plan implemented as a condition of a variance. Water quality trading used as part of a variance is one approach that a permittee may take to reduce the pollutant in question; it is not being used to demonstrate compliance with a permit effluent limitation derived directly from the toxics criteria or a wasteload allocation developed as part of a TMDL. This is different from the types of trading addressed by *Water Quality Trading for NPDES Permits Internal Management Directive*, which includes water quality trading for temperature to demonstrate compliance with permit effluent limitations derived from wasteload allocations made during Total Maximum Daily Load analyses.

As a result, DEQ does not agree that its *Water Quality Trading for NPDES Permits Internal Management Directive* (Dec. 2009) is in conflict with the proposed rule. As stated in the IMD, trading for toxics presents unique challenges with respect to ecological and human health risks and trading for toxic pollutants was not considered at the time the IMD was developed due to these challenges.

No changes were made to the rule based on these comments.

Evaluating feasibility of reduction options

“Particularly for variances associated with background pollutant concentrations, there may be no feasible actions that the facility could take to reduce its pollutant discharges. Moreover, the feasibility of a pollutant reduction option should be evaluated not just in financial terms, but also in terms of potential adverse environmental and health effects.” (0079 – Oregon Water Quality Standards Group). The commenter proposed the following revision:

“(d) If feasible pollutant reduction options that do not have adverse environmental or human health effects are available to the permittee to make A proposed pollutant reduction plan that includes any actions to be taken by the permittee that would result in reasonable progress toward meeting the underlying water quality standard, a pollutant reduction plan that contains the permittee’s proposed actions. Such actions may include proposed pollutant offsets or trading or other proposed pollutant reduction activities, and associated milestones for implementing these measures. Pollutant reduction plans will be tailored to address the specific circumstances of each facility and to the extent pollutant reduction can be achieved; and...”

DEQ Response: DEQ disagrees that the commenter’s suggested changes are needed in order for the pollutant reduction plan to incorporate appropriate actions based on a consideration of potential adverse environmental and health effects. DEQ acknowledges that in some circumstances, there may be no feasible actions available to further reduce a pollutant in a discharge, however, in order for DEQ to make this determination, a permittee needs to submit this analysis and conclusion in the proposed pollutant reduction plan. There is sufficient flexibility provided in the proposed rule that accounts for specific circumstances occurring at each facility, including whether adverse environmental or human health effects will occur as a result of the pollutant reduction options evaluated. Where there are limited actions the facility can take to reduce the pollutant’s loadings into the environment, a pollutant reduction plan will still be required, but the expectation for additional actions to further reduce pollutant concentrations will be less.

No changes were made to the proposed rule in response to these comments.

D. Demonstration of jurisdiction’s legal authority to regulate the pollutant

One commenter stated that the variance rule must require controls over a broad range of pollutant sources entering municipal sewage collection systems.

“We appreciate DEQ’s inclusion of the provision that municipal sewage treatment plans must provide “a demonstration of the jurisdiction’s legal authority (such as a sewer use ordinance) to regulate the pollutant for which the variance is sought... the rule should clarify two ways in which this legal authority will be judged. It must require that this legal authority extend to both indirect dischargers of the pollutant, including commercial and industrial sources not regulated under the federal pretreatment program as well as the authority to regulate pretreaters to a greater degree, in other words, sources that would require NPDES permits if they discharged directly to Oregon waters. And the rule must specify that this authority must extend to nonpoint sources which contribute runoff to the sewage collection system. Second, and missing entirely from the proposed rule, the rule must specify that the pollution reduction plans control all sources of the pollutant at issue including commercial and industrial sources and, if relevant, through the use of local ordinances.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ does not agree with the commenter’s suggestions to further expand the content of municipal ordinances. Many municipalities already have ordinances that enable them to control potential sources of pollutants into the jurisdiction’s sewer collection system. DEQ’s intent with the inclusion of this provision is not to create entire new programs or cause municipalities to revise current ordinances already in place. The

proposed rule requires that such ordinances be “sufficient to control potential sources of that pollutant that discharge into the jurisdiction’s sewer collection system.” DEQ concludes that such language is sufficiently inclusive and will enable municipalities to address potential sources of pollutants through their pollutant reduction plans.

The commenter also requests that DEQ require actions to control all sources of the pollutant at issue, including commercial and industrial sources, as part of the pollution reduction plans. DEQ does not agree adding such a requirement is necessary. The rule requires the applicant’s proposed pollutant reduction plan to include any actions that will result in reasonable progress toward meeting the standards. DEQ expects that the pollutant reduction plans will reflect site-specific considerations, which may or may not include controlling all sources. For example, a municipality may identify one or more major sources of the pollutant in questions for which cost-effective reduction will be realized at a greater rate than other, minor sources. DEQ does not presuppose that all sources must need to be controlled in order to achieve progress toward meeting the underlying water quality standards.

No changes were made to the proposed rule in response to these comments.

E. Omissions in Variance Submittal Requirements

Permittees are not required to submit information regarding nonpoint sources

One commenter noted that “there is nothing in the variance application submittal requirements in subsection (5) that requires the permittee to submit information to DEQ when seeking a variance concerning the nonpoint sources under its control, what practices are currently in place for those sources, and what additional practices might be considered reasonable and cost-effective.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ agrees with the commenter. In response, DEQ has added language to the final variance rule, subsection (5), requiring this information from the permittee where applicable.

Changes were made to the proposed rule in response to these comments.

4.6 Variance Permit Conditions [OAR 340-041-0059(6)]

Effluent limits will be based on the variance as long as the variance remains in effect. The permit must include four requirements as listed in proposed OAR 340-041-0059(6).

One commenter suggested DEQ add language to allow for situations such as 401 certifications:

“(6) Variance Permit Conditions. Effluent limits in the discharger's permit or other department action that relies on the variance will be based on the variance and not the underlying water quality standard, so long as the variance remains effective. The department shall establish and incorporate into the discharger’s NPDES permit or other relevant department action all conditions necessary to implement and enforce an approved variance and associated pollutant reduction plan, if applicable. The permit must include, at a minimum, the following requirements.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ does not agree that the revisions suggested by the commenter are needed. DEQ evaluated the commenter's request to include non-NPDES facilities among the sources that can seek a variance and responded to those comments in section 4.1. Because the rule is specific to individual NPDES permittees, DEQ cannot identify a mechanism, other than through the NPDES permit, through which it would incorporate the permittee’s effluent limit and any conditions needed to implement and enforce the variance and pollutant reduction plan.

No changes were made to the proposed rule in response to these comments.

Inclusion of an instream water quality criterion

One commenter suggested that the rule must include an instream water quality criterion that applies during the term of the variance, not just a water quality based effluent limit (WQBEL) that is incorporated into the relevant NPDES permit, because a variance is a change to water quality standard. (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ acknowledges that granting a variance is a facility-specific change to the water quality standards that applies to a permittee for a specified duration. DEQ disagrees that it needs to identify an instream requirement in addition to developing permittee-specific permit limits and requirements. The variance requirements will, at a minimum, require the permittee to continue to meet the best effluent quality achieved under current operations and treatment, presuming the facility is operating the system at optimum performance levels under a variety of environmental conditions. In addition, during the variance period, the facility will be required to achieve the lowest effluent concentration possible under current operations and treatment and which is no less stringent than that achieved under the previous permit. These requirements are much more specific than establishing a separate value that represents an instream criterion. Such a criterion could be calculated but would necessarily need to be developed based on several layers of assumptions, including instream flow, characterization of how the discharge mixes with the receiving stream, etc. As such, DEQ concludes that focusing the alternative requirements on the permittee and its effluent quality during the variance is more appropriate. In addition, because the underlying water quality criterion remains in effect for all other Clean Water Act purposes, the calculation of an instream variance criterion has no practical value.

No changes were made to the proposed rule in response to these comments.

A. Omissions in Variance Permit Conditions

One commenter noted that there is nothing in the proposed subsection (6) that requires DEQ to issue a variance to a permittee that contains the requirements to control the nonpoint sources under the permittee's control.

“There is nothing in the rule proposal that explains how Oregon will determine whether practices for nonpoint sources under the control of the permittee are sufficient to meet the rule's requirements that would otherwise preclude the Department from issuing a variance.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ does not agree that it must add a separate requirement in the section of the variance rule addressing the variance permit conditions to explicitly include nonpoint sources. The proposed rule requires DEQ to include “any pollutant reduction actions approved as part of a pollutant reduction plan...” DEQ expects that any additional nonpoint source actions DEQ or the permittee identified will be included in the pollutant reduction plan and incorporated as part of the permit conditions.

No changes were made to the proposed rule in response to this comment.

B. Interim permit limit [OAR 340-041-0059(6)(a)]

Some commenters requested that the “interim limit currently achievable” be set on a concentration basis to normalize the data for population increases. Commenters suggested the following rule language:

“(a) an interim concentration based permit limit or requirement representing the best achievable effluent quality based on discharge monitoring data and which is no less stringent than that achieved under the previous permit;” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by another commenter. (0137 – Clean Water Services)

One commenter requested a revision that would allow for new sources or a permittee's request for an increased discharge.

“(a) all applicable technology-based controls for the pollutant or pollutants for which the variance has been approved an interim permit limit or requirement representing the best achievable effluent quality based on discharge monitoring data and which is no less stringent than that achieved under the previous permit,” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ agrees with some commenters' suggestion that “concentration” can be added to this language, however, DEQ notes that adding this word does not give a discharger a de facto ability to increase its pollutant load based upon population increases. The basic premise of effluent discharges under a variance is that the interim permit limit can be no less stringent than what it is currently discharging. In the event that the facility is nearing (i.e. > 85%) design capacity, DEQ may re-open the permit and reassess the variance to determine whether or not any increase in discharge load is warranted. DEQ typically reviews and evaluates municipality's General Sewer and Facilities Plans that project future (+ 20 years) population growth and corresponding sewerage flow rates, and develop facility capacity assessments and design flows. DEQ anticipates basing variance evaluations on these capacity assessments and design flows.

Changes were made to the proposed rule in response to this comment.

Another commenter requested DEQ revise the requirement to rely on “all applicable technology-based controls for the pollutant or pollutants for which the variance has been approved.” As described in above, this requirement is intended to ensure that the interim permit limit is no less stringent than what it is currently discharging. As such, substituting an evaluation of technology-based controls is not appropriate.

Changes were not made to the proposed rule in response to this comment.

4.7 Public Notification Requirements [OAR 340-041-0059(7)]

A commenter stated that the proposed rule does not include sufficient public notice and process for variances to conform to requirements that apply to water quality standards.

“DEQ proposes that it will bury the variance proposals in the NPDES permit notices. While this may reduce the public attention to the process, thereby lessening DEQ's administrative inconvenience, it is patently unfair to the public and inconsistent with EPA policy to not alert the public to the “temporary” suspension of water quality standards. Likewise, while the proposed variances can and should be issued along with the draft NPDES permits, notice of a change – worse, a suspension of unknown duration – to water quality standards should not be “includ[ed]” in the draft NPDES permit notice but rather alongside or concurrent with the permit renewal notice.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ disagrees that issuing a variance in conjunction with the NPDES permit process will “hide” these actions and that DEQ must separate the public notification processes. A variance is a revision to state water quality standards, and, as such, requires a public notice and comment, which the variance rules require for any NPDES permit containing a proposed variance and pollutant reduction plan. DEQ does not agree that conducting public notice and comment for a variance in conjunction with a NPDES permit renewal and including the notice in the draft NPDES permit notice is unfair to the public; rather DEQ envisions that such a process will enable the public to directly evaluate the result of granting the variance in the NPDES permit itself.

No changes were made to the proposed rule in response to these comments.

4.8 Variance Renewals [OAR 340-041-0059(8)]

Variances may be renewed under certain conditions.

One commenter suggested revisions to the proposed language in this subsection.

“(8) Variance Renewals.

(a) A variance may be renewed if the department or commission ~~permittee~~:

(A) makes new findings that the criteria in a renewed demonstration pursuant to section (2) of this rule are met that attaining the water quality standard continues to be infeasible,
~~(B) demonstrates that all conditions and requirements of the previous variance and actions contained in the pollutant reduction plan are being met, and~~
~~(C) determines that meets all other requirements of this rule are met.~~

(b) A variance renewal must be approved by either the department director, the director’s delegatee, or the commission, and by EPA.

~~(c) Renewal of the variance shall be denied if the permittee is not in compliance with the conditions of the previous variance, including those specified in section (6) of this rule, or otherwise does not meet the requirements of this rule.” (0079 – Oregon Water Quality Standards Group)~~

DEQ Response: DEQ evaluated the commenter’s suggested revisions and made changes to the rule to clarify DEQ’s and the permittee’s responsibilities in renewing a variance. In regards to the suggested addition of “the director’s delegatee” DEQ addressed this comment in section 4.1.

Changes were made to the proposed rule in response to these comments.

4.9 Comments regarding implementation of variances

A. Request for DEQ to complete implementation plan

Some commenters requested that DEQ complete an implementation plan by pollutant category before the EQC adopts the proposed rule. (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0035 – Clackamas River Water Providers; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0128 – City of Stayton; 0130 – City of Astoria; 0149 – Water Environment Services; 0158 – City of Prineville; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem)

“In addition, we recommend that the Commission and DEQ provide broader and prioritized strategies that address all sources of toxics, including developing basin-scale TMDLs for toxic pollutants. We recommend that these strategies be integrated with the rule prior to finalizing the rule.” (0137 – Clean Water Services)

DEQ Response: DEQ is developing a document that will discuss the Table 40 pollutants that have been detected in treated effluent as well as DEQ’s proposed approach to permitting for these pollutants. This document will contain information on the following:

- Table 40 pollutants that have been detected in effluent, potential sources of those pollutants and treatment options (to the extent that such information is readily available).
- The use of compliance schedules. DEQ anticipates allowing compliance schedules where treatment plant upgrades are needed to meet permit limits for Table 40 pollutants.
- The use of variances.

No changes were made to the proposed rule in response to these comments.

B. Request for more information regarding path between variance and compliance

One commenter requested that DEQ provide more information describing how permittees may eventually comply with water quality standards after using a variance.

“We request that DEQ provide a path from the variance to a Use Attainability Analysis (UAA) reflecting the actual uses specific to the receiving stream (such as recreational versus subsistence fishing). As proposed, the use of variances alone to address the lack of available treatment technology or the result of widespread social and economic impact does not provide a pathway of progress toward meeting the water quality standards.

DEQ should identify a meaningful process that picks up from the end of a variance, such as clearly describing the transition from variances into TMDLs. CWS has lengthy and successful experience working within the TMDL process to address water quality concerns, and believes that this process can also be successfully applied to meet the objectives of the proposed rules.” (0137 – Clean Water Services; these comments were supported by others: 0179 – Oak Lodge Sanitary District)

“CWS has successfully and effectively developed and implemented pollution prevention and source control programs to reduce toxics, and these programs should be explicitly recognized as an accepted basis and as an alternative to end-of-pipe water quality based effluent limits for regulatory compliance.” (0137 – Clean Water Services)

DEQ Response: DEQ acknowledges the commenters concern and request for additional information regarding how variances might be used in the interim while TMDLs are being developed or water quality standards are being revised. DEQ expects that the role variances will occupy in any specific circumstance may vary depending upon the pollutant, the other relevant water quality standards (e.g., the designated uses associated with the pollutant in question), the amount of available data to support the subsequent TMDL or water quality standards action, and the source(s) of the pollutant in question. While DEQ will generally describe the role a variance may play leading up to other actions, DEQ anticipates that further details will be site-specific in nature and as experience is gained, be informed by additional data collection and TMDL development.

No changes were made to the proposed rule in response to these comments.

C. Comments regarding DEQ’s Internal Management Directive

Commenters had many questions regarding DEQ’s internal management directive for implementing variances, and had specific suggestions for what should be included in the directive. The commenters requested an opportunity to review draft internal management directives when completed. (0081 – Oregon Association of Clean Water Agencies, et al.)

“As DEQ implements the variance options, the internal staff guidance should be simple and clearly stated. DEQ should also consider a variance by rule option that has been used in other parts of the country. With clear evaluation criteria and application and approval process, a permit by rule option could reduce administrative efforts and costs.” Commenter listed several issues for which it would look to DEQ to provide clarity. (0113 – City of Portland)

“CWS operates under a watershed-based permit and the proposed rules are not clear how a variance process would be applied to such a permit.” (0137 – Clean Water Services)

DEQ Response: DEQ agrees that an Internal Management Directive (IMD) for variances is essential. Many commenters expressed the need to have clear guidance in implementing variances and made specific suggestions on what to include in the IMD. DEQ is developing an Internal Management Directive for variances and will include details regarding the process DEQ will use and the interactions DEQ will have with permittees regarding the development and granting of variances. The draft *Implementing Water Quality Standards Variances for*

NPDES Permittees Internal Management Directive will accompany the June 2011 EQC Staff Report and rulemaking package. While DEQ will share this draft with interested stakeholders, DEQ will not solicit public comment on the document. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval. This IMD will address many issues and questions identified during discussions with stakeholders, as well as suggestions offered by public commenters.

No changes were made to the proposed rule in response to these comments.

D. Pilot project variance study

One commenter requested that DEQ execute pilot variance studies for a major municipal and major industrial permittee. (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

DEQ Response: DEQ appreciates the commenter’s request to conduct pilot variance studies for a major municipal and a major industrial facility. If a permittee requests that DEQ conduct such a pilot, DEQ will work with the permittee to begin development of a variance. DEQ notes, however, that the variance rule must be approved by EPA before DEQ can grant a variance for a permittee participating in a pilot. Clearly DEQ would not be able to grant a variance based on rules that are not yet effective under the Clean Water Act.

DEQ is developing a template for variance applications that will clarify information needed to complete a successful application, and will serve to streamline the application process.

No changes were made to the proposed rule in response to these comments.

E. The practicality of acquiring variances

Some commenters raised concerns regarding uncertainty surrounding the application and approval process for variances. (0061 – City of Medford)

“It is not clear for the proposed rules how long the variance process will take. This question leaves businesses with great uncertainty about when a variance will be approved or even if one will be granted at all. This uncertainty could greatly hinder prospects for new construction or expansion. AOI suggests that a specific timeframe be identified, e.g., a variance should be granted within six months of receiving a completed application.” (0012 – Associated Oregon Industries)

“... there is no standardized methodology or approval process for variances. In other states and regions where variances have been used, it has taken a decade of interaction, interpretations, and process development to achieve any level of efficiency in developing, reviewing, and approving variances to water quality standards. Given that neither the State of Oregon nor EPA Region 10 has ever processed a variance before, it is to be expected that this lengthy implementation of variances will need to occur as well with the proposed revisions to the Oregon Administrative Rules.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by another commenter. (0137 – Clean Water Services)

Some commenters stated that Oregon has not successfully processed a variance in the history of its water programs. (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

One commenter noted that the U.S. Environmental Protection Agency has experience with variances.

“While no variance has been requested to date by a discharger in Oregon, the use of variances is not uncharted territory to either Region 10 or many states and regions around the country. Several EPA regions approve variances on a regular basis and do so with little to no delay to the state's processes. As NPDES permits continue to be written to attain more stringent criteria, EPA has seen, and expects to continue to see, an increased need for variances. Several states have already issued numerous variances and have indicated that the practical knowledge gained by the discharger, state staff and EPA staff increases over time, thus allowing for a more fluid and efficient process that does not delay permit issuance. EPA remains committed to work closely with ODEQ's permit and standards programs to ensure a similar outcome in Oregon. As you proceed with the first variances issued under this revised rule and/or a pilot variance, we are ready to commit the staff resources necessary to make these efforts successful.”
(0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: Some commenters cited uncertainty with the variance process and pointed out that DEQ has not successfully processed a variance. DEQ disagrees with the characterization that it has not successfully processed a variance. Rather, DEQ has not received any variance requests to date and therefore, admits it does not have experience issuing variances as opposed to being unsuccessful in its efforts to date as implied by the commenter.

Other commenters expressed concern regarding the process that will be used by DEQ and EPA and the associated length of time it will take to issue variances; they cited other states' experiences in developing functioning variance issuance processes. DEQ and EPA have worked closely in developing the variance rule and each are committed to continued cooperation throughout the variance development and approval process. EPA has indicated its commitment to assist DEQ in the “start up” of this program and in conducting reviews. In addition, DEQ is developing a template for variance applications that will clarify information needed to complete a successful application, and will serve to streamline the application process.

One commenter request DEQ specify a timeframe by which a variance will be granted to alleviate some of the uncertainty associated with the variance process. While DEQ did not include such a timeframe in the final proposed rules, DEQ is committed to working with the permittee and EPA to grant variances that meet the requirements of the final proposed rule in a timely manner. To that end, as described in previous responses, DEQ has developed a draft Internal Management Directive for variances to provide further detail about this process, including a draft DEQ-EPA Memorandum of Understanding (MOU). This MOU will describe the process and timeframes that DEQ and EPA commit to in order to achieve an efficient variance process. The draft IMD will accompany the June 2011 EQC Staff Report and rulemaking package. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval. DEQ also notes that if it included timeframes in the proposed rule, these will not be binding on EPA's approval, which is necessary prior to granting a variance.

DEQ's and EPA's approvals are not the only critical steps in this process. Being able to develop and grant variances in conjunction with the permit development and issuance process was a key objective for the proposed revisions. DEQ notes that other aspects of the permit development may affect the permit development timeframe and subsequently affect the timing of the variance development process. As a result, including timeframes in the rule is unlikely to reflect the site-specific issues that may arise during the development of a variance a permittee.

No changes were made to the proposed rules in response to these comments.

Provisions for confidential business information

One commenter stated, “In cases where a variance is necessary for economic reasons, the agency should have clear, unambiguous rules protecting proprietary business information submitted by the applicant. Failure to do so places an Oregon business, perhaps already economically stressed, in the position of having its confidential operational and fiscal data unfairly being released to its competitors.” (0012 – Associated Oregon Industries)

DEQ Response: DEQ has clear statutory requirements for addressing confidential business information (CBI) under ORS 468.095(2). An applicant for a water quality standards variance must submit a request for a variance to the Department. The application must include all relevant information showing that the requirements for a variance have been satisfied. Unless classified by the Director of the DEQ as confidential, any records, reports, or information gathered as part of the variance request shall be available to the public.

The permit writer will consult with the Oregon Department of Justice before disclosing to a requestor any information the submitter has requested be kept confidential as a “trade secret.” While it is likely that in many cases a company’s financial information submitted with a variance application will be exempt from public disclosure, DEQ can only assure the industrial source that DEQ will protect the information to the extent permitted by ORS 468.095(2).

Note that EPA will also have many of the same records as DEQ because EPA must approve a variance before it becomes effective. DEQ believes that CBI requirements under ORS 468.095(2) are comparable to federal treatment of CBI under the Clean Water Act and to other states that operate NPDES programs.

No changes were made to the rule in response to these comments.

Variance is a short-term exercise with no pollutant reduction over time

Several commenters stated that variances could be an expensive investment with no environmental benefit.

“DEQ’s limited recommendation of variances as the only compliance tool for local governments will be an expensive investment with no environmental benefit. Variances are short-term and temporary tools. The overall DEQ rulemaking package does not address how variances can be used at facilities unable to meet water quality standards due to human caused load, where there is no feasible, effective treatment technology available.

DEQ has identified a burdensome, expensive, regulatory process with an uncertain outcome as the primary mechanism to obtain relief from these water quality standards. We cannot rely on such a process as the only mechanism for compliance.” (0081 – Oregon Association of Clean Water Agencies, et al.)

These comments were also supported by other commenters. (0137 – Clean Water Services; 0149 – Water Environment Services)

Several commenters also noted that variances are short-term and temporary tools. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0034 – City of Ontario; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0113 – City of Portland; 0128 – City of Stayton; 0158 – City of Prineville; 0161 – City of Medford; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem)

“...it must be remembered that variances are a short-term solution and are not intended to be indefinite. This concept fundamentally does not work in a situation where it may never be achievable or meaningful to remove naturally occurring earth metals or substances that are ubiquitous background pollutants.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

“DEQ identified a burdensome regulatory process with an uncertain outcome as the only compliance tool for local governments. Variances are a temporary, short-term tool that have never been used in Oregon. Furthermore, the variance application process will require significant investments from local governments with no resulting environmental benefit. In addition, DEQ does not account for what happens at the end of a variance period when dealing with legacy pollutants that will take many decades to degrade. Local governments cannot rely on such a process as the only mechanism for compliance.

The EPA regulations require variances to be “short term and temporary.” Legacy pesticides or very low levels of PCBs or pesticides that exist throughout the environment are long-standing and persistent. A variance is not an appropriate tool for addressing such pollutants. Even addressing current use toxics will be complicated and will take many years to resolve.

Variances provide a three- or five-year exemption, which may be appropriate for some pollutants as they can provide a schedule to come into compliance with a standard. A compliance schedule under an NPDES permit can achieve the same result without the expense and complications of a variance. For pollutants where technological solutions or source control strategies would not enable a source to meet standards, the proposed variance process is a bridge to nowhere. These facilities will likely face the same issues at the end of their variance.” (0137 – Clean Water Services)

DEQ Response: DEQ agrees with some commenters that point out that in some cases, a variance is not the vehicle that will result in the removal of toxic pollutants that are ubiquitous in Oregon’s waterbodies. DEQ is not advocating the use of variances to achieve these types of environmental objectives. The development and implementation of Total Maximum Daily Loads is one approach that can lead to longer term improvement in water quality. In DEQ’s responsibilities to administer the NPDES and water quality standards programs under the Clean Water Act, it must ensure that the associated state and federal requirements are met. In the absence of significant removal of some pollutants from the environment, DEQ must still issue NPDES permits that meet all legal requirements. Variances are a tool that DEQ and permittees use in specific circumstances to meet these requirements and ensure incremental progress toward meeting water quality standards. In some cases, implementation of a variance and its associated pollutant reduction plan will result in significant reductions of a pollutant. In other cases, this is unlikely to occur due to the unavailability of treatment or pollutant reduction activities. If DEQ identifies that there are multiple similarly situated facilities which have common challenges in meeting limits for a pollutant, DEQ will evaluate whether a development of a multiple discharger variance for a specific pollutant should be considered. (See response to comments in section 4.10). In instances where data and information (either through a TMDL analysis or other information) indicate that the water quality standards cannot be achieved for a waterbody or waterbodies, DEQ is committed to evaluating whether the water quality standards and designated uses are appropriate and revising them as needed. For example, public water supply is a designated use for most Oregon waterbodies (exceptions are estuarine waterbodies). In some cases, that use may not be appropriate or attainable and DEQ may consider a Use Attainability Analysis (UAA). In addition, variances maintain the underlying water quality standard in the short term. This maintenance of water quality goals may allow for the development of affordable treatment technologies to remove or significantly reduce some of these pollutants.

No changes were made to the proposed rule in response to these comments.

4.10 General Comments about Variances

A. Use of Great Lakes Initiative provisions in developing proposed rule

One commenter stated that the Great Lakes Initiative (GLI) does not apply to Oregon.

“As discussed above, DEQ has proposed some provisions it has gleaned from the GLI, despite the fact that Oregon clearly is not a GLI state. In doing so, Oregon has left behind most of the provisions of the GLI that do not fall into its category of being administratively convenient and protective of permittees but which do provide protection to public health and the environment. In doing so, Oregon runs afoul of EPA policy.” (0078 – Northwest Environmental Advocates)

DEQ Response: The Great Lakes Initiative was a comprehensive and collaborative plan finalized in 1995 among EPA and the Great Lakes states to restore the health of the Great Lakes, with a particular focus on toxic pollutants. Each Great Lake state was required to submit to EPA approval regulations related to minimum water quality standards for 29 pollutants (including bioaccumulative chemicals of concern), antidegradation policies,

and implementation procedures that were consistent with the Great Lakes Guidance published in regulation. Although Oregon is not a GLI state, the GLI provisions and requirements related to water quality standards were based on the relevant Clean Water Act provisions and federal regulations regarding water quality standards (Clean Water Act §303(c); 40 CFR Part 131) and thus, are relevant as a guide for development of implementation tools in Oregon. DEQ also researched other non-GLI states to assess how other states implemented variances and several other permitting tools.

DEQ's development of variance regulations and other permitting tools is guided by the fact that EPA Region 10 must independently review each component of this rulemaking to confirm consistency with 40 CFR Part 131, regardless of whether DEQ proposed regulations are based upon provisions from GLI states, other state or federal regulations, or EPA guidance. To the extent the commenter provided more specific concerns or suggestions regarding the proposed rule, DEQ provided responses to those specific comments in the appropriate section of this document and revised the proposed rule as appropriate.

No changes were made to the proposed rule in response to these comments.

B. A variance must include a replacement criterion

“EPA has made it clear a variance is a change to water quality standards. It is not an alteration to an NPDES permit. Therefore, it must include a criterion that applies during the pendency of the variance, not just a water quality based effluent limit (WQBEL) that is incorporated into the relevant NPDES permit. In fact, according to EPA, it is contrary to the requirements of sections 301(b)(1)(C) and 402(a)(1) of the CWA to issue a variance to an effluent limit.” (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ disagrees that the permit must include an instream water quality criterion as part of the variance. A variance only applies to the specific facility and does not change the underlying waterbody criterion. During the variance period, the facility will be required to achieve the lowest effluent concentration possible under current operations and treatment and which is no less stringent than that achieved under the previous permit. At a minimum, these requirements will reflect the best effluent quality achieved under current operations and treatment, presuming the facility is operating the system at optimum performance levels under a variety of environmental conditions. In some cases, the discharger may be able to reduce pollutant concentrations in its effluent through source reduction, treatment optimization, or other pollutant reduction strategies. In these cases, a lower effluent limit may be possible to achieve and will be incorporated into an interim limit.

No changes were made to the proposed rule in response to these comments.

C. Comments about Multiple Discharger Variances

Many commenters suggested that DEQ consider multiple discharger variances. (0012 – Associated Oregon Industries;)

“OWQSG ... urges the Department and the Commission to further revise the rule to facilitate the adoption of a variance for multiple dischargers and for categories of dischargers. For dischargers, obtaining a variance will be expensive and time-consuming; for the Department, issuing a variance will require substantial personnel and other resources that are already in critically short supply. Unless the Department considers and adopts variances that apply to multiple dischargers or to categories of dischargers, few facilities are likely to have the time and means to apply for a variance, and the Department will not have the resources to consider or issue more than a few of them.” (0079 - Oregon Water Quality Standards Group)

“Since many of these pollutants are common to all POTWs due to their ubiquitous presence in domestic wastewaters, we request that the DEQ develop a multi-discharger or pollutant category option under the

variance provisions being proposed. It would be wasteful and extremely inefficient to force permittees that have the same fact set underlying the inability to achieve compliance with new water quality standards to have to prepare separate variance applications.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0113 – City of Portland; 0137 – Clean Water Services; 0130 – City of Astoria; 0128 – City of Stayton; 0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0158 – City of Prineville; 0184 – City of Salem; 0112 – Metropolitan Wastewater Management Commission; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing)

Commenters suggested specific revisions to the proposed variance rule regarding inclusion of Multiple Discharger Variances. (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“Where multiple facilities of similar type are constrained in a similar manner, variances for multiple facilities could possibly be bundled together and use a similar justification, thus reducing the workload for all involved. If ODEQ identifies a situation where multiple dischargers face a similar problem, EPA remains open to exploring the most efficient process available to address these situations, including the bundling of variances or a multiple discharger variance.” (0083 – U.S. Environmental Protection Agency, Region 10)

“DEQ should develop a multi-discharger variance language for situations where a many sources are similarly situated with respect to background pollutants in their in-take waters. The DEQ should itself propose the first multi-discharge variance for PCBs preferably statewide, but at a minimum for dischargers on the Willamette and Columbia Rivers. PCBs are recommended as the subject of the first multi-pollutant variance because PCBs are shown to be ubiquitous using EPA’s Method 1638.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

DEQ Response: DEQ disagrees that it should include a multiple discharger variance in the rules at this time. A multiple discharger variance is a variance in which an upfront justification has been developed for not meeting a water quality standard based on a common set of factors for a certain group of similar facilities. A multiple discharge variance requires explicit rulemaking to address the particular facility/pollutant situation. If a facility fits under this justification, an individual approval of the variance is not required at the time the facility requests inclusion under the multiple discharger variance. During the stakeholder rulemaking development process, stakeholders did not identify a specific pollutant(s) to include under a multiple discharger variance. In addition, DEQ’s analysis given available information at that time did not identify pollutants that would cause widespread exceedance of discharge effluent limits. While commenters cited concerns regarding PCBs along with their request for a multiple discharger variance, commenters did not provide or identify additional data, information, or analyses to support the development of a multiple discharger variance at this time. As additional data and information are developed through the implementation of the revised human health criteria in NPDES permits, DEQ will evaluate developing a multiple discharger variance for PCBs or another pollutant DEQ identifies as having a need for such an approach.

The final proposed rule contains variance authorizing language for individual facilities only. As noted in EPA’s comments, the rule does not preclude multiple similarly-situated dischargers from applying for variances at the same time using the same or similar justification, however, each variance must be approved by either the DEQ director or EQC, and by EPA.

No changes were made to the proposed rules in response to these comments.

D. Opposition to proposed rule for variances (general)

Response to Comments: Toxics Rulemaking

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Several commenters requested that DEQ not create “loopholes, exceptions, or variances” to any new water quality standards. These commenters voiced concern that variances could be exploited by industrial interests to undermine the need to reduce toxics in our waterways. (0044 - Riverkeeper form letter, 153 commenters)

Other commenters expressed general opposition to variances. (0050 – Melinda McComb; 0093 – Sandra Joos; 0173 – Cat Koehn, oral testimony at Salem hearing; 0169 – Erin King, oral testimony at Eugene hearing)

One commenter stated that there is almost no likelihood that DEQ will implement environmentally protective provisions of the variance rule rendering its provisions not supportable, citing several instances where DEQ has failed to implement several provisions in the past.

“Granting variances from the standards protecting human health from toxics would undermine both short- and long-term water quality objectives and threaten public health. The potential for abuse is high, considering Oregon does not have a proven process in place for issuing variances. Moreover, establishing a new variance procedure will increase administrative costs and increase delays because EPA must approve each variance request.” (0049 – Surfrider Foundation)

“Another concern is the frequent use of terms such as “as is practicable” in almost every requirement and standard for a variance. This is obviously a big loophole and judgment call making the fairness and goals of the revised standards continually up for debate. Particularly as economic hardship is always the rationale for a variance to best practice standards. People throughout Oregon are subsidizing these variances through increased health care costs and lost productivity in addition to degradation of our collect natural resources and a loss to beneficial uses with a higher priority. As an example, both fishing and tourism are economically important to Newport, however the DEQ has chosen to favor the economic interests of Georgia-Pacific over the economic interests of the people of Newport. If all the legally nonconforming or grandfathered discharges are all given variances in perpetuity, then there is no net reduction of toxic pollutants in state waters. These older permits are among the worst air and water polluters in the state, and what needs to be addressed is a firm time-line for bringing these non-conforming permits into current air and water quality standards. Not only has the DEQ allowed these grandfathered discharges to continue, the DEQ actually approved requests from Georgia-Pacific to expand their use by permitting the importation of Marion County leachate for treatment and discharge, where only a pulp mill discharge had ever been permitted. And while Georgia-Pacific was pleading economic hardship with respect to upgrading its discharge treatment, GP was collecting an additional \$800,000 in 2004 alone for processing hazardous waste (per the bid on the Marion County website) in the form of imported leachate. It was using, and the DEQ allowed, its grandfathered status to take in new sources of effluent for profit. How these new water quality standards will impact water quality in Oregon will be nothing more than a negotiable point with the DEQ when every standard and grounds for a variance are based upon a nebulous practicality or a one sided economic analysis. If the DEQ wants to reduce toxic pollutants in state waters, then it should seriously reconsider issuing permits for discharging toxic pollutants into state waters (mixing zones).” (0050 – Melinda McComb)

“If DEQ is truly serious about the adoption of new fish consumption standards and truly believe that these standards are necessary to protect that segment of Oregon’s population, then implementing these new standards should occur immediately. If that implementation is impracticable, as DEQ’s variance strategy tacitly admits, then the rule itself should be changed to work rather than attempt to band-aid it through an arbitrary exception process like waivers.” (0149 – Water Environment Services)

DEQ Response: Several commenters expressed concern regarding whether the use of variances effectively creates a loophole for sources or not have any positive effect on the environment. As noted in previous responses in this section, the pollutant reduction plans required as part of variances DEQ grants will contain required actions to ensure progress toward meeting water quality standards and achieve environmental gain.

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The comments included here are general in nature, and where the commenters offered more specific concerns or suggestions regarding the proposed rule, DEQ provided responses to those specific comments in the appropriate section of this document and revised the proposed rule as appropriate. With regard to these more general comments, they are speculative in nature regarding DEQ's future actions. As such, DEQ has not revised its proposed rules in response to these comments. DEQ provided information in the *Implementing Human Health Toxics Water Quality Standards in NPDES Permits* issue paper regarding its evaluation of rule option and some information regarding its intent in implementing revised rule provisions.

DEQ is also developing an Internal Management Directive for variances and will include details regarding the process DEQ will use and the interactions DEQ will have with permittees regarding the development and granting of variances. The draft *Implementing Water Quality Standards Variances for NPDES Permittees* Internal Management Directive will accompany the June 2011 EQC Staff Report and rulemaking package. While DEQ will share this draft with interested stakeholders, DEQ will not solicit public comment on the document. DEQ will revise the draft IMD as needed following the EQC adoption of the rules and will finalize the IMD following EPA approval.

No changes were made to the proposed rules in response to these comments.

E. Support for proposed rule for variances (general)

A few commenters expressed general support for variance language. (0072 - Confederated Tribes of Siletz Indians; 0126 – Confederated Tribes of the Grand Ronde Community of Oregon)

DEQ Response: DEQ acknowledges the commenters' support for the proposed variance rule.

Topic 5:

General Comments Regarding Permitting

This topic includes comments and responses generally addressing DEQ's implementation of the proposed human health criteria and DEQ's use of the proposed permitting implementation provisions.

5.1 Implementation Tools (General Comments)

A. Tools offer a workable process for issuing permits

Several commenters stated that the implementation tools in the proposed language offer a workable process for issuing permits.

“DEQ's analysis and the state's process for issuing pollution discharge permits does not support opponents' claims that the proposed standards are unworkable in NPDES permits. For over two years, DEQ, EPA, Confederated Tribes of the Umatilla Indian Reservation, and representatives of industry, municipalities, and NGOs worked in a collaborative process to develop implementation tools for the new toxics standards. DEQ's analysis of the new standards demonstrates that the rulemaking package offers a workable process for issuing NPDES permits.” (0071 - Columbia Riverkeeper, et al.) This comment was mirrored by others. (0060 – Oregon Toxics Alliance form letters, 3 commenters; 0131 – Carla and Fred Hervert)

“For point sources, the proposed rules require meeting water quality standards protective of human health, but they include reasonable exceptions for situations where intake water already exceeds standards, and a variance process for facilities that determine it is not feasible to meet water quality standards. The variance process includes pollution reduction plans that will make progress toward improving water quality.” (0084 – Oregon Environmental Council)

“DEQ has developed a workable process that includes intake credits, background pollution allowances, and an amended variance process. These implementation tools are reasonable and provide a workable system that will allow the state's business and wastewater sectors to adapt processes to meet the current standards. Working for clean water requires a partnership between all stakeholders, and we will continue to work with DEQ and the EPA to find ways in order to clean up our waterways and protect the majority of people who eat fish.” (0143 – Columbia River Inter-tribal Fish Commission)

One commenter supported the concepts contained in the implementation tools, but had suggestions on how to make them more workable. (0117, City of Klamath Falls)

DEQ Response: Several commenters stated their general support for the implementation tools included in the proposed rulemaking package. DEQ acknowledges the commenters' statements and agrees with those who noted that DEQ sought to work collaboratively with interested parties to find workable solutions in instances where permittee may not be able to meet newly applicable requirements based on the water quality standards.

No changes were made in response to these comments.

B. Permit implementation tools are not adequate

Several commenters stated that the implementation tools in the proposed rule language are not adequate.

“The DEQ analysis greatly underestimates the impact of the proposed rule revisions on water quality permit holders, and most importantly, does not incorporate the implementation mechanism needed to achieve toxic reduction within the context of the Clean Water Act.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“NWPPA conditionally supported the proposal to increase the stringency of the Oregon water quality standards based on a higher fish consumption rate *provided that adequate implementation measures would be included with the proposal to address anticipated issues*. DEQ has had a number of years and incurred extensive public processes directed at implementation issues but in the end did not include sufficient measures in the proposal.

For these reasons, NWPPA opposes the proposed revisions.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries, 0082 – Oregon Forest Industries Council)

“Representatives of the Oregon Association of Clean Water Agencies (ACWA) and CWS served on the DEQ committees that contributed to the development of the proposed water quality standards, and provided significant input for the Department’s consideration. However, many significant aspects of this input are not reflected in the proposed rules, and we are concerned that the proposed standards do not provide a clear and effective implementation direction. Without effective guidance on implementation priorities, the standards as written will lead to substantial expenditure of public resources without achieving any meaningful improvement in the protection of human health or environmental quality. Furthermore, the reliance on variances as the sole tool for implementing the standards for municipal permittees is of uncertain effectiveness and will not serve to advance improvements in water quality. As proposed, variances will discourage the development of solutions that will lead to effective toxics control by redirecting resources to the variance application and approval process.” (0137 – Clean Water Services)

DEQ Response: Many commenters expressed general concerns that the permit implementation tools included in the proposed rulemaking package are inadequate to address issues likely to be faced by NPDES permitted sources. DEQ and the stakeholder advisory workgroup spent a considerable amount of time discussing potential permitting issues and evaluating appropriate implementation tools that could address those issues. Those discussions and options considered by DEQ and the advisory stakeholder workgroup are detailed in the various issue papers DEQ published with the proposed rule.

One of DEQ’s key considerations for including an implementation tool in the proposed rules was whether the tool would be considered legal under the Clean Water Act and subsequently approved by EPA. Where commenters also offered specific comments on provisions of the proposed rule and provided detail on specific aspects of DEQ’s rule they found inadequate or identified alternatives for DEQ’s consideration, DEQ responded to those specific comments in the appropriate section in this document and revised the proposed rule as appropriate. DEQ believes that the implementation tools included in this rulemaking in addition to the existing permit implementation tools are capable of addressing potential permitting issues. In addition, DEQ will continue to assess permitting needs as it implements the water quality standards in NPDES permits and can amend the implementation tools if needed. Further, if as part of this assessment DEQ identifies the need for additional tools such as a multi discharger variance, DEQ will pursue the development of such a tool or other approaches, as appropriate.

No changes were made to the proposed rules in response to these comments.

5.2 Permittees will be unable to achieve limits based on standards

A. Comments regarding specific pollutants

There is no available technology to achieve limits for PCBs and other legacy pollutants

“Legacy compounds, including PCBs, DDT, and legacy pesticides... Low levels of PCBs and DDTs reach treatment plants though body burden from historic exposure, through food, background levels in potable water, and possibly from illegal dumping into the sewer systems... There is no reasonable, effective treatment process for removing PCBs and DDTs at these very low levels from wastewater effluent in order to achieve the DEQ proposed water quality standards.” (0081 – Oregon Association of Clean Water Agencies, et al.) Several other commenters either supported these comments or made similar comments. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0113 – City of Portland; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services; 0158 – City of Prineville; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem)

“Until recently it has not been feasible to measure such low concentrations of PCBs, but new analytical techniques may show that even pristine Oregon surface waters exceed the proposed concentration because of global air deposition. Not only is there no technology available to feasibly treat discharges to achieve such low levels, but the ubiquity of these pollutants in the environment means that they will be present at levels in excess of the criterion in most and perhaps all wastewater discharges—for example, through the source’s intake water, air deposition onto the source’s facility, stormwater run-on, and raw material contaminants.

Because the Clean Water Act generally demands that point sources comply with water quality standards regardless of costs or benefits, the only means of complying with the Commission’s directive to develop environmentally meaningful and cost-effective implementation rules for the standards is to tailor the standards themselves to allow discharges that do not pose a significant threat to human health.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: Commenters expressed concern regarding the ability to treat to levels that may result from the criteria for legacy pollutants. Many specifically expressed concern regarding PCBs, DDT, and legacy pesticides. DEQ acknowledges that the toxicity of these pollutants, particularly PCBs and DDT result in very low criteria for these pollutants. DEQ points out that the criteria currently in effect based on 6.5 grams per day fish consumption rate, also result in very low values of these pollutants. Where these pollutants are found in permittee’s effluent above quantifiable levels and DEQ establishes a limit, the compliance limit is currently determined by the laboratory method quantification level. DEQ acknowledges that the concerns expressed by the commenters could result if new methods are adopted into EPA’s regulations governing methods approved for wastewater effluent and subsequently used in Oregon’s implementation of its NPDES program. However, it is important to point out that the issues raised by the commenters are not a result of actions being taken under this specific proposed rule, but could occur if new laboratory methods are used in conjunction with DEQ’s current water quality standards.

DEQ acknowledges that better and more sensitive laboratory methods in conjunction with more and better data collection will likely present additional challenges to NPDES and other sources in the future, and is committed to working with the affected sources to achieve a rational outcome. If in future years, data indicate that multiple facilities are not able to achieve the requirements in their NPDES permits associated with PCBs or other legacy pollutants, DEQ will work with the affected entities to pursue and use appropriate approaches, which may include the development of a multiple discharger variance.

No changes were made to the proposed rules in response to these comments.

There is no available technology to achieve limits for phthalates and other plasticizers

“Plasticizers like phthalates are everywhere in the environment, including in wastewater. There are no reasonable, effective treatment processes for removing phthalates at the DEQ proposed levels from wastewater effluent.” (0081 – Oregon Association of Clean Water Agencies, et al.) Several other commenters either supported these comments or made similar comments. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0113 – City of Portland; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services; 0158 – City of Prineville; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District)

DEQ Response: Several cities cited concern with meeting criteria associated with consumer products, and in particular, concern with bis(ethylhexyl) phthalate. With regard to bis(ethylhexyl) phthalate, DEQ has evaluated the available information and concludes that the levels found in municipal wastewater effluent are likely to result in the need for additional water quality-based effluent limits for some NPDES permitted sources. DEQ expects the need for water quality based effluent limits in permits and any associated need to reduce the facility’s effluent concentrations to meet those limits will vary by facility, including the amount of dilution available and the concentrations currently present in the discharge. DEQ will use its revised Reasonable Potential Analysis for Toxic Pollutants Internal Management Directive (June 2011) to evaluate the need for water quality based effluent limits and to develop limits where needed. If in future years, data indicate such a situation affects multiple facilities, DEQ will work with the affected entities to pursue and use appropriate approaches. The commenters did not specify other pollutants associated with consumer products, so DEQ was unable to further evaluate the commenters’ broader concern with regard to consumer products.

No changes were made to the proposed rules in response to these comments.

There is no available technology to achieve limits for naturally-occurring metals

“Oregon’s rivers and streams have natural levels of arsenic and mercury many times over the DEQ proposed standards. Technology to meet these low limits is not available.” (0081 – Oregon Association of Clean Water Agencies, et al.) Several other commenters either supported these comments or made similar comments. (0113 – City of Portland; 0137 – Clean Water Services; 0130 – City of Astoria; 0128 – City of Stayton; 0022 – City of Cottage Grove; 0112 – Metropolitan Wastewater Management Commission; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing)

DEQ Response: Several commenters raised concerns about naturally occurring metals. DEQ disagrees that these naturally occurring pollutants will present widespread problems for permittees. All metals are naturally occurring on the earth, but some metals are more likely to be present in surface waters or in fish tissue and the toxicity of metals to humans varies widely. Arsenic and mercury are present in Oregon waters from natural sources and are toxic to humans under certain scenarios (e.g., concentration of the pollutant, form of the pollutant and duration of exposure). These metals are also released to the environment from human activity. DEQ has taken a number of actions to reflect appropriate goals for naturally occurring pollutants within the water quality standards and to address potential permitting issues that may arise due to these pollutants:

- 1) In 2004, the EQC adopted toxics standards revisions that withdrew the water column concentration criterion for mercury and adopted a fish tissue criterion for methylmercury in its place. EPA approved the withdrawal of the water column mercury criterion in June 2010. Consequently, there are no effective criteria addressing mercury until EPA approves the proposed criterion for methylmercury. DEQ will further describe its procedures for implementing the methylmercury criterion in NPDES permits (See response to comments on the proposed methylmercury criterion in Section 1.5).
- 2) The EQC adopted revisions to Oregon’s arsenic criteria in April 2011, making the criteria less stringent in recognition of commonly occurring natural levels in Oregon waters.
- 3) The EQC withdrew human health criteria for iron and manganese in December 2010. This action recognizes the presence of natural levels of iron and manganese and the fact that concerns about the

toxicity of these metals to humans is quite low. An organism-only criterion for manganese was retained for saltwater due to potential bioconcentration in shellfish.

- 4) In 2004, the EQC withdrew the human health criteria for the following metals: beryllium, cadmium, chromium, lead and silver. EPA approved these revisions in June 2010; these revisions may now be reflected in permitting decisions all other Clean Water Act purposes, as appropriate.

DEQ has human health criteria for the following additional metals: antimony, barium, copper, nickel, selenium and thallium. For zinc and copper, the aquatic life criteria are more stringent than the human health criteria and will likely form the basis of any permitting analyses and resultant requirements, if needed. DEQ does not expect the proposed human health criteria for nickel to present any additional challenges for permittees since the proposed criteria are less stringent than the current criteria.

At such time and location that the metals criteria result in permit limits that a wastewater treatment plant cannot achieve, DEQ will work with the facility to evaluate the options. DEQ will take into account whether the metal is present largely due to natural sources in identifying available options, which may include using an intake credit, site-specific background pollutant criterion or variance. In some circumstances it may be appropriate to develop site specific water quality standards that consider natural background levels of the pollutant.

No changes were made to the proposed rules in response to these comments.

Treatment of chlorination by-products will be very expensive to achieve

“Most wastewater utilities in Oregon use chlorine for disinfection. Oregon wastewater utilities could move to non-chlorine disinfection systems - however, this will require significant financial investment to revise existing disinfection systems.” (0081 – Oregon Association of Clean Water Agencies, et al.) Several other commenters either supported these comments or made similar comments. (0022 – City of Cottage Grove; 0112 – Metropolitan Wastewater Management Commission; 0113 – City of Portland; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services)

DEQ Response: Since the mid-1990s, DEQ has been encouraging municipal wastewater treatment facilities to examine and invest in treatment technologies that do not include chlorination. Disinfection technologies that do not include chlorination are safer and cheaper. Many wastewater treatment facilities have subsequently switched to non-chlorine disinfection systems as their resources allow. DEQ encourages facilities to continue to make this change as feasible. As a result, DEQ expects the need for water quality based effluent limits in permits and any associated need to reduce the facility’s effluent concentrations to meet those limits will vary by facility, including the amount of dilution available and the concentrations currently present in the discharge. DEQ will use its revised Reasonable Potential Analysis Internal Management Directive (June 2011) to evaluate the need for water quality based effluent limits and to develop limits where needed.

Several commenters stated that treatment of chlorination by-products will be expensive to achieve. These commenters did not provide additional information regarding specific chlorination by-products or the likelihood of facilities to exceed the proposed water quality criteria for chlorination by-products such as bromoform, chlorodibromomethane, chloroform, dichlorobromomethane and halomethanes. Therefore, DEQ is unable to further evaluate the commenters’ assertions. DEQ notes that it is not proposing criteria for halomethanes.

No changes were made to the proposed rules in response to these comments.

B. General comments about availability of cost-effective treatment

Many commenters stated that cost effective treatment doesn’t exist to reduce some toxic pollutants to the proposed water quality standards.

“...the Science Application International Corporation recently reported that the technology to uphold the new Oregon criteria may not even be available and will, at the least, cause ‘severe economic hardships.’” (0039 – Form letter sent to Oregon State Legislators by 14 commenters)

“Existing technology is not capable of treating to the low levels that would result in actual risks to humans.” (0042 – Fred Warner, Jr., Chair, Baker County Board of Commissioners)

“DEQ indicates that some sources may need to install additional treatment technologies to meet the toxic water quality standard. DEQ staff relied upon the SAIC report, and the SAIC report concluded that three pollutants would be affected: arsenic, bis(2-ethylhexyl)phthalate, and mercury.

Oregon wastewater treatment plants are very effective at removing metals such as mercury; for example, an advanced secondary wastewater treatment plant is effective at removing more than 90% of the mercury that is conveyed to the treatment plant. The proposed standards would require nearly 100% removal of these pollutants. There is no reasonable, effective treatment process that can meet these standards.

There is no reasonable, effective treatment process for removing these pollutants from municipal wastewater effluent at the DEQ proposed levels.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“NWPPA remains concerned that the available treatment technologies are untested on large scale operations and thus are not currently achievable... Achievability of standards is a question of both feasibility and costs. If the standards are unattainable, ultimately the facility will not be able to operate. Oregon jobs are at risk both at the facility and as well as the indirect jobs supported by the operation.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0079 – Oregon Water Quality Standards Group; 0082 – Oregon Forest Industries Council)

Two commenters stated that more stringent regulations will lead to innovations and development of affordable treatment technologies.

“While some of the calculated water standards can’t be met with today’s best available technologies and some can’t be measured by current quantification limits, the process of setting water quality standards at higher levels will drive affordable, emerging technologies that can meet the standards into the marketplace. According to Dan Reicher, executive director of the Steyer-Taylor Center for Energy Policy and Finance at Stanford University, experience since the 1970s has made clear that well conceived and executed regulation ultimately stimulates technological innovation. This would not only benefit the region’s leadership role in green technology development, but could also provide a means to address the issue of legacy contaminants in our nation’s waters, thereby enhancing health for future generations.” (0143 – Columbia River Inter-tribal Fish Commission)

“It is true that, you know, well conceived regulation actually can spur technological innovation, and that’s something that Oregon does really well. We innovate, we create jobs in doing good things, and I think that this should be seen as an opportunity to help drive that next wave of innovation. The sky will not fall because we control our pollution, so we need to make sure we’re investing in the right pollution control strategies.” (0194 – Ivan Maluski, oral testimony at Salem hearing)

DEQ Response: In response to commenters that stated concerns regarding the availability of treatment technology to meet water quality standards, DEQ clarifies that NPDES sources are not required to either “meet criteria” or to bear the sole responsibility for ensure that the waterbody meets water quality standards. Rather, where data shows that as a result of the pollutant concentrations in a facility’s discharge they have the “reasonable potential to cause or contribute to” the exceedance of a water quality criterion in the receiving stream, DEQ will calculate an effluent limit that is included in the facility’s permit. Depending on the receiving stream dilution available, this limit may be similar to or be significantly different than the criterion itself. Second,

as stated in responses to comments in Section 8, it is not DEQ's intent for facilities to put in place treatment technologies that result in unreasonable costs or are unproven for the application in question. Where facilities can't meet limits based on the applicable water quality criteria, DEQ would pursue with the permittee using one or more of the permitting tools contained in the water quality standards and implementing regulations.

Several commenters stated that there is not existing or effective treatment technology to treat to low levels of these pollutants. These commenters did not provide additional information regarding the conclusions stated in their comments regarding available treatment technology. Therefore, DEQ is unable to further evaluate the commenters' assertions. Where DEQ had specific information regarding the availability of treatment options for specific pollutants, DEQ included that information in its Statement of Need and Fiscal and Economic Impact. Much of the quantitative information DEQ used came from the Science Applications International Corporation (SAIC) report, *Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters* (<http://www.deq.state.or.us/wq/standards/docs/toxics/ORToxicsComplianceCost.pdf>).

While DEQ relied on the Science Applications International Corporation report as a source of quantitative cost information, some recent actions and information indicate that the cost estimates contained in SAIC's report will overestimate impacts in two cases. For SAIC's estimates regarding arsenic, DEQ expedited rulemaking to revise its arsenic human health criteria, and the Environmental Quality Commission adopted significantly less stringent criteria in April 2011. In addition, EPA published its *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* in 2010 describing recommended approaches for implementing the methylmercury criterion in Clean Water Act programs. DEQ intends to use EPA's guidance to implement the methylmercury criterion and expects that the approaches to permitting described in that document will allow DEQ to use permitting approaches that will not result in unreasonable expenditures of resources to implement the associated permitting requirements.

With regard to the commenters that stated that setting more stringent water quality standards are likely to drive the development of affordable technologies, DEQ appreciates the commenter's optimism. DEQ shares the hope that technologies will continue to be developed and become available in the marketplace at a reasonable cost to fully remove pollutants to safe levels.

No changes were made to the proposed rules in response to these comments.

C. DEQ should use existing provisions to meet limits based on revised standards

Use of site-specific criteria

"DEQ should identify pollutants and waters where the human health criteria will be naturally exceeded, for example, naturally occurring earth metals. For the identified waters where there are NPDES permit holders, DEQ should evaluate whether and to what extent the criteria are attainable. If the criteria cannot be attained due to natural background levels, then DEQ should revise the criteria on a site-specific basis to reflect natural background. (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments." (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council; 0117 – City of Klamath Falls)

"We suggest that DEQ consider developing site-specific criteria for certain water bodies that are the conduits to tribal exposure. Rivers like the Willamette, the Columbia, and perhaps the Deschutes to the Pelton re-regulating dam, as well as the Umatilla, should all be considered. This approach would allow DEQ to focus more tightly on the problem and reduce the potential economic impacts to other water bodies that have little, if any, effect on tribal consumption, tribal exposure." (0148 – Chris Gannon, Crooked River Watershed Council, oral testimony at Bend hearing)

DEQ Response: The commenters request that DEQ evaluate whether the criteria are attainable for naturally occurring earth metals, and if they are not attainable, request DEQ pursue site specific modifications to the water

quality standards as appropriate. Doing such an analysis and subsequent change to water quality standards is outside the scope of this rulemaking. However, DEQ is aware of two situations where such a situation may exist for naturally occurring levels of arsenic for waters within the vicinity of the cities of Klamath Falls and Ontario. Following completion of this rulemaking, DEQ will evaluate the available data and information in these locations and as appropriate, pursue separate rulemaking efforts. If additional data and information highlight other similar situations within Oregon for certain pollutants, DEQ will pursue a similar approach.

No changes were made to the proposed rules in response to these comments.

Use of watershed-based TMDLs

“The watershed-scale TMDL approach has required significant time and effort to collect meaningful data and implement effective programs. These achievements have resulted from focusing on effective actions rather than by seeking variances from water quality standards for individual point sources. CWS encourages DEQ to apply this experience of developing and implementing watershed-based TMDLs to controlling toxics, rather than relying on variances.” (0137 – Clean Water Services)

DEQ Response: DEQ is very supportive of using a watershed approach to address specific pollutants, whether through a watershed-based Total Maximum Daily Load, a permit developed on a watershed basis, or an implementation plan that includes point and nonpoint sources within a watershed.

During rule development, DEQ received information and data regarding use of watershed-based permitting tools. DEQ is currently evaluating data and information received and will discuss its analysis in a presentation to the Environmental Quality Commission during the June 2011 rulemaking adoption agenda item.

No changes were made to the proposed rules in response to these comments.

Use of the natural condition provision

“For areas with naturally-elevated levels of toxic substances, the natural condition provision per OAR 340-041-0007(2) should supercede the state’s water quality criteria for toxics. Such a determination is also consistent with the toxic substances rule, OAR 340-041-0033(1) (planned to be re-codified at OAR 340-041-0033(2)), which states “[t]oxic substances may not be introduced above natural background levels in waters of the state...,” so, under this rule, natural background levels for any toxic substance must be taken into account to properly apply the criteria.” (0117—City of Klamath Falls)

DEQ Response: Although the natural conditions narrative remains a part of the Oregon’s water quality standards regulation, it may not be appropriate to invoke for instances where waterbody natural conditions for a toxic pollutant exceeds a criterion for human health toxics. For example, it can be difficult in determining whether certain toxic pollutant are naturally occurring or originating from anthropogenic sources. Additional complexity is introduced when the presence of a toxin comes from a combination of both natural and human-caused conditions. In addition, aquatic life organisms may be able to adapt to pollutants that have naturally been present in waterbodies over time. Conversely, this assumption does not necessarily hold true for human health effects. Potential use of this provision must be carefully examined before being applied to human health criteria. The proposed intake credit provision does allow a discharger to pass through pollutants that may be naturally occurring in the intake water, as long as the mass and concentration are the same or less in the discharge.

No changes were made to the proposed rules in response to these comments.

Use of flow augmentation

“The Department should clarify that, under certain circumstances, if a permittee cannot reasonably meet a water quality based effluent limit derived from the Department's revised water quality standards, the permittee can use flow augmentation to meet such effluent limits. This is consistent with EPA's rule on flow augmentation at 40

CFR § 125.3.” (0117—City of Klamath Falls)

DEQ Response: DEQ does not have a stated policy regarding the use of flow augmentation for toxic pollutants. DEQ does consider requests to incorporate flow augmentation into individual permitting efforts, and evaluates requests on a case-by-case basis consistent with federal regulations 40 CFR § 125.3.

No changes were made to the proposed rules in response to these comments.

5.3 Other general comments about permitting

A. Mixing zones

Two commenters expressed concern about allowing mixing zones.

“I do feel however that the DEQ is overlooking very obvious potential changes that would achieve some of the same ends within it's own process of issuing permits for NPDES permits and mixing zones, or zones of concentrated pollution, in state waters. In Newport, Oregon, the DEQ has issued an NPDES permit to Georgia-Pacific Toledo to discharge an average of 11 million gallons a day of minimally processed pulp mill effluent into a +/-42 acre area that is used routinely used for fishing and recreation. Currently the public has no notification as to where these mixing zones are located in rivers and state oceans, and so cannot avoid these polluted areas for the purpose of pursuing beneficial uses such as fishing and recreation. This is similar to allowing a hidden hazard, in that people fishing and recreating in or near these mixing zones have no notice they are within a zone of known pollution. Mixing zones are not good places to swim or fish, and create a conflict with protected beneficial uses. The DEQ needs to consider the need for posting or some manner of public notification on the locations of these mixing zones in state waters so that people aren't fishing and swimming near or in mixing zones. The area off Nye Beach is routinely used for fishing, particularly crabbing, as it is near shore, and also near a reef. So if the concern is reducing toxic pollutants in fish for human consumption, a good place to start would be posting locations of permitted zones of pollution (mixing zones). Better still, stop permitting mixing zones and require that water quality standards be met at the end of the pipe.” (0050 – Melinda McComb)

“We don't need giant mixing zones. Because I sat in on a bunch of Willamette TMDL meetings over by (Halsey?), where they did every equation known to man, and you just can't put more hot water in a really hot thing and still pass your temperature standards.” (0173 – Cat Koehn, oral testimony at Salem hearing)

DEQ Response: One commenter raised a concern about allowing mixing zones for toxic pollutants and requests that DEQ post the locations of permitted mixing zones as to protect the public from the perceived hazards. This comment falls outside the scope of this rule.

In the process to allow and allocate a mixing zone, the department assesses the beneficial uses (fishing, swimming, crabbing, etc.) of the affected area and sizes the mixing zone according to a series of procedures described in Departmental guidance (Regulatory Mixing Zone, Internal Management Directive). This guidance has procedures to address human health exposure, chronic aquatic organism toxicity and acute aquatic organism toxicity. Included in the procedures are requirements such as “RMZs must be sized such that they do not encroach on areas of fish and shellfish harvesting”, “Acute criteria must be met at end of pipe unless it can be demonstrated that immediate dilution of the effluent within the RMZ reduces toxicity below lethal concentrations and will not cause lethality to passing organism...” and the RMZ should be “as small as feasible”.. The department prepares water quality models of the proposed discharge locations demonstrating the potential mobility and impact of the discharge. These

models are used to ensure that the requirements described in rule and guidance are met and that environmental health is protected.

No changes were made to the proposed rules in response to these comments.

B. Clarification regarding effluent limits

“Section (4) of the toxic substances rule should be revised to clarify that NPDES effluent limits based on these implementation policies are considered to be water quality based effluent limits. Thus, for effluent limits developed based on these policies, the State's generic water quality criteria for pollutants will not be used to calculate limits at a permittee's outfall or in any mixing zone, even when a permittee's discharge may exceed the State's generic water quality criteria.” (0117—City of Klamath Falls)

DEQ Response: The commenter suggests DEQ clarify in section (4) that requirements placed in NPDES permits as a result of using the permit implementation tools are considered to be water quality based effluent limits. The various proposed implementation rules describe the associated procedures and requirements that will be used in the development of NPDES permits. In some instances the resultant limits will be considered water quality based effluent limits, in other instances the implementation of the provision will result in other requirements. DEQ concludes it would be potentially misleading and confusing to state in this section of the water quality standards that the requirements associated with the permit implementation procedures result in water quality based effluent limits.

No changes were made to the proposed rules in response to these comments.

Topic 6:

Revisions to Water Quality Standards and TMDL Regulations Related to Nonpoint Sources

This topic includes comments and responses addressing proposed rule about sources not subject to an NPDES permit under CWA.

6.1 Division 41 Statewide Narrative Criteria [OAR 340-041-0007(5)]

A. Limits applicability of Oregon's other water quality standards

“DEQ’s proposed language addresses some of the ways in which the current narrative criterion offers inadequate protection to designated uses, contrary to the requirements of 40 C.F.R §131.11(a). However...the language... limits or negates the applicability of all of Oregon’s other water quality standards to logging activities. By limiting the applicability... Oregon cannot meet the requirements of 40 CFR §131.11(a) to fully protect designated uses.” (0078 - Northwest Environmental Advocates)

DEQ Response: The proposed language states that logging and forest management activities must not cause a violation of water quality standards and must be conducted in accordance with the implementing rules established by the Environmental Quality Commission. The commenter did not offer specifics describing how the language in proposed rule would be interpreted as limiting the applicability of some of Oregon’s water quality standards to logging activities. Consequently, DEQ is unable further evaluate the commenter’s concern regarding the proposed rule language.

No changes were made to the proposed rules in response to these comments.

B. DEQ should strengthen language in Subsection 5

Commenters suggested specific revisions to strengthen rule language regarding load allocations.

“The proposed language states that logging operations “may be subject to load allocations... to the extent needed to implement the federal Clean Water Act.” This proposed language introduces two limitations to the notion that logging activities would be limited to load allocations under this narrative criterion. First, the rule uses the word “may” rather than “shall” or “must,” rendering an operation’s compliance with load allocations discretionary. Second, the logging operations are subject to load allocations only “to the extent necessary to implement” the CWA. ... This phrase is ambiguous and results in a narrative criterion that may, or may not, limit the reach of Oregon’s otherwise applicable water quality standards. (0078 - Northwest Environmental Advocates)

“Under the proposed revisions to OAR 340-041-007, we recommend that the language in section (5) be strengthened. We recommend that the language be revised to read:

(5) Logging and forest management activities must be conducted in accordance with the water quality standards and implementing rules established by the Environmental Quality Commission... Forest operations ~~may be~~ are subject to load allocations established under OAR 468B.110 and OAR Division 340-042, ~~however,~~ to the extent needed to implement the federal Clean Water Act and meet water

quality standards.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

DEQ Response: DEQ agrees with the commenters and has revised the language accordingly.

Changes were made to the proposed rules in response to these comments.

6.2 Division 41 Other Implementation of Water Quality Criteria [OAR 340-041-0061]

Proposed revision 340-041-0061 revises rule language for forestry and agriculture.

A. Forestry on state and private lands [OAR 340-041-0061(10)]

DEQ should strengthen language in subsection 10

“We support the overall direction of the proposed rules in the TMDL portion of the rule revisions, and suggest that the revisions can be strengthened.

In the proposed revisions to OAR 340-041-0061(10), we recommend this change:

(10) Forestry on state and private lands. Nonpoint sources of pollution from forest operations on state or private lands are subject to...Forest operations on state and private lands ~~may be~~ are subject to the load allocations under ORS 468.110 and OAR 340. ... (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“This revised rule suffers from the same problems as the proposed OAR 340-041-0007(5) discussed immediately above. In fact, it is unclear why DEQ proposes to have completely redundant rules.” (0078 - Northwest Environmental Advocates)

DEQ Response: The proposed language states that logging and forest management activities must be conducted in accordance with the Forest Practices Act. ORS 527 states that Forest Practices Act rules must ensure, to the maximum extent practicable, nonpoint sources do not impair the achievement or maintenance of water quality standards. From DEQ’s perspective, the language in proposed rule would not be taken as limiting the applicability of some of Oregon’s water quality standards to logging activities. DEQ agrees with the commenters’ suggestion to revise the sentence about load allocations, and revised the proposed rule language as follows.

(11) Forestry on state and private lands. Nonpoint sources of pollution from forest operations on state or private lands are subject to best management practices and other control measures-established by the Oregon Department of Forestry under the Forest Practices Act (ORS 527.610 to 527.992) ~~and must not cause violation of water quality standards~~. Such forest operations, when conducted in good faith compliance with the Forest Practices Act requirements are generally deemed not to cause violations of water quality standards as provided in-ORS 527.770. Forest operations on state and private lands ~~may be~~ are subject to load allocations under ORS 468.110 and OAR 340, Division 42, to the extent necessary to implement the federal Clean Water Act.

Changes were made to the proposed rules in response to these comments.

B. Agricultural Water Quality Management Act [OAR 340-041-0061(11)]

Goals of Agricultural Water Quality Management Plans and Rules

Some commenters provided suggestions regarding specific revisions to proposed rule language.

“In proposed OAR 340-041-0061(11), OFB requests DEQ remove the statement “Area plans and rules must be designed to achieve and maintain water quality standards” and replace it with language set forth in CWA section 319 which indicates “area plans and rules must be designed to reduce, to the maximum extent practicable, the level of pollution resulting from agricultural nonpoint sources pollution.” ... Oregon law does not require ODA to achieve DEQ’s water quality standards...” (0080 - Oregon Farm Bureau; 0088 - State Representatives Bentz, Conger, Garrard, Jensen, McLane, Schaufler)

“We request DEQ remove the words “achieve and maintain water quality standards” and replace with “meet that standard”. In the same sentence, OFB requests DEQ remove the language “meet WQS or TMDL load allocations” and insert “the standard”. Again, ODA Area Plans and Rules are designed to achieve conditions-based performance standards, not predetermined numeric water quality standards. ODA is required to enact plans that will reduce pollution to the maximum extent practicable as provided in the CWA for nonpoint source pollution.” (0080 - Oregon Farm Bureau)

DEQ Response: DEQ disagrees with OFB’s interpretation that the “Oregon law does not require ODA to achieve DEQ’s water quality standards”. ORS561.191 (2) states that programs or rules adopted by ODA under (1) “shall be designed to assure achievement and maintenance of water quality standards adopted by the EQC.” The proposed revisions make these requirements explicit in rule.

No changes were made to the proposed rule in response to these comments.

“Causes or contributes to water quality standards violations”

“In the second to last sentence of the proposed rule, OFB requests DEQ remove the language “causes or contributes to water quality standards violations” and replace with “ does not comply with the enforceable terms of such rules.” Given the statutory framework providing ODA the authority to establish Area Plans and Rules based on a basin wide strategy for reducing nonpoint source water pollution, and individual person is responsible for the enforceable terms of the ODA rules. ODA rules are focused primarily on conditions of the land in question and how management of those conditions can significantly reduce water pollution in Oregon water bodies. They are not focused on the specific quality of the water next to the land. Federal law does not regulate individual nonpoint sources to achieve water quality standards. Oregon law requires the state to follow federal law. It is impractical for the state to try to meet a numeric water quality standard by regulating an individual nonpoint source when such a calculation is nearly impossible to determine.” (0080 - Oregon Farm Bureau)

DEQ Response: The intent of OFB’s suggestion is not clear to DEQ. DEQ agrees that ODA’s conditions based rules is a practical way to regulate agricultural lands, but the goal of the area plans and rules need to be meeting the water quality standards. As with the case today, DEQ hopes to continue working with and relying on ODA’s Area Plans and Rules to achieve water quality standards and TMDL load allocations. It is possible to document whether the collective efforts made by various agricultural landowners and other local partners are improving instream water quality, and there are examples such as water quality improvements seen in Wilson River and Bear Creek.

Changes were made to the proposed rules in response to these comments.

DEQ should not include farming practice enforcement language in rule

“OFB requests the entire final sentence of the proposed rule be removed. ... Oregon statutes provides that 1010 planning and rulemaking is the exclusive means for regulating farming practices in Oregon, specifically for the purpose of protecting water quality.” (0080 - Oregon Farm Bureau)

“There is no need to include DEQ’s authority to enforce agriculture since it is already in statute.” (0087- Oregon Department of Agriculture)

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DEQ Response: The proposed rule revisions clarify existing interagency practices and how statutes governing ODA's regulatory program complements DEQ's regulatory authority for water quality. Under ORS 468B and ORS 568.930, DEQ has the authority to take enforcement actions regardless of ODA action. DEQ, however, prefers ODA to take the lead in enforcement actions. DEQ has removed the last sentence in the section of the rule as suggested since the language does not need to be in rule in order for EQC and DEQ to retain statutory authority to take enforcement actions.

Changes were made to the proposed rules in response to these comments.

Concerns with the phrases “will refer” and “may also require remedies”

Some commenters expressed concern regarding use of the phrases “will refer” and “may also require remedies” in OAR 340-041-0061(11).

“It is an improvement for DEQ's regulations to state that “area plans and rules must be designated to achieve and maintain water quality standards ...but the rule goes on to indicate that DEQ will not take any enforcement action nor withhold any approval of any ODA action or inaction based on a determination that water quality standards are not being or will not be met. ... This proposed rule undermines Oregon's otherwise applicable standards by, first, stating that DEQ “will” provide comments to ODA. ... Second, the proposed rule states the obvious, that DEQ “may request” that the Commission petition the ODA for changes. Again, this adds nothing. Finally, DEQ makes clear that it will never take enforcement action directly against an agricultural source because it states that it “will refer” any potential to ODA. Even in the event that ODA fails to take action, DEQ continues to provide itself with the discretion to do nothing (“may also require remedies”). In each case in which DEQ might take direct action to stop a pollution problem, DEQ has used the word “may” to indicate that it has no intention of doing so. ... DEQ's word choices here are transparent; the agency intends to do nothing to control agricultural nonpoint source pollution.” (0078 - Northwest Environmental Advocates)

“We support the proposed revisions in OAR 340-041-0061(11) that clarifies that Agricultural Water Quality Management Act plans must be designed to achieve and maintain water quality standards. Also in the proposed revisions to OAR 340-41-0061(10), the ability for the Department to take action if ODA does not take action to resolve a water quality standards violation should be strengthened. We recommend that language be modified to read:

...If a person subject to an ODA area plan and implementing rules causes or contributes to water quality standards violations, the department will refer the activity to ODA for further evaluation and potential requirements. The department ~~may~~ **will** also require remedies of a person causing pollution or contributing to water quality standards violation if ODA does not take action.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

DEQ Response: The proposed rule contains the word “may” in order to allow for flexibility needed to implement DEQ programs in an efficient and effective manner. The proposed rule revisions clarify existing interagency practices and how statutes governing ODA's program complement DEQ's regulatory authority for water quality. DEQ removed the last sentence in the section of the rule since the language does not need to be in rule in order for EQC and DEQ to retain statutory authority.

Changes were made to the proposed rules in response to these comments.

Proposed revisions will result in increased regulations

Several commenters expressed concern regarding their perception that the proposed revisions will result in increased regulations.

“Moving agricultural water pollution plans to comply with a numeric standard in addition to simultaneously increasing the water standards will dramatically affect a farmer’s ability to produce food and fiber with no added improvement in water quality.” (0087- Oregon Board of Agriculture)

“We recognize and support DEQ’s current role as a regulatory back up to ODA... yet, we believe, the new rules would give DEQ more authority over the Agricultural Water Quality Program and lessen ODA’s responsibility...” (0087- Oregon Board of Agriculture)

“It is critical that any water quality regulation of farming practices remain under the direction and enforcement of ODA.” (0113 - Coos/Curry County Farm Bureau)

DEQ Response: Proposed changes do not establish new DEQ authorities or transfer authority from ODA to DEQ. The proposed rule changes do not “move” Agricultural Water Quality Management Plans to comply with a numeric standard since ORS 561 and 568 already direct agricultural water pollution plans to comply with water quality standards. The proposed rules also describe in more detail how DEQ will interact with ODA.

No changes were made to the proposed rules in response to these comments.

6.3 Division 41 General Comments

A. Proposed revisions allow DEQ to take enforcement actions

Agricultural Lands

Many commenters voiced opposition to proposed rule revisions they perceived as allowing DEQ to take enforcement actions in agricultural lands.

“DEQ’s proposed rules attempt to insert direct regulatory authority over agricultural practices in violation of state law. While DEQ has authority to establish water quality standards for Oregon, state statutes establish ODA as the primary agency responsible for regulating farming practices ... DEQ proposes ... to regulate and potentially penalize a specific landowner for causing or contributing to water quality standards violations. This language directly violates Oregon statute that declares ODA rules adopted under a 1010 Act plan “shall constitute the only enforceable aspects of a water quality management plan.” Therefore, the proposed language that would imply DEQ is permitted to penalize a landowner outside of the 1010 process should be removed.” (0080 - Oregon Farm Bureau)

DEQ Response: It is DEQ’s understanding that under ORS468 DEQ retains the authority to regulate water quality from nonpoint sources on agricultural lands.

No changes were made to the proposed rules in response to these comments.

Forest Lands

Many commenters voiced opposition to proposed rule revisions they perceived as allowing DEQ to take enforcement actions in forest lands.

“Any regulation and enforcement of forestry practices should come directly from the Oregon Department of Forestry and no other agency. I am not aware of any Oregon law that provides direct enforcement authority over forest landowners to either the EQC or DEQ, and OSWA is opposed to the language in the proposed rulemaking that would establish such an authority.” (0118 – OSWA)

DEQ Response: Proposed revisions do not transfer regulatory or enforcement authority from ODF to DEQ. For forestry, DEQ does not have the authority to take direct enforcement action unless the waterbody is impaired and TMDLs have been developed as required by federal CWA. If DEQ needs to directly regulate nonpoint sources

from forestlands for the purpose of implementing a TMDL, stakeholder participation is built into a TMDL process (Division 42) to ensure best available science and local expertise are taken into consideration.

No changes were made to the proposed rules in response to these comments.

6.4 Division 42 Establishing TMDLs [OAR 340-042-0040(h)] Load allocations

A. Language used in (h) Load allocations

Use of the word “allocated” for Nonpoint Sources

One commenter requested specific changes to the rule language to keep DEQ regulations consistent with both federal and state law.

“The word “allocated” should be changed to “attributed” to remain consistent with the CWA regulation of nonpoint sources.” (0080 - Oregon Farm Bureau) (0089 – Oregon Cattlemen’s Association)

DEQ Response: DEQ does not believe that the definitions in 40 CFR 130.7, including the use of the verb “attributed” limits the extent to which agricultural nonpoint sources of pollution are subject to additional controls under the TMDL process. According to EPA’s regulations and its guidance interpreting the regulation, load allocations must be assigned to nonpoint sources. For some nonpoint sources that are subject to potential regulation, the load allocation may be established based on reductions in load that would be achieved by implementing additional controls, and for other nonpoint sources such as natural background, the allocation will be established based on what load is expected. In context, the use of the general term “allocated” to refer to the assignment of an allocation is consistent with EPA’s regulations and its guidance interpreting the regulation.

No changes were made to the proposed rules in response to these comments.

Use of the word “deposition”

Some commenters expressed concern regarding use of the word “deposition” in the definition of load allocations.

“ODFA is very concerned about the inclusion of the term “deposition” in the load allocation definition. The term “deposition is not defined. Without this term being defined, it creates uncertainty for nonpoint sources ... as well as regulatory uncertainty for DEQ as TDMLs are developed. It is important and fair for farmers to know what is expected of them before a rule is completed. Not after. (0109 - OR Dairy Farmers)

“We also request the word “deposition” be completely removed altogether. Deposition refers to pollution from the air that ends up in Oregon waters. Any regulation of air deposition should be implemented through separate administrative rule under the direction of the DEQ Air Quality Division. (0080 - Oregon Farm Bureau)

DEQ Response: Definitions are needed for common term only if the agency wants to give the term a meaning that is narrower or different from ordinary usage. In this case, “deposition” means both air contaminants and aquatic depositions. DEQ does not think deposition needs to be defined, and the word will be kept in the proposed rule language. DEQ agrees that a separate rulemaking is needed in order to address air sources in TMDLs. Rulemaking by Air Division to address TMDL load allocation will be considered under the agency’s cross-media Toxics Reduction Strategy.

No changes were made to the proposed rules in response to these comments.

Use of the word “discharges”

“Last, “groundwater discharges” should be changed to “groundwater additions.” Nonpoint sources do not discharge, as a discharge requires a National Pollutant Discharge Elimination System (NPDES) permit under the federal CWA.” (0080 - Oregon Farm Bureau)

DEQ Response: Groundwater discharge is a general hydrogeologic definition for seeps, springs, and the discharge to a surface waterbody. In this rule, DEQ does not find it appropriate to change the word discharge in “Groundwater discharge.”

No changes were made to the proposed rule in response to these comments.

B. General comments regarding changes to OAR 340-042-0040(h) Load allocations**Support for proposed changes**

DEQ received a few letters supporting the proposed changes.

“We support the proposed revisions in OAR 340-042-0040(4)(h) and specifically includes runoff, deposition, soil contamination and groundwater discharges to the development of the receiving water loading capacity, and also agree that long range transport should be distinguished within the loading capacity calculations, along with natural background and anthropogenic nonpoint source loads. A scientifically robust loading capacity is the foundation for a TMDL that focuses pollution reduction activities in areas where they can be most effective.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

DEQ Response: DEQ acknowledges and appreciates the commenters’ statements of support.

No changes were made to the proposed rules in response to these comments.

The proposed revisions will not have any environmental benefit

“The proposed revisions merely broaden the potential definition of pollution sources included in load allocations. The revisions do not require DEQ to include the newly-listed items in load allocations nor to specifically issue an individual load allocation to any one of those sources. ... This change is both meaningless from an environmental standpoint and a clear political signal from DEQ that it cares more for the needs of air polluting Oregon industries than it does to clean up Oregon’s waters that have been contaminated by those very industries. It is an ironic conclusion to a process intended to address the Commission’s directive that DEQ do something to address nonpoint sources of toxics.” (0078 - Northwest Environmental Associates)

DEQ Response: Many ideas were generated to address the EQC directive to develop rules and other implementation strategies to reduce toxic pollution from sources not permitted under the Clean Water Act. DEQ evaluated those ideas, including controlling air sources, in spring 2010 to determine the scope of the water quality rulemaking package that would allow us to adhere to the rulemaking timeline and actions that are within DEQ’s authority under state statutes and federal law. At the time it was determined that the proposed rule revision would be feasible. Items that we considered in spring 2010 that are not included in this rulemaking package, including rulemaking by Air Division to address TMDL load allocation will be considered under the agency’s cross-media Toxics Reduction Strategy.

No changes were made to the proposed rules in response to these comments.

A TMDL is not an appropriate means to regulate air deposition.

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“If it is the DEQ’s intent to regulate (air)”deposition”... regulating air through a TMDL is not appropriate. TMDLs are developed as a means to regulate water quality under the Clean Water Act. The Clean Air Act is the appropriate vehicle in which to regulate air so if the DEQ’s intention is to regulate air, the Clean Air Act is the appropriate means to do so and should not be a part of this definition or rulemaking.” (0109 - OR Dairy Farmers)

DEQ Response: If there is evidence that air sources are causing water quality impairment through TMDL analysis, DEQ thinks it is appropriate to assign load allocations to air and land sources. Rulemaking by Air Division to address TMDL load allocation will be considered under the agency’s cross-media Toxics Reduction Strategy.

No changes were made to the proposed rules in response to these comments.

6.5 Division 42 Implementing Total Maximum Daily Load [OAR 340-042-0080]

A. Forestry on State and Private lands

Establishing TMDLs on Forestlands

DEQ received a number of comments opposed to DEQ’s establishment of forestlands in Oregon.

“OSWA is opposed to DEQ’s establishment of TMDLs on forestlands in Oregon. Any attempt by DEQ to directly regulate forestry operations through any mechanism, particularly TMDLs, would be in direct conflict with Oregon law” (0118 - Oregon Small Woodlands Association; 0073 – Steve Carter)

DEQ Response: DEQ is not aware of any Oregon law that prohibits DEQ from establishing TMDLs on forestlands. DEQ has asked Department of Justice (DOJ) about DEQ’s authority to develop specific load allocations and implementation measures for forestland owners, and DOJ responded to the question in a memorandum dated July 2, 2010. DOJ’s conclusion is as follows. The copy of the memo is available on DEQ website.

“... DEQ is required to develop and implement LAs for nonpoint sources of pollution, including, when applicable, pollutant loads from operations on state and private forest lands. In fulfilling this legal requirement, DEQ is authorized to establish allocations for individual nonpoint sources. Based on the assumptions set out above, we conclude that the law would allow DEQ to identify BMPs or other control measures needed to implement source specific LAs, including allocations for forest operations. In keeping with statutory directives and the policies in the EQC’s TMDL rules, however, the BOF would be given an opportunity to adopt new BMPs or control measures that are as effective as the safe harbor BMPs and that would be implemented by ODF. If the BOF does not promulgate such implementation measures, DEQ has the authority to directly order compliance with the load allocation because such measures are required by the CWA.”

<http://www.deq.state.or.us/wq/standards/docs/toxics/humanhealth/AGMemo20100702.pdf>

No changes were made to the proposed rules in response to these comments.

B. Agricultural Water Quality Management Act

Assignment of Load Allocations

“EPA defines TMDL as “a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.” A TMDL is a number, as recognized by EPA, meant to be an “informational tool”. DEQ’s proposed OAR 340-042-0080(3) attempts to redefine the use

of the Load Allocation portion of a TMDL from a calculation of existing circumstances to a new enforcement mechanism for the agency to regulate agricultural nonpoint practices. OFB requests the following changes to be made to the proposed rule language to maintain consistency with state and federal regulations of TMDL implementation.

“... please remove the language “also assign” and replace with “determine, as part of establishing a TMDL.” And remove “needed” and “or rural residential” and “implement the load allocations and replace the remainder of the sentence with “that result from enforcement of ODA rules implementing Area Plans.” ...Removing the language “or rural residential” is critical... Oregon statute includes “rural lands” within the boundaries for land subject to water quality plans; however, it does not include rural residential lands.” (0080 - Oregon Farm Bureau)

DEQ Response: DEQ agrees that “residential lands” could be outside the scope of Agricultural Water Quality Management program. DEQ proposes to change the language from “agricultural or rural residential” to “agricultural or rural nonpoint sources”. DEQ views the rest of the proposed language to be consistent with state and federal regulations, and does not find it necessary to make other revisions suggested by the commenter.

Changes were made to the proposed rules in response to these comments.

Requirement that agricultural water quality management area plans and rules must be sufficient to meet load allocations

“OFB requests DEQ remove the language “meet the load allocations” and replace it with “reduce, to the maximum extent practicable, the level...” (0080 - Oregon Farm Bureau)

DEQ Response: DEQ agrees that ODA’s conditions based rules are a practical way to regulate agricultural lands, but the goal of the area plans and rules is to meet water quality standards, or, where water quality standards are not being met and TMDLs have been issued, TMDL load allocations.

No changes were made to the proposed rules in response to these comments.

Language allowing DEQ to review the ability of Agricultural Water Quality Management Area Plans and Rules to meet load allocations

“OFB requests DEQ remove the language “department determines that” as the Area Plans and Rules established by ODA cannot be arbitrarily changed by DEQ. The question of whether the water quality plan meets the standard should be objective and science-based, not determined by the opinion of DEQ. Next, please remove the language that states “implement the load allocations” and replace with “meet that standard.” The ODA Area Plans and Rules are designed to achieve the standard set forth in section 319 of the CWA, not a specific load allocation. Finally, we request DEQ remove the language “implementing the TMDL” and replace it with “in that regard.” ODA area plans and rules are not designed to implement a TMDL. Plans and rules are guided by the need to reduce pollution from agricultural nonpoint sources to the maximum extent practical, not to achieve a load allocation.” (0080 - Oregon Farm Bureau)

DEQ Response: DEQ’s determination of the sufficiency of Agricultural Water Quality Management Area Plans and Rules will be objective and science-based, and the evaluation will be done as outlined in TMDL IMD that is being drafted as part of the toxics rulemaking. With respect to the request to replace the language stating “implement the load allocations” and “implementing the TMDL,” it is DEQ’s understanding that Agricultural Water Quality Management Area Plans and Rules are the mechanism for implementing TMDLs in agricultural lands. ORS561.191 (2) states that programs or rules adopted by ODA under (1) “shall be designed to assure achievement and maintenance of water quality standards adopted by the EQC.” Because the EQC, through TMDLs, sets load allocations to meet water quality standards, Area Plans are expected to meet load allocations.

No changes were made to the proposed rules in response to these comments.

6.6 Division 42 General Comments

DEQ should not assign load allocations to nonpoint sources

Some commenters stated that DEQ should not assign numeric target to agricultural nonpoint sources. (0087 - Oregon Department of Agriculture; 0080 - Oregon Farm Bureau; 0139 – Kent Tresidder; 0110 – Baker County Republican Central Committee)

In addition, one commenter stated that DEQ should not assign load allocations to nonpoint sources as a numeric target since load allocations are meant to be attributions. (0080 - Oregon Farm Bureau)

DEQ Response: ORS561.191 (2) states that programs or rules adopted by ODA under (1) “shall be designed to assure achievement and maintenance of water quality standards adopted by the EQC.” Because the EQC, through TMDLs, sets load allocations to meet water quality standards, Area Plans are expected to meet load allocations.

No changes were made to the proposed rules in response to these comments.

The provisions would not prevent unsafe levels of pollution from nonpoint sources

“Subsection (2) concerning logging adds that DEQ “may” assign sector or source specific load allocations. This does not commit DEQ to assigning such specific load allocations even if they are “needed” but merely allows DEQ to do so, a discretion it already has. In other words, the revision is without any practical or legal meaning. It then... makes a statement of fact that FPA rules “may need to be revised” and that DEQ “may request” the Commission to petition the Board of Forestry... Likewise, subsection (3) states that DEQ “may” assign specific load allocations to agricultural nonpoint sources and that it “may request” the Commission to petition for a change in ODA rules and plans. These references as to what the department may do are all statements of existing statutory provisions and therefore add nothing to DEQ’s rules. Stopping short of making any commitment that the Department will do something renders these rules the equivalent of guidance – actually less helpful than guidance – and they should be removed. Cluttering up Oregon rules with statements of possible discretionary acts makes a mockery of calling them “rules”. Most important, these revisions provide absolutely no assurance to the Commission or to the public, whose waters are being polluted, that the Department intends to make any change whatsoever in the unacceptable status quo.” (0078 - Northwest Environmental Associates)

DEQ Response: Assigning sector or source specific load allocation may or may not be possible depending on available data and resources. DEQ revised the rule changes to specify under what circumstances DEQ will assign sector and source specific load allocations. DEQ has also made revisions to further explain interagency interactions between DEQ and Departments of Agriculture and Forestry. DEQ has revised the language as follows.

(2) Nonpoint source discharges of pollutants from forest operations on state or private lands are subject to best management practices and other control measures established by the Oregon Department of Forestry under the ORS 527.610 to 527.992 and according to OAR chapter 629, divisions 600 through 665. Such forest operations, when conducted in good faith compliance with the Forest Practices Act requirements are generally deemed not to cause violations of water quality standards as provided in ORS 527.770. Where the department determines that there are adequate resources and data available, the department will may also assign sector or source specific load allocations needed for nonpoint sources of pollution on state and private forestlands to implement the load allocations. In areas where a TMDL has been approved, site specific rules under the Forest Practices Act rules must be sufficient to meet the TMDL load allocations. If the department determines that the rules are not adequate to implement the load allocation, the department will provide ODF with comments on what would be sufficient to meet TMDL load allocations. may need to be revised to meet the TMDL load allocations. If the department determines that the generally applicable Forest Practices Act rules are not adequate to implement the load

~~allocation~~ ~~a resolution cannot be achieved~~, the department ~~will~~~~may~~ request the Environmental Quality Commission to petition the Board of Forestry for a review of part or all of Forest Practices Act rules implementing the TMDL.

(3) In areas subject to the Agricultural Water Quality Management Act the Oregon Department of Agriculture (ODA) under ORS 568.900 to 568.933 and 561.191 and according to OAR chapter 603, divisions 90 and 95 develops and implements agricultural water quality management area plans and rules to prevent and control water pollution from agricultural activities and soil erosion on agricultural and rural lands. Where the department determines that there are adequate resources and data available, ~~the department will~~~~may~~ also assign sector or source specific load allocations needed for agricultural or rural ~~residential~~ nonpoint sources to implement the load allocations. In areas where a TMDL has been approved, agricultural water quality management area plans and rules must be sufficient to meet the TMDL load allocations. If the department determines that the plan and rules are not adequate to implement the load allocation, the department will provide ODA with comments on what would be sufficient to meet TMDL load allocations. If a resolution cannot be achieved, the department will ~~may~~ request the Environmental Quality Commission to petition ODA for a review of part or all of water quality management area plan and rules implementing the TMDL.

Changes were made to the proposed rules in response to these comments.

Clarification regarding consequences if TMDL implementation does not achieve standards or sources can't meet load allocations

One commenter questioned how DEQ will reduce pollution if TMDL implementation is not successful.

“...how [is DEQ] going to deal with the pollution levels of both toxins and non-toxins that are in the water that exceeds your TMDLs? ... Are you going to deal with it after we have all gone out of business? Not only we, but the people in industries, the point-source polluters who can't comply. Is that where we're headed with this regulation?” (0165 – Charles Boyer, oral testimony at Medford hearing)

DEQ Response: TMDLs are developed and implemented in an iterative process. When TMDLs are revisited, DEQ will work with local stakeholder and technical advisory groups to determine if waste load and load allocations need to be reassigned.

Topic 7:

General Comments Regarding Nonpoint Source Revisions

This topic includes general comments and responses addressing proposed rule about sources not subject to an National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act.

7.1 General Comments about proposed Division 41 and Division 42 revisions

A. Proposed revisions are not protective enough

Some commenters stated that the proposed revisions addressing nonpoint sources are not protective enough.

“DEQ failed to follow through with meaningful rulemaking proposals on nonpoint source toxics pollution. As a practical matter, the revisions will not result in less toxic pollution unless DEQ works with Department of Forestry, Department of Agriculture, and their respective constituents to reduce the use of toxic chemicals, improve land management practices that decrease erosion, which is a common pathway for legacy toxics entering waterways, and takes enforcement action when agriculture and forestry sources are causing or contributing to violations of water quality standards.” (0071 - Columbia Riverkeeper et al.)

“Revisions to Water Quality Standards and TMDL regulations related to NPS are not adequate. EQC should again direct DEQ to improve nonpoint source regulation.” (0071 - Columbia Riverkeeper et al.)

“The rules may not adequately safeguard pollution via non-point sources. For example, consider the language, ‘...good faith compliance with best management practices and control measures established under the Forest Practice Act are generally deemed to not cause violations of water quality standards...’ Bud to the Forest Practice Act ‘best practices’ ensure adequate protection of water quality? I think the ‘best practices’ should be re-examined. For example, under current rules a stream that is deemed non-fish-bearing is exempt from riparian buffer requirements for pesticide application, even though this stream may feed into a fish-bearing stream or into a human water source. Moreover, the riparian buffers on fish-bearing streams that are currently required when pesticide is sprayed are likely to be inadequate. The State of Oregon does not have rigorous current data regarding aerial forest pesticide distribution over time, and there is no good monitoring policy in place.” (0056 - Thomas H. Steinberg, Ph.D.)

“We do not interpret your draft as having made acceptable progress toward {improving nonpoint source water quality as well as regulatory processes} for agricultural lands of the State.” (0072 – Confederated Tribes of Siletz Indians)

“Number three, non-point sources from fields and forests are not sufficiently either acknowledged or addressed in your plan, and it appears more likely business as usual. It really does sound like we're going to talk about it; don't worry, we're going to go talk about it. Well, you have been talking about it. We need a little action.” (0173 – Cat Koehn, oral testimony at Salem hearing)

“And what I saw for every opportunity for big timber and big ag to opt out of having to be in compliance with water quality standards” (0169 – Erin King, oral testimony at Eugene hearing)

DEQ Response: Many ideas were generated to address the EQC directive to develop rules and other implementation strategies to reduce toxic pollution from sources not subject to an NPDES permit under CWA. DEQ evaluated those ideas in spring 2010 to determine which were within DEQ's authority under state statutes and federal law. At that time, DEQ also determined which rules and implementation strategies would fit into a water quality rulemaking package that would allow us to adhere to the rulemaking timeline. Items that we considered in spring 2010 that are not included in this rulemaking package will be considered under the agency's cross-media Toxics Reduction Strategy.

No changes were made to the proposed rules in response to these comments.

B. Proposed rules will result in high costs for Oregon's agricultural and forestry businesses and put Oregon farmers and ranchers out of business

Many commenters expressed concerns that the proposed rulemaking will negatively impact operation of their individual businesses and/or make Oregon uncompetitive in the global marketplace. (0017 - State Representative Vic Gilliam, District 18; 0028 – Judith Kirby, Ontario, OR; 0088 - State Representatives Bentz, Conger, Garrard, Jenson, McLane, Schaufler; 0129 – Larry and Pamela Zweifel; 0075 – Joe Schumacher; 0077 – Jerry W. Marguth; 0096 - Garland Gilmore)

“OFB is very concerned about the proposed DEQ regulations. We believe these could impose numeric standards that would cost Oregon agriculture in both jobs and production in exchange for a new set of regulations that would not meet Oregon's goal of improving water quality.” (0080- Oregon Farm Bureau)

“We must question how a proposed rule with such potential for economic harm to businesses and forestland owners in Oregon could move forward based on questionable old surveys of fish consumption, an unreasonably high safety factor, and a lack of clear evidence that a toxic water quality problem in Oregon's forests really exists. OSWA recommends DEQ do a better job of identifying a problem, before you propose rules with such potential negative ramifications, particularly at a time when Oregon's economy is so fragile.” (0118 – Oregon Small Woodlands Association)

“The costs to Oregon agriculture are incalculable at this point, but would cripple our key agricultural industries and make Oregon uncompetitive in the marketplace.” (0039 – Form letter sent to Oregon State Legislators by 14 commenters)

“I am a family forest landowner and I have been managing my property for 10 years in the Corvallis area. I am very concerned about the proposed Human Health Toxic Pollutants rules and how this increased regulation will affect my ability to manage my forestland in Oregon.” (0014 - David M. Ehlers)

“... this morning, I called the American Sheep Industry, and asked them for a comment. ... on the Oregon sheep industry. And they said " It was regulated out of business," ... We're talking about small farms, agriculture, local foods, those kinds of issues. Most of the people in those industries, those small farms and sustainable operations, they have no skills, background, or the financial ability to take on this new level of regulation. So going back in Oregon regulation, we've had a history of accumulated regulation that's tended to get the opposite effect of what we've wanted. And right now in this valley and throughout Oregon, we're trying to maintain all those farms. And most of Oregon's farms are small farms. They're not mega-corporate farms in the Midwest.

... And when I look at the old sheep industry, it was huge in this country and in the State of Oregon -- in fact, we're in one of the largest sheep producing counties in history, is right here in Jackson County. It doesn't produce any sheep anymore, but [chuckle] you gotta think about those accumulated regulations that were put on these industries, and put on these small farms that we're trying to restore and put back in place, and hold.” (0162 - Glenn Archambault, Jackson County Farm Bureau, oral testimony, Medford hearing)

DEQ Response: Water quality issues vary in nature and scale across the state. The potential cost of the new rules will vary widely depending on the pollutants, the source of the pollutants and whether additional actions are needed to help achieve the new standards. It is difficult to estimate what additional actions are needed until water quality assessments and analyses associated with TMDLs are done for a specific watershed or basin. DEQ provided its assessment of situations where additional costs may be incurred in the Statement of Need and Fiscal and Economic Impact. Commenters did not provide additional details regarding under what circumstances they concluded the proposed rules would result in additional costs or the extensive impacts to the agricultural industry they describe. Where Agricultural Water Quality Management Area Plans and FPA are fully implemented, additional actions may not be needed to respond to proposed rule changes.

It is DEQ's understanding that ODA and ODF are committed to implement TMDL load allocations and meet water quality standards through Forest Practice Act rules (FPA Rules) and Agricultural Water Quality Management Area Plans and Rules (Area Plans and Rules). DEQ will continue to rely on ODA and ODF's expertise and working relationships with forest and agricultural land owners to achieve TMDL load allocations in a way that minimizes economic impact to land owners and businesses.

No changes were made to the proposed rules in response to these comments.

C. Regulation and enforcement of agriculture and forestry practices should come directly from the Oregon Departments of Forestry and Agriculture

DEQ does not have authority to regulate agriculture and forestry practices

Many commenters expressed concern regarding their perception that the proposed rules would take regulatory and enforcement authorities from the Oregon Departments of Forestry and Agriculture and place it with the Department of Environmental Quality. (0010 Robert Freres; 0014 - David Ehlers; 0017 - State Representative Vic Gilliam, District 18; 0019 – Michael S. Meredith; 0026 – Wes Hartman; 0033 – J. Edward Vaughn; 0047 – Rick Stonex; 0053 – Bob and Bonnie Shumaker; 0054 – Harold T. Nygren; 0055 – Barbara Eigner; 0073 - Steve Carter; 0075 – Joe Schumacher; 0080 – Oregon Farm Bureau; 0089 – Oregon Cattlemen's Association; 0096 - Garland Gilmore; 0099 – Brenda Kirsch; 0108 – Keno Irrigation District; 0119 – Doug Krahmer; 0120-Martin Kerns; 0127- Dale Buck; 0129 – Larry and Pamela Zweifel; 0133 – Coos/Curry County Farm Bureau; 0135 – Baker County Natural Resources Advisory Committee; 0146 – Helen Moore, Water for Life; 0155 – Curtis W. and Cheryl Martin; 0159 – Tracy Liskey, oral testimony at Portland EQC hearing; 0164 – Don Rowlett, oral testimony at Medford hearing; 0182 - Peggy Browne, oral testimony at Ontario hearing; 0183 – Doug Krahmer, oral testimony at Portland EQC hearing; 0188 - Terry Witt, oral testimony at Portland EQC hearing; 0195 – John P. (Phil) Hassinger; 0199 – Dave Messerle)

“Any regulation and enforcement of forestry practices should come directly from the Oregon Department of Forestry and no other agency. Oregon statute requires landowners to conduct forest management operations in compliance with the Forest Practices Act. ORS 527.770 states that a forest operator conducting, or in good faith proposing to conduct, operations in accordance with best management practices currently in effect shall not be considered in violation of any water quality standards. I am not aware of any Oregon law that provides direct enforcement authority over forest landowners to either the EQC or DEQ, And OSWA is opposed to the language in the proposed rulemaking that would establish such an authority. (0118 - Oregon Small Woodlands Association).

“There are no provisions in Oregon law that allow for such regulation. To the contrary, efforts by the DEQ to directly regulate forestry operations, particularly through the management of TMDLs, would be in direct conflict with Oregon law.” (0018 – James E. Bellknap)

“While the statutory framework associated with Agricultural Water Quality Management planning activities does provide the Department of Environmental Quality with the ability to participate in certain

regulatory activities associated with agricultural practices, the overarching framework provides the Department of Agriculture with responsibilities associated with agricultural practices, specifically as they relate to issues of water quality management.” (0146 – Helen Moore, Water for Life)

DEQ Response: Proposed changes do not establish new DEQ authorities or transfer authority from ODA or ODF to DEQ. The proposed rules clarify DEQ’s existing authority and describe in more detail how DEQ will interact with ODA and ODF.

No changes were made to the proposed rules in response to these comments.

DEQ does not have expertise to regulate agriculture and forestry practices

Many commenters expressed their concerns that proposed toxics rules would result in regulatory changes that are not flexible due to DEQ’s lack of expertise in agriculture and forestry. (0026 – Wes Hartman; 0047 – Rick Stonex; 0077 – Jerry W. Marguth; 0098 – Sharon Waterman; 0097 – Coos Soil and Water Conservation District; 0108 – Keno Irrigation District; 0116 – Burnt River Irrigation District; 0119 – Doug Krahmer; 0129 – Larry and Pamela Zweifel; 0133 – Kent Tresidder; 0186 – Mark Mellbye, oral testimony at Portland EQC hearing)

“Direct regulation by DEQ of agricultural nonpoint sources may not utilize best available crop, soil, and animal science which are needed in the condition based regulatory approach by ODA.” (0080 – Oregon Farm Bureau)

“In my forest operations I have always found the representatives of the State Department of Forestry, in particular the Forest Practices Foresters, to be not just enforcers of the law, but teachers of how to best manage our lands.” (0018 – James E. Bellknap)

“We would like to have ODA continue to be the regulatory agency that works with the farmers to provide the excellent products all Oregonians now enjoy” (0032 – Mark and Karen Kalsch)

“Oregon has made large strides in improving (and regulating) water quality in the last forty years. Additional rule making should come about based upon the best available sciences of both agriculture and silviculture. ODA and ODF are best positioned to implement this, not DEQ or EQC.” (0047 – Rick Stonex)

“Since agriculture is their area of expertise, ODA should continue to be the sole authority regulating farm practices and adopting rules regarding water quality protection.” (0048 – Lon and Sheri Wadkamper)

“Oregon has some of the cleanest waters in the nation. Obviously something is going right. The ODA, farmers, ranchers and foresters have proven that they can successfully manage the environment and non-point pollution sources. There is no need for additional regulation.” (0145 –Oregon Women for Agriculture)

“The Oregon Department of Agriculture (ODA) is doing their job in implementing, regulating and enforcing the Agriculture Non-Point Source Water Quality Management Plans (SB1010) as the current legislation was designed. We recognize and support DEQ’s current role to serve as a regulatory back-up to ODA if and when needed. Yet, the new rules would give DEQ more authority over the Ag water quality program and lessen ODA’s responsibility and authorities. To threaten ODA’s handling of Agriculture’s water quality concerns because of DEQ’s lack of information is wrong. The existing rules recognize ODA’s statutory authority to regulate and enforce the Agricultural Non-Point Source Water Quality Program and need to remain unchanged.” (0136 – Marion Soil and Water Conservation District)

“The current format of the DEQ revision would harm the existing process that relies upon best available science, and has become the principle strategy for agriculture’s role in responding to the 319 section of

the federal Clean Water Act. This proposed change would destroy the cooperation and trust that has taken years to establish between ODA and agriculturalists.” (0089 – Oregon Cattlemen’s Association)

DEQ Response: As with the case today, DEQ will continue to rely on ODA and ODF’s expertise and working relationships with forest and agricultural land owners to meet water quality standards on agricultural and forest lands.

No changes were made to the proposed rules in response to these comments.

It is efficient for landowners to have a “single point of contact” for multiple needs.

“A regional forestry office serves as a “single point of contact” for multiple needs of a forest landowner. I appreciate the increased efficiency in dealing with one versus multiple agencies. ... If the DEQ is determined to revise current water quality standards regulation ... I ask that the enforcement responsibility remain with the Board of Forestry, so that the additional burden on forest land owners not be compounded by having to answer to multiple agencies. (0111-Edythe Schlosstein)

DEQ Response: Proposed changes do not transfer regulatory authority from ODF to DEQ. DEQ will continue to rely on ODF’s expertise and working relationships with forest land owners to meet water quality standards on forest lands.

No changes were made to the proposed rules in response to these comments.

DEQ needs to provide more information regarding how ODA and ODF practices will change.

One commenter requested clarification regarding how the proposed rule will change existing practices.

“How will current regulation in ODA and ODF practices be changed, and how will the need for any change be determined?” (0148 – Crooked River Watershed Council).

DEQ Response: DEQ will rely on existing programs by ODA and other local partners to address pollution from agricultural nonpoint sources and meet water quality standards. Where water quality standards are being met, it may not be necessary to implement additional measures. Where water quality standards are not being met, ODA may need to revise Agricultural Water Quality Management Area plans and rules through biennial review process. In those cases, DEQ is committed to working with ODA and other partners to achieve water quality standards and TMDL load allocations.

A change in agency oversight would be expensive.

“Please recognize that things are improving and working well with the regulations and enforcement now in place under the Oregon Dept. of Agriculture. Wouldn’t a change in agency over-site be counter productive and costly?” (0185 – Liz VanLeeuwen)

DEQ Response: Proposed changes do not transfer regulatory authority from the Oregon Department of Agriculture to DEQ. DEQ will continue to rely on ODA’s expertise and working relationships with agricultural land owners to meet water quality standards on agricultural lands.

D. Proposed rules will make DEQ’s authority explicit

Some commenters voiced support for proposed rule revisions they perceived as making DEQ’s authority more explicit.

“The OHA is also pleased that the proposed changes make explicit DEQ’s authority to regulate non-point sources, specifically forest lands, which can be a significant contributor to pollutants in state waters.” (0003 - Oregon Health Authority)

“The rulemaking maintains and clarifies the current relationship between DEQ and the Departments of Agriculture and Forestry for reducing nonpoint source pollution from forestry and agriculture. If the plans and rules developed by ODA and ODF do not meet water quality standards, DEQ can petition its partner departments to modify plans and rules to do so. This maintains Oregon’s unique, collaborative, industry-specific approach while acknowledging that the state is required to meet federal Clean Water Act standards. DEQ is still ultimately responsible for Oregon’s compliance with the Clean Water Act, and this structure recognizes DEQ’s role as a backstop in the case that the Agricultural Water Quality Management Program and Forest Practices Act fail to meet water quality standards. The rulemaking clarifies this process within existing authorities.” (0084 – Oregon Environmental Council)

Several commenters voiced their support of a process they viewed as giving the Clean Water Act priority over the Forest Practices Act. (0008 - Pitchfork Rebellion, 291 commenters; 0171 – Day Owen)

“Surfrider also commends DEQ for clarifying in the proposed regulations that nonpoint sources of pollution from forestry and agricultural operations need to meet water quality standards.” (0049 – Surfrider Foundation)

“In addition to reviewing the proposed consumption rates values we have shared our need to make sure the rules account for nonpoint source pollution coming from agriculture and commercial forest based lands as well as municipal systems. We feel strongly that to ignore these sources and their significant contributions toward pollution would be an error with regrettable consequences for our children. We interpret your final draft as having created new language that will improve nonpoint source water quality as well as regulatory processes for forest lands.” (0072 – Confederated Tribes of Siletz Indians)

“The clarifications to the nonpoint source language and TMDL rule are timely and important in ensuring consistency in State regulations and in providing citizens with a clear understanding of ODEQ's role relative to implementing controls for these sources. Consistent with CW A requirements, ODEQ currently includes load allocations to non point sources in TMDLs and makes those as specific to the source as data allows. Clarifying this in rule does not appear to change this practice or be inconsistent with the CWA. Therefore, EPA encourages ODEQ to move forward with these clarifications.” (0083 – U.S. Environmental Protection Agency, Region 10)

“Additionally, we are appreciative that the new rules would include revisions to the Water Quality Standards and Total Maximum Daily Load (TMDL) regulations for non-point sources, which are important and underestimated contributors of in-stream pollutants.” (0126 – Confederated Tribes of the Grand Ronde Community of Oregon)

“Likewise, clarifying the water quality obligations of the Oregon Department of Agriculture and Oregon Department of Forestry will aid those public water systems whose source water areas include forest and agricultural lands.” (0141 – Springfield Utility Board)

DEQ Response: DEQ acknowledges and appreciates the commenters’ statements of support.

No changes were made to the proposed rules in response to these comments.

E. Implementation Ready TMDLs (General comments)

Conditional support for Implementation Ready TMDLs

Two commenters supported the concept of Implementation Ready TMDLs with conditions.

“DEQ should move forward with “Implementation Ready TMDLs” in both an Internal Management Directive and rulemaking.” (0071 - Columbia Riverkeeper et al.)

“We interpret the suggested Implementation Ready TMDL approach (DEQ Issue Paper, December 29, 2010) as having potential to meet standards and move the State’s process along in a new and more productive manner. When considering the Tribe’s past experience with ODA and its area management plans and rules, we suggest that if the *Implementation Ready TMDL process* is driven by DEQ then we will be fully supportive of it. If this is not the case and DEQ does not have the ability to finalize the process, that is, if ODA is unwilling to formulate Area Management Plans for which DEQ agrees will meet water quality standards, then we will not be supportive of the process.” (0072 –Confederated Tribes of Siletz Indians)

DEQ Response: Elements of “Implementation Ready TMDLs” are already contained in Division 42, as indicated in the issue paper and are in EPA 1991 and 2002 guidance documents and the 1997 Perciasepe memo. Further, DEQ expects that the appropriate level of information will vary in different circumstances for each TMDL, and as such, is best suited for inclusion in the Internal Management Directive under current development, rather than inclusion in the rule. As for working with ODA on TMDL implementation, DEQ believes that additional data needed to develop Implementation Ready TMDLs will support ODA and local advisory committee’s effort to implement strategies to improve water quality on agricultural lands.

Changes were made to the proposed rules in response to these comments.

General opposition to Implementation Ready TMDLs

A number of commenters stated that they were generally opposed to DEQ’s development of “Implementation Ready” TMDLs, as it would be in direct conflict with Oregon law. (0033 – J. Edward Vaughn; 0089 – Oregon Cattlemen’s Association; 0108 – Keno Irrigation District; 0116 – Burnt River Irrigation District; 0119 – Doug Krahmer; 0123 – Tom Quintal; 0135 - Baker County Natural Resources Advisory Committee; 0138 – Chuck Chase; 0159 – Tracy Liskey, oral testimony at Portland EQC hearing; 0164 – Don Rowlett, oral testimony at Medford hearing; 0182 – Peggy Browne, oral testimony at Ontario hearing; 0188 - Terry Witt, oral testimony at Portland EQC hearing)

DEQ Response: DEQ is not aware of any Oregon or federal law that prohibits DEQ from developing Implementation Ready TMDLs. As explained in the TMDL Issue Paper, DEQ has the authority under state statute and the Clean Water Act to develop and implement TMDLs. DEQ acknowledges the commenters’ concerns, and reiterate its commitment to work with local stakeholders as well as with ODA and ODF when developing strategies to implement TMDLs. DEQ will continue to rely on ODA and ODF’s expertise and working relationships with forest and agricultural land owners.

No changes were made to the proposed rules in response to these comments.

7.2 Other General Comments Regarding Nonpoint Sources

F. The Forest Practices Act is adequate to address nonpoint sources on forest lands

“I believe the Oregon Forest Practices Act has significantly improved water quality in Oregon as it relates to pollution from non-point forest management operations.” (0010 Robert Freres; 0014 - David M. Ehlers; 0026 – Wes Hartman; 0053 – Bob and Bonnie Shumaker; 0054 – Harold T. Nygren; 0073 – Steve Carter; 0096 - Garland Gilmore; 0139 – Kent Tresidder; 0199 – Dave Messerle)

“I was attending Oregon State when the Forest Practices Act was first adopted in Oregon and have watched over the past 30 years as water quality in forest land areas has steadily improved as it relates to forest management operations. I believe this statement is borne out by the facts and is not merely a subjective opinion. This improvement is based on what has been an excellent law, the Forest Practices Act, ORS

527.770, and the work of knowledgeable enforcers of that law, the Oregon Department of Forestry.” (0018 – James E. Bellknap)

“The Oregon Forest Practice Laws are among the strictest forest practice laws in the nation... Forest landowners who conscientiously in good faith, conduct operations in the woods in accordance with best management practices currently in effect and compliance with the Forest Practices Act, do strive to protect soil and water quality.” (0055 – Barbara Eigner)

DEQ Response: DEQ appreciates efforts made by forest landowners to protect soil and water quality. DEQ has, and plans to continue relying on the Forest Practices Act partners to address pollution from forest lands. DEQ plans to continue to work with ODF in order to meet TMDL load allocations and water quality standards.

No changes were made to the proposed rules in response to these comments.

G. Agricultural Water Quality Management Program is adequate to address agricultural nonpoint sources

Many commenters noted the existing programs are already addressing agricultural nonpoint sources successfully. (0033 – J. Edward Vaughn; 0048 – Lon and Sheri Wadekamper; 0057 – Oregon Soil and Water Conservation Committee; 0075 – Joe Schumacher; 0077 – Jerry W. Marguth; 0089 – Oregon Cattlemen’s Association; 0099 – Brenda Kirsch; 0116 – Lynn Shumway, oral testimony at Ontario hearing; 0119 – Doug Krahmer; 0133 – Coos/Curry County Farm Bureau; 0136 – Marion Soil and Water Conservation District; 0155 – Curtis W. and Cheryl Martin; 0159 – Tracy Liskey, oral testimony at Portland EQC hearing; 0182 – Peggy Browne, oral testimony at Ontario hearing; 0183 – Doug Krahmer, oral testimony at Portland EQC hearing; 0185 – Liz VanLeeuwen; 0188 – Terry Witt, oral testimony at Portland EQC hearing; 0195 – John P. (Phil) Hassinger)

“Our industries, particularly manufacturing and agriculture, employ hundreds of thousands of Oregonians. They are already going above and beyond to maintain clean water standards. The new Oregon DEQ regulations are the most strict water standards in the nation - far more strict than federal standards and significantly more stringent than any statewide standard in the US.” (0039 – Form letter sent to Oregon State Legislators by 14 commenters)

“The Agricultural Water Quality Management Program implemented by ODA is a very effective program. ... This program presently is effective in addressing source of toxics that may enter waters of the state via sediment. The program addresses sediment transport to water through education and outreach provided by the program in cooperation with SWCDs and through regulation implemented by ODA.” (0087- Oregon Department of Agriculture; 0087- Oregon Board of Agriculture)

“The watershed management structure outlined by the ODA works. It gives the locals control to adjust and apply best management practices for the area and for the watershed to prevent non-point source pollution. Oregon is a diverse state in terrain, weather and agriculture so what works for one area does not for another. That's why the ODA's Agricultural Water Quality Management Act structure works great because the management and plans are based local by the people who know the area the best.” (0145 – Oregon Women for Agriculture)

“Oregon farmers, ranchers and producers have worked hard over the years to participate and implement practices and projects to improve any runoff from their lands as legislated by the state of Oregon in 1993 through SB 1010. These accomplishments would be better understood and recognized if the agencies, who were given the authority to regulate water quality, had also been given adequate funding to fulfill their responsibility to actually perform monitoring and establish baselines, then report on the improvements.” (0136 – Marion Soil and Water Conservation District)

“The rules, as proposed, will have significant effects on the Agriculture Water Quality Management Plans and Rules adopted by LAC’s across the state. Farmers and ranchers spent several years and thousands of hours to produce these Area Plans and Rules which describe requirements for agriculture landowners to protect water quality. These are the citizens who know the area and land and how best to achieve the desired achievable outcomes without putting farmers out of business. We believe it is imperative that any water quality regulation required of agriculture landowners and land managers continue to be managed through these Area Plans and Rules and through the Oregon Department of Agriculture (ODA). These plans should be based on best available soil, crop and animal science that demonstrates the effects of land practices on water quality and is reasonable and practicable to modern production agriculture.” (0120 – E. Martin Kernp; 0108 – Keno Irrigation District)

“We finally came up with our completed rules, and I’m concerned that - I don’t want them to be forgotten and override - do away with them. A lot of work went into that.” (0163 – Keith Nelson, Josephine County Farm Bureau, Oral Testimony at Medford Hearing)

DEQ Response: DEQ appreciates conservation efforts made by ranchers and farmers through the Agricultural Water Quality Management Program. DEQ has, and plans to continue relying on existing programs by ODA, and other local partners to address pollution from agricultural nonpoint sources and meet water quality standards. Where water quality standards are being met, it may not be necessary to implement additional measures. Where water quality standards are not being met, ODA may need to revise Agricultural Water Quality Management Area plans and rules through biennial review process to meet water quality standards. In those cases, DEQ is committed to working with ODA and other partners to achieve TMDL goals through existing programs.

No changes were made to the proposed rules in response to these comments.

H. Farmers and ranchers do not support practice based program or requirements

A number of commenters objected to implementing a practices-based program in agricultural lands.

“Farmers and ranchers do not support any effort to implement a practices based program or requirements. The model being implemented by ODA encourages landowner efforts that are more productive than what would be expected under a practice based program. ... Any effort by DEQ to influence the adoption of practices would be counterproductive to the success of this program and should not be considered.” (0057 – Oregon Soil and Water Conservation Committee; 0080 - Oregon Farm Bureau; 0087 - Oregon Department of Agriculture; 0097 – Coos Soil and Water Conservation District 0098 – Sharon Waterman; 0133 Kevin Westfull, Coos/Curry Co. Farm Bureau; 0145 Marie Bowers; 0159 – Tracy Liskey, oral testimony at Portland EQC hearing; 0182 – Peggy Browne, oral testimony at Ontario hearing)

“Imposition of the proposed new numeric rules will predictably put a halt to voluntary improvement practices. Landowners will no longer have the incentive of utilizing ‘best management practices’ or ‘maximum extent practicable’ to correct problems on their own lands. They will be working under a ‘one-size-fits-all’ rule, which will carry severe penalties on situations that may very well be beyond their ‘practicable’ control.” (0135 - Baker County Natural Resources Advisory Committee)

“The current proposal will require surrogate measures, and best management practices that will cause economic hardship to ranchers, while not assuring that the imposed land management practice will add beneficial improvement to water quality.” (0089 – Oregon Cattlemen’s Association)

DEQ Response: DEQ agrees that often there are more than several ways to remedy a particular water quality issue, and generally support ODA’s approach. That being said, DEQ believes it is important for both agricultural community and the state of Oregon to be able to demonstrate that water quality improvements are made over

time. For that reason, DEQ will continue to work with, and rely on ODA's existing programs to determine how to set and achieve goals for agricultural lands and meet water quality standards as well as TMDL load allocations.

No changes were made to the proposed rules in response to these comments.

I. Additional measures are necessary to address pesticide pollution from nonpoint sources

Several commenters suggested that DEQ, adopt a strong 'Precautionary Principle' in regard to pesticides and encourage the State of Oregon to do likewise. These commenters reasoned that since current FPA riparian zones have not kept herbicides out of forest streams, DEQ should do everything in its power to see that those zones are widened, especially in regard to aerial sprays. (0008 - Pitchfork Rebellion, 291 commenters; 0171 – Day Owen)

Another commenter raised specific concerns regarding additional measures needed to address pollution from nonpoint sources.

“Unfortunately, the draft rulemaking package does little to effectively change how DEQ currently approaches nonpoint source pollution. Although Riverkeeper and the Sierra Club believe that, given the lengthy delay in adopting accurate toxics standards, the rulemaking package should move forward, we urge the EQC to direct DEQ to propose additional alternatives for reducing toxic loads from nonpoint source pollution. For example, the NPDES Workgroup's Mixed Media Subcommittee developed a detailed memo describing alternatives for reducing toxic pollution from nonpoint sources. The EQC should direct DEQ to build upon its efforts during 2009 – 2010.

For example, DEQ's rulemaking package includes proposed revisions to OAR 340-041-007(5). These revisions came in response to the EQC's directive to address nonpoint source pollution as part of the toxics rulemaking package. While Riverkeeper and the Sierra Club support DEQ's decision to affirm the duty to comply with water quality standards, we are deeply disappointed that DEQ did not take additional, recommended steps to reduce toxic discharges from nonpoint sources.

Question: How does DEQ intend to apply the new narrative criteria in practice to reduce toxic pollution? Please explain.” (0071 – Columbia Riverkeeper, et al.)

Another commenter recommended measures to improve the effectiveness of Area Plans.

“There are many agricultural chemicals on the toxics list, herbicides and pesticides, and the cooperation from DOA relies on the use of “Area Plans”. These plans don't seem to have any teeth. Couple that with the fact DOA can't find the money to track herbicides and pesticides and it becomes apparent that the only partner in this program is the NPDES permit holder. A fee per pound of pesticide sold so DOA can afford to track pesticides would be a good start toward making DOA a full partner.” (0115 –City of Pendleton)

DEQ Response: Water quality issues and their remedies vary across the state. Depending on the pollutants, their sources, and the extent of impairments need to be known in order to determine what actions may be taken in order to meet water quality standards. Without water quality assessments and analyses associated with TMDLs, it is difficult to estimate what additional actions are needed. If analysis show that certain size buffer is needed in order to correct water quality impairments, DEQ will work with local partners to communicate and educate pesticide users.

No changes were made to the proposed rules in response to these comments.

J. DEQ should work with ODA and ODF on implementing the proposed changes

“Another piece here is that, you know, I think that I would advise that the DEQ work very closely with ODA and ODF on the next phases of this.” (0194 – Ivan Maluski, oral testimony at Salem hearing)

DEQ Response: DEQ has and will continue to work with ODA and ODF on implementing water quality standards in the State.

K. Concern that proposed rule changes will disallow any erosion

One commenter was concerned that the proposed rules will disallow any erosion.

“Those of us that are agriculture producers are all about needing to produce practical outcomes based on practical solutions. We want to talk about erosion. Gene brought up erosion, and that erosion will just not be allowed, because it's going to increase from non point source pollution some of the toxins they're trying to re-regulate. Well the problem is that erosion is a natural process. Streams actually aren't functioning properly unless there is a certain amount of erosion happening. It's part of the natural system.” (0182 – Peggy Browne, oral testimony at Ontario hearing)

DEQ Response: DEQ acknowledges that some erosion comes from natural sources. An important component of preventing toxics from entering state waters is to reduce and prevent anthropogenic erosion, which is associated with certain toxic compounds. Agricultural Area Plans and Rules are designed to prevent anthropogenic erosion from entering the stream. As long as agricultural land-owners are meeting the environmental outcomes in the Area Plans and Rules, there should not be an issue with meeting water quality standards.

Topic 8: General Comments on Rulemaking

This topic includes comments and responses that generally addressed the entire rulemaking package, including comments on DEQ's fiscal and economic impact assessment, implementation, DEQ's rulemaking process, and comments received on issues not addressed by this rulemaking.

8.1 Support (General/Non-specific)

Many commenters voiced general support for the rulemaking. (0003 - Oregon Health Authority; 0040 – Carol Duby; 0043 – Will Newman II; 0045 - Northwest Center for Alternatives to Pesticides email campaign, 44 commenters; 0046 – Shawn Donville; 0051 – Association of Northwest Steelheaders; 0059 – Jerry Smith; Andrew Black; 0076 – Leon Werdinger; 0090 – Kalmiopsis Audubon Society; 0091 – Marissa Houlberg; 0092, Timothy Delzer; 0093 – Sandy Joos, Ph.D.; 0094 – Dave Kruse; 0095 – Barbara Gilson; 0122 - Kathy Krause; 0150 – John Sundquist; 0155 – Carl Merkle, oral testimony at Pendleton hearing; 0172 - Reggie DeSoto, oral testimony at Eugene hearing; 0174 – Jan Nelson, oral testimony at Eugene hearing; 0189 - David Liberty, oral testimony at Portland EQC meeting; 0197 – Victor Stevens, oral testimony at Portland hearing)

“Washington’ Department of Ecology, Toxics Cleanup Program ... has monitored Oregon-DEQ’s progress on revising Human Health Water Quality Criteria for Toxics with particular focus on the Human Health Focus Group’s evaluation on fish consumption and fish consuming populations in Oregon. The Toxics Cleanup Program would like to acknowledge the extensive and, indeed, precedent setting work accomplished during the Fish Consumption Rate Review Project. As the Toxics Cleanup Program embarks on a similar effort, the Fish Consumption Rate Review Project and the evaluation conducted by the Human Health Focus Group are being used as models of how to proceed in developing cleanup standards protective of high fish consuming populations. Oregon-DEQ’s public outreach and tribal partnership provides a process of engagement and a risk management decision making framework that recognizes Oregon’s fish consuming populations and reasonably ensures health protective standards for these populations.” (0001 - Washington Department of Ecology)

“I actually pulled up the proposed rules and find them very appropriate: the intent is to mitigate human toxics in water...I have a small acreage in Southern Oregon (40 acres) and care very much about water quality. When I go to OSWA meetings many others also feel similarly so I think that OSWA should be supportive of our opinions as well.” (0011 – Daniel Laury)

“The new rules will help Oregon come closer to meeting federal water quality standards, protecting Oregonians who eat fish on a regular basis, and contributing to the health of our waterways and all of the species that depend on them. Stronger requirements that prevent toxic pollution from industries, agriculture, forestry, and cities are necessary to protect human health and the environment. (0027 – Oregon Environmental Council form letter, 19 commenters)

“I urge DEQ to adopt standards that will allow my family and generations to come and all Oregonians to enjoy the benefits of living in a land whose waters are protected from all toxic pollutants.” (0038 – Testimony from members of Tribal Nations submitted at Environmental Quality Commission public hearing, 66 commenters). This comment was mirrored by comments received from others. (0036 - Rosalind C. Sampson)

“Adopting accurate toxics standards is a moral imperative. Eating fish from Oregon’s rivers, lakes, and streams is a way of life for tribal members and many Oregonians throughout the state. Turning a blind eye to the fact that Oregon’s water quality laws fail to protect people who regularly eat fish is simply

unacceptable.” (0071 - Columbia Riverkeeper et al.) These comments were mirrored by many other commenters. (0002 - Mary Duvall; 0004 - Lyn Cornell; 0005 - Sandra Ihrig; 0006 - Sarah Eastman; 0016 - Teresa Epstein; 0017 - Laurie Caplan; 0018 - Randall Ireson; 0027 – Oregon Environmental Council form letter, 19 commenters; 0044 - Riverkeeper form letter, 153 commenters; 0060 – Oregon Toxics Alliance form letters, 3 commenters; 0131 – Carla and Fred Hervert)

“The Springfield Utility Board (SUB) fully supports DEQ’s effort to revise and strengthen human health water quality standards for toxic pollutants...Our treatment process, which combines slow sand filtration and UV light, does a superb job of treating biologic contaminants; but it is not designed to remove chemical contaminants. SUB and its many partners in the Middle Fork Willamette Watershed rely on sound watershed protection to prevent harmful chemicals from contaminating our source water.” (0141 – Springfield Utility Board)

DEQ Response: DEQ acknowledges and appreciates the commenters’ statements of support.

No changes were made to the proposed rules in response to these comments

Keeping fish free of toxic pollutants is implicit in upholding U.S. treaties with tribal nations

“In our Treaty of 1855, we were guaranteed the right to fish and hunt, and gather our foods in all the accustomed places and stations, and that gave us responsibility as a tribe. It gave us a directive.” (0143 – Mitch Pond, oral testimony at Salem hearing)

“‘Great nations like great men keep their word,’ Article 2, section 6 of the US Constitution says that treaties are the supreme law of the land, the laws of any state notwithstanding. The treaties were assigned by the United States agreed to by the tribes, the Yakima, the Nez Perce, the Warm Springs, the Umatilla, and many other tribes in the Pacific Northwest, such as the Klamaths, those treaties were a bargain, a bargain in the sense that they were negotiated for the purpose by the United States of obtaining land for settlement. And in the case of the tribes, those tribes reserved rights to take fish exclusively within the reservations, as well as the right to take fish at all of their usual and accustomed fishing places. They expected, and the United States agreed to secure those rights. And those rights are meaningless if the fish are not fit to eat.” (0196 - John Platt, oral testimony at first Portland hearing)

DEQ Response: DEQ acknowledges and appreciates the commenters’ statements of support.

No changes were made to the proposed rules in response to these comments

8.2 Opposition (General/Nonspecific)

Many commenters voiced general opposition to the rulemaking

“I would like the DEQ to be less intrusive in our lives and let us go about the task of creating jobs in Oregon. With all the current rules and regulations you have imposed, you are making it very difficult to justify expanding our businesses.” (0013 - Bill Christie)

“This is just one more attempt to put the cattle industry in an unattainable position. The loss of available pasture and grazing land is drying up the cattle numbers in Oregon... Please put some common sense into policy making.” This rulemaking will result in “No net environmental benefit” because of high naturally-occurring levels of toxic pollutants in the environment.” (0015 - Don Ellsworth)

“It is clear that the new water regulations being considered by the Oregon DEQ are the single biggest threat to Oregon’s economy today... Please convey to DEQ that now is not the time to adopt new

regulations that will crush key Oregon industries and further dampen our state's employment base.”
(0039 – Form letter sent to Oregon State Legislators by 14 commenters)

“This proposed revised standard could cripple the point-sources, and non-point sources such as cities and farming communities. Should the 90% of the population be jeopardized in order to protect the choices of 10% of the population?” (0062 – Malheur County Soil and Water Conservation District board members, 3 commenters)

“OFB is very concerned about the proposed DEQ regulations. We believe these could impose numeric standards that would cost Oregon agriculture in both jobs and production in exchange for a new set of regulations that would not meet Oregon's goal of improving water quality. We contend these rules are not required or allowed under the guidelines of the federal Clean Water Act and thus, we do not believe EPA will act if the changes suggested in this letter are adopted by the EQC. We also believe the rule language drafted by DEQ is impermissible under Oregon law and would be vulnerable to future litigation.” (0080 – Oregon Farm Bureau)

“We will not stand by and witness a witch-hunt against Oregon agriculture families who are earning a meager living. If DEQ continues to move forward with the proposed rulemaking language they will effectively regulate farms and ranches out of business in Oregon. We will NOT let DEQ take our heritage and property rights from our hands.” (0113 – Coos/Curry County Farm Bureau)

“I would like to encourage the DEQ not to increase water standards at this time. Oregon already has some of the strictest standards of water quality in the U.S. Agriculture, timber and mining have all done a very good job of reducing toxins getting into Oregon's streams and rivers. The current regulations and enforcement of those regulations is more than adequate at this time...With the current standards there should be no increase in toxins except from people or business that violate those standards. The focus should be on enforcement and increased penalties for those not following existing regulations.” (0140 – Don Buford)

DEQ Response: DEQ acknowledges the broad concerns raised by many commenters regarding this rulemaking. Where commenters identified specific concerns, issues, or suggested revisions to the proposed rulemaking, DEQ considered and addressed those comments in detail in the relevant sections of this document and revised the proposed rule where appropriate.

No changes were made to the proposed rules in response to these comments.

A. The proposed rules will not result in environmental gain

Many commenters questioned whether the proposed rulemaking will result in a net environmental benefit, or are not protective enough. (0028 – Judith Kirby; 0035 – Clackamas River Water Providers; 0062 – Malheur County Soil and Water Conservation District board members, 3 commenters; 0074 – City of Sutherlin; 0157 – Clinton Shock, oral testimony at Ontario hearing)

“I do not have any real hope that these revised standards will provide any meaningful reduction in toxic pollutants in state waters, and by extension into seafood consumed by humans. The TMDL process takes years before sufficient data is available even to identify toxic pollutants, let alone identifying sources and developing a management plan or altering permit requirements. I would question whether or not the DEQ has the funding, manpower, political will and other resources to carry through on these revised standards. Permits for many of these NPDES permits are currently running 5+ years beyond renewal dates due to inadequate staffing and funding. Where will the money come from for all these new TMDLs that will be required? Wouldn't it be fairer, and more straightforward, not to mention allot less work, to set a firm time-line when all non-conforming air and water quality permits in the state must fall into full current air

and water quality compliance? All grandfathered permits should be required to meet current standards at some point in the future, and in no cases should they be allowed by the state to expand into new uses and processes while they are grandfathered. More importantly, toxic loads in water, air and human food will never be reduced as long as state agencies are issuing permits to discharge toxins into the water, air and soil. Eliminating the Oregon mixing zone standards and requiring water quality standards to be met at the end of the pipe is the best way toxic pollutants in state waters can be reduced. The end of the pipe (or end of the smokestack) standard is also fairer to everyone. No one is asked to give up something to increase profits for someone else. A human protein source (seafood) for the public should always have a higher priority than reducing costs for an individual business by permitting the dumping of polluted effluent into state waters. Mixing zones are nothing but public subsidies; and businesses should be required to clean up their messes, not transfer it to the public as a burden to the commons and communal food sources.” (0050 – Melinda McComb)

“So basically the upshot of all of this years of effort - and it has been an inordinately long (triennial?) review process for water quality standards this time around - is that Oregon will look as if it's done quite a bit. Some people are going to bear the brunt of financial paper work, or financial expense of paper work, and there will little, if any, environmental improvement.” (0078 – Nina Bell, Northwest Environmental Advocates, oral testimony at Salem hearing)

“DEQ has not evaluated whether the implementation of the revised human health criteria will result in environmentally meaningful reductions of pollutants. Such an evaluation requires an understanding of the relative contributions of pollutants in a watershed. DEQ has not conducted such an evaluation and therefore, is unable to assess whether these standards would result in environmentally meaningful reductions of pollutants.” (0081- ACWA, et al.) These comments were supported by others (0149 – Water Environment Services)

“Given the natural characteristics of the Tualatin watershed and the river, its native fish species, and historical use, it is unlikely that fish from the river are being consumed at the fish consumption rate (FCR) of 175 g/day, and therefore it is uncertain how the proposed rules (and related revisions to water quality standards) will result in any meaningful reduction in toxics or improvement in protection of human health.

“Because the proposed standards emphasize point sources, and point sources are not the primary sources of the toxics subject to the proposed standards, they will not result in environmentally meaningful reductions of toxic pollutants in Oregon. DEQ uses general, unsubstantiated statements to list the benefits of the proposed rulemaking – better water quality, reduced risk of environmentally attributable diseases, cleaner intake water, increased water reuse, etc. DEQ offers no specifics and does not quantify the benefits of the rulemaking on water quality.” (0137 - Clean Water Services)

“The Council is not convinced that this change in consumption rate will have the desired effect on protecting the health of those individuals and groups that consume high levels of fish and shellfish. This is because most of what has been measured in fish tissue is contamination from legacy chemicals long since banned for production or use, for example PCBs and DDT. It seems highly doubtful that the new consumption rate will have any effect at all on controlling health impacts attributed to legacy chemicals.” (0148 – Chris Gannon, Crooked River Watershed Council, oral testimony at Bend hearing)

“You say that these regulations are going to help expedite TMDL-ready plans. But for things like this sediment problem that other people have spoken about, you have not done that. I have attended your meetings, and I see exactly what you're proposing. And they may protect lower watershed things that have constant monitoring that is done by some agency. But the most important headwaters that all these other people have been complaining about, are not being protected because the necessity is that you have hard water quality standards for weeks at a time, sometimes years at a time, to establish levels that you may or may not exceed.” (0173 – Catherine Koehn, oral testimony at Eugene hearing)

“There is generally a knee in the curve of the graph illustrating incremental water quality improvement versus cost (cost-benefit ration), and in this case we are off the chart. We are so far off the chart that we do not even know of technologies that will achieve the desired results, regardless of cost.” (0191 – City of Gresham)

“The coho salmon, if we talk to our friends at the ODFW, will tell us that is a non-indigenous species above the Oregon City Falls at Oregon City, without the fish ladders. And without the locks that were built by earlier residents of the basin, those coho salmon shouldn't be above the Willamette Falls. When we use those as the bellwether, or the role model for which we set our standards, we are causing ourselves problems, because it's a species that has no more place there, right to be there, than the bass, the pike, the walleye, the crappie, the other non-game species that are also found in that waterway. So how we measure our success, and whether or not we've accomplished anything by the new standards and TMDLs remains in question and suspect.” (0192 – Jonathan Schlueter, oral testimony at Salem hearing)

DEQ Response: Some commenters questioned whether the proposed rules will result in improved water quality. Water quality standards serve multiple purposes. First, water quality standards serve the baseline for implementing Clean Water Act programs with the objective of preventing pollution from occurring at undesirable levels. When these levels are found to be exceeded, water quality standards similarly serve as benchmarks for implementing restorative actions, including the development and implementation of Total Maximum Daily Loads. DEQ does not believe that standards should only be established in reaction to excessive pollutant levels, and that establishing appropriate standards serve an important function in preventing pollution as well. Preventing pollution from occurring is ultimately more cost-effective than attempting to clean up pollution from Oregon's water bodies.

Some commenters also asserted that the rule emphasizes point sources, and point out that they are not the primary sources of the pollutants addressed by the proposed rulemaking. The proposed water quality standards include criteria for 114 pollutants, which include pollutants that come from a variety of sources and have the potential to cause a variety of health effects. The proposed rule revisions do not exist in isolation. Once adopted, they will be implemented in conjunction with the state's other laws and regulations that govern water quality in Oregon. DEQ's inclusion of specific implementation tools for NPDES-permitted sources were included in response to specific concerns and discussions that arose through the stakeholder advisory committee process regarding the ability of point sources to meet requirements based on the water quality standards in certain circumstances.

No changes were made to the proposed rules in response to these comments.

B. DEQ did not meet the Environmental Quality Commission's directive

Some commenters noted that The Environmental Quality Commission (EQC) detailed four charges when it directed DEQ to develop a rulemaking proposal to implement the fish consumption rate of 175 g/day in human health-based water quality standards, including a specific objective that the rules be implemented in an environmentally meaningful and cost effective manner. Commenters argued that DEQ has not met this charge, citing various reasons.

One commenter stated that DEQ has not thoroughly evaluated whether the implementation of the revised human health criteria would result in environmentally meaningful reductions of pollutants, nor evaluated whether the proposed criteria will meaningfully reduce the risk to human health from eating contaminated fish. (0137 – Clean Water Services)

“...while the Department followed the Commission's October 2008 admonition to create methods of regulatory relief for NPDES permitted sources from the new toxic criteria, the Department completely ignored the Commission's directive to address nonpoint sources.” (0078 – Northwest Environmental Advocates)

“In October 2008, the Commission directed the Department to propose rules that will allow human health criteria based on a fish consumption rate of 175 grams per day to be implemented “in an environmentally meaningful and cost-effective manner.” Notwithstanding the diligent efforts of the Department and its stakeholder workgroups, the only implementation rules that have been developed are intake credit and background pollutant allowance rules of very limited scope, as well as modest revisions to the existing water quality variance rule that are not likely to make variances a substantially more useful implementation tool.” (0079 – Oregon Water Quality Standards Group)

“One of the charges from the EQC was to develop and implement the human health standards in an environmentally meaningful and cost effective manner. DEQ has not evaluated whether the implementation of the revised human health criteria will result in environmentally meaningful reductions of pollutants. Such an evaluation requires an understanding of the relative contributions of pollutants in a watershed. DEQ has not conducted such an evaluation and therefore, is unable to assess whether these standards would result in environmentally meaningful reductions of pollutants.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“EQC directed the effective implementation measures be included; however the DEQ has not adequately done so. The directive was aimed at providing solutions to problems such as those listed above and to avoid mis-directing public and private resources to fruitless endeavors that would not provide meaningful environmental benefit. For example, it is not meaningful to the environment to require a discharger to clean up its discharge to better than natural background. Nor is it meaningful for the DEQ to waste public resources addressing such scenarios. Similarly it is not meaningful to address very trace quantities of human caused pollutants that have become ubiquitous in state waters due to activities beyond the scope of the federal and state water quality laws.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

DEQ Response: Since the EQC’s October 2008 directive, DEQ has worked with stakeholder advisory groups to evaluate rulemaking and non-rulemaking options on all aspects of the commission’s directive. The discussions and options considered by DEQ and the advisory stakeholder workgroup are detailed in the various issue papers DEQ published with the proposed rule, including the reasons DEQ chose not to pursue any of the specific options considered. With regard to commenters’ concern that the proposed permitting implementation tools are inadequate, one of DEQ’s key considerations for including specific proposed rules was based on whether the tool would likely be found legal under the Clean Water Act and approved by EPA. To the extent that commenters provided specific comments on the proposed rules or offered alternatives to meet the commission’s directives, DEQ considered those comments and provided specific responses in the relevant section of this document and revised the proposed rule as appropriate.

No changes were made to the proposed rules in response to these comments.

All sources need to be involved in reducing toxics

“We are concerned the proposed new rules related to fish consumption may lead to unnecessarily restrictive control over point dischargers (e.g. municipal wastewater providers) while over-looking the larger problem associated with diffuse or non-point sources... we believe that for these efforts to be effective they must address all sources of toxics from all sectors, and that meaningful reduction in toxics, and improved human health, cannot be achieved by regulating only point sources. In addition we believe that pollution prevention is one of the most effective and cost-effective means to achieve these reductions.” (0035 – Clackamas River Water Providers)

“The EQC should request the Department return to it with implementation programs by category of toxic pollutants that are based in a watershed approach and involve all pollutant sources in order to be successful in reducing toxics in Oregon’s rivers and streams.” (0081- ACWA, et al.) These comments were supported by others (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0128 – City of Stayton; 0130 – City of Astoria; 0149 – Water Environment Services; 0158 – City of Prineville; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem).

“Many of the toxics addressed by the proposed rules do not have primary sources in municipal wastewater discharges. Therefore, because the emphasis of the rulemaking is on regulating point sources under the NPDES program, the proposed standards will not result in environmentally meaningful reductions of toxics in Oregon. We believe a watershed-based approach that considers all sources of pollutants and effectively regulates their necessary to achieve environmentally meaningful reductions of pollutants and fulfill the EQC’s charge to DEQ in the development of the rules.” (0137 – Clean Water Services).

“Municipal wastewater facilities with NPDES permits are pollution reduction facilities. If the toxics are found at a wastewater plant it is likely that they are being produced or used up stream. Many of the toxics of concern fall into categories like pesticides, herbicides, combustion by products, industrial chemicals and legacy pollutants, all of these categories have homes that have nothing to do with a NPDES permit holder. The City of Pendleton reduces the pollution of 17,500 people including much of CTUIR. We are not the generators of the toxics that we all are trying to reduce. The focus should be up stream of the wastewater treatment plant before the toxics are mixed with millions of gallons of water.” (0115 –City of Pendleton)

“From a responsible government perspective, it only makes sense to go after the sources of these toxic substances, as once they are in the storm or wastewater stream they are either impossible or ridiculously expensive to remove. Without a state-wide effort to eliminate these sources, you are passing the buck to entities that cannot effectively regulate the sale and use of specific materials, and will need to spend orders of magnitude more tax and rate-payer money to chase pollutants without confidence of success.” (0191 – City of Gresham)

DEQ Response: Commenters request that the EQC direct DEQ to develop implementation programs by pollutant category to address all sources of the pollutant within a watershed. DEQ is developing an approach that will describe the steps it would take in evaluating how to address certain categories of pollutants for point sources. Many of DEQ’s activities are focused around watershed-based approaches, including the basin assessments that DEQ has developed over the last two years, which identify the types of sources and recommend priority actions within the watershed. DEQ agrees with one of the commenters that pollution prevention is an important component of reducing toxins and will continue to implement programs to encourage pollution prevention from all sources.

No changes were made to the proposed rules in response to these comments.

C. The change in fish consumption rate will lead to a perception that fish are not safe to eat.

One commenter suggested that the change in fish consumption rate and the standards could lead to a perception that fish are not safe to eat or use in pet food products. (0148 – Crooked River Watershed Council)

DEQ Response: DEQ disagrees that this is a likely outcome. However, due to the comment’s speculative nature, DEQ cannot predict whether this is a likely outcome.

No changes were made to the proposed rules in response to these comments.

D. Standards are unattainable due to the ubiquitous nature of certain pollutants

Several commenters stated that many pollutants, such as PCBs, are ubiquitous in the environment at detectable levels and would thus make the standards impossible to achieve. (0028 – Judith Kirby; 0203 – Tom Forgatsch, oral testimony, Coos Bay hearing)

“The existence of naturally occurring elements in areas of the state can skew water standards and should be taken into account.” (0042 – Fred Warner, Jr., Chair, Baker County Board of Commissioners)

“In eastern Oregon, with geothermal activity, historic volcanic activity, and gold, this all adds up to natural occurring arsenic and mercury levels that are above DEQ standards prior to any human activities.” (0062 – Malheur County Soil and Water Conservation District board members, 3 commenters)

“Many Oregon waters will not comply with the proposed standards due to high background levels of naturally occurring earth metals due to the state’s geologic history as a volcanic area.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries, 0082 – Oregon Forest Industries Council)

“And I heard her mention mercury. And out in the Illinois Valley, if you go and pan the old gold (tailings?) of years and years and years ago, you'd get mercury. So how does that compare with modern day pollution, and that's years and years ago, and way out of our control. What are you going to... how can you correct that mercury pollution in the river? My boy would go down and pan the tailings there on the -- by Eight Dollar Mountain. You'd get a little bit of gold, but you'd get some mercury in there. And that has nothing to do with farming. There's no industry out there except for a sawmill, and our farms.” (0163, Keith Nelson, Josephine County Farm Bureau, oral testimony at Medford hearing)

DEQ Response: Some commenters raised concerns that the revised criteria will not be met in Oregon’s waterbodies. If waters aren’t meeting standards and it is due to human activities, DEQ’s role is to develop a plan to reduce levels of those pollutants entering the environment within the state. Based on DEQ’s evaluation of available data and information, the majority of waters are currently meeting the majority of water quality standards associated with toxic pollutants. DEQ does not expect this to change in the future because most pollutants addressed by the revised criteria are not commonly found at detectable levels. There are some pollutants (for example, PCBs and methylmercury) that are impairing some Oregon’s waters. DEQ acknowledges that reducing these pollutants to safe levels will take time. Even so, water quality standards serve as critical benchmarks for knowing when safe levels have been reached.

Concerns regarding naturally-occurring pollutants were raised through the rulemaking development process. As a result, DEQ conducted a separate expedited rulemaking for iron, manganese, and arsenic that resulted in less stringent human health water quality criteria and in the case of iron and arsenic, more closely track the commonly found natural concentrations of these pollutants in Oregon waters, and has committed to evaluating future site-specific water quality standards revisions for arsenic in locations where the natural concentrations are extremely high. DEQ is not aware of other pollutants that are present throughout the state at high natural concentrations. If DEQ becomes aware of such situations in the future, it will use appropriate approaches to address those situations, which may include establishing site-specific water quality standards.

Commenters also expressed concern regarding the ability to treat to levels that may result from the criteria for legacy pollutants. Many specifically expressed concern regarding PCBs, DDT, and legacy pesticides. DEQ acknowledges that the toxicity of these pollutants, particularly PCBs and DDT result in very low criteria for these

pollutants. DEQ points out that the criteria currently in effect based on 6.5 grams per day fish consumption rate, also result in very low values of these pollutants. Where these pollutants are found in permittee's effluent above quantifiable levels and DEQ establishes a limit, the compliance limit is currently determined by the laboratory method quantification level. DEQ acknowledges that the concerns expressed by the commenters could result if new methods are adopted into EPA's regulations governing methods approved for wastewater effluent and subsequently used in Oregon's implementation of its NPDES program. However, it is important to point out that the issues raised by the commenters are not a result of actions being taken under this specific proposed rule, but could occur if new laboratory methods are used in conjunction with DEQ's current water quality standards.

DEQ acknowledges that better and more sensitive laboratory methods in conjunction with more and better data collection will likely present additional challenges to NPDES and other sources in the future, and is committed to working with the affected sources to achieve a rational outcome. If in future years, data indicate that multiple facilities are not able to achieve the requirements in their NPDES permits associated with PCBs or other legacy pollutants, DEQ will work with the affected entities to pursue and use appropriate approaches, which may include the development of a multiple discharger variance.

Several cities cited concern with meeting criteria associated with consumer products, and in particular, concern with bis(ethylhexyl) phthalate. With regard to bis(ethylhexyl) phthalate, DEQ has evaluated the available information and concludes that the levels found in municipal wastewater effluent are likely to result in the need for additional water quality-based effluent limits for some NPDES permitted sources. DEQ expects the need for water quality based effluent limits in permits and any associated need to reduce the facility's effluent concentrations to meet those limits will vary by facility, including the amount of dilution available and the concentrations currently present in the discharge. DEQ will use its revised Reasonable Potential Analysis Internal Management Directive (June 2011) to evaluate the need for water quality based effluent limits and to develop limits where needed. If in future years, data indicate such a situation affects multiple facilities, DEQ will work with the affected entities to pursue and use appropriate approaches. The commenters did not specify other pollutants associated with consumer products, so DEQ was unable to further evaluate the commenters' broader concern with regard to consumer products.

No changes were made to the proposed rules in response to these comments.

8.3 Comments on DEQ's Fiscal & Economic Impact Assessment

A. Fiscal analysis is not specific enough

Several commenters stated that DEQ's Fiscal and Economic Impact Assessment is not specific enough. (0028 – Judith Kirby, Ontario, OR)

"I am writing in opposition to the above mentioned rules proposed by Oregon DEQ because we do not know the cost of compliance or the extent of the problem we are trying to fix." (0074 – City of Sutherlin)

"To properly evaluate the impacts of the proposal, DEQ should conduct an updated Reasonable Potential Analysis (RPA) of the proposed water quality standards." (0137 – Clean Water Services)

Some commenters provided specific details regarding independent analyses regarding fiscal impacts.

One commenter noted projected costs for technological changes and pollutant minimization plans. "NWPPA appreciates the efforts of the DEQ to provide a cost estimate for implementation of the proposed rules in the form of the, Cost Of Compliance With Water Quality Criteria For Toxic Pollutants For Oregon Waters, by Science Applications International Corporation, ("2008 SAIC Report"); however, NWPPA remains concerned that DEQ has not re-evaluated costs in light of specific information submitted by NWPPA during the development of the proposed rules. NWPPA strongly asserts that DEQ

has underestimated the costs of the proposed rule and is in error in not incorporating more specific engineering analyses that have been provided.

NWPPA commissioned HDR Engineering, Inc. in 2008 to perform a literature review of the types and costs of technologies that are theoretically available to treat pulp and paper mill effluent to meet these new and greatly more stringent standards. In 2011, NWPPA commissioned an update to this analysis to 2010 dollars. Summaries of both the 2008 and 2011 HDR reports are attached.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries, 0082 – Oregon Forest Industries Council)

Another commenter provided information regarding costs for implementation by municipal wastewater treatment facilities.

“[The Fiscal and Economic Impact Analysis] underestimates the impact of the proposal on domestic wastewater permit holders. ACWA’s analysis, using more current and complete data from Oregon municipal dischargers than that used in the SAIC report, shows that the impact on domestic wastewater treatment plants will be much broader than anticipated in the SAIC report. Many domestic treatment plants need variances for legacy pollutants and pesticides, for the foreseeable future.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0112 – Metropolitan Wastewater Management Commission; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services; 0158 – City of Prineville; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0184 – City of Salem)

Other commenters suggested that DEQ did not account for the economic implications for non-point sources:

“In light of the potential impact the proposed rules may pose to traditional agricultural production practices, we believe the Department has not adequately taken into consideration the actual economic implications associated with implementation of the proposed rules. We firmly believe it is incumbent upon the Department to further consider the actual economic impacts associated with the proposed rules before proceeding with the rules as currently proposed.” (0146 – Helen Moore, Water for Life)

“What are the costs of compliance with new standards developed applying the new fish consumption rate if adopted as proposed?...What are the direct and indirect impacts to non-point sources (primary producers of agricultural-related products?)” (0148 – Crooked River Watershed Council).

Another commenter requested information regarding consequences of non-compliance.

“I’m still left with the question of what are the penalties or the consequences of non-compliance? We don’t know what we are shooting at, and we don’t know what the consequences are for having missed the target. That is a concern that will be difficult to communicate back to our members in both the public and private sectors.” (0192 – Jonathon Schlueter, oral testimony at Salem hearing)

DEQ Response: DEQ appreciates the additional information provided by some commenters. DEQ’s Statement of Need and Fiscal and Economic Impact incorporates an extensive fiscal analysis performed by an EPA contractor, Science Applications International Corporation (SAIC). Its estimates, relative to the proposed rules, are based on the inclusion of key proposed permitting tools, including intake credits and variances. DEQ acknowledges the estimates contained in the Statement of Need and Fiscal and Economic Impact contain some uncertainty and the commenters’ concern about the cost estimates, and also note due to the fact the implementation of these standards will vary on a facility by facility basis, specific estimates are very difficult without knowing each and every situation. While DEQ has not done a facility by facility analysis, DEQ’s Statement of Need and Fiscal and Economic Impact contains a detailed description of the circumstances in which DEQ would conclude that additional costs may be incurred and where known, estimates of those costs.

DEQ further reviewed the updated cost information for pulp and paper mills provided by Northwest Pulp and Paper Association (NWPPA) in its comments. The cost estimates regarding treatment technology alternatives provided by NWPPA are similar to that contained in the report by SAIC¹⁰. In addition, the 2011 report summary similarly acknowledges the difficulty of estimating the potential range of costs for pollutant minimization plans and monitoring. The report executive summary provides costs for four pollutants: arsenic, cadmium, mercury, and PCBs. These estimates are characterized as an order of magnitude costs and presented as an executive summary of a report conducted by HDR; the detailed information was not provided to DEQ. Further, the estimates regarding arsenic, cadmium and methylmercury may not be relevant. DEQ separately proposed and the commission adopted revisions to the human health arsenic criteria. The removal of the human health criteria for cadmium was approved by EPA in June 2010. The report is not specific as to whether the evaluation was conducted using the previously effective human health cadmium criteria or the aquatic life cadmium criteria, which remain unchanged. Further, as described in responses contained in section 1.5, DEQ intends to use EPA's *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* (April 2010), which DEQ does not expect to result in variances for that pollutant. While the information provides some information for one industrial sector that may be relevant as DEQ develops its implementation procedures for implementing the variance provisions, DEQ does not conclude that the information warrants revisions to the proposed rules or significantly affects DEQ's analysis contained in the Statement of Need and Fiscal and Economic Impact.

No changes were made to the proposed rules in response to these comments.

B. DEQ underestimated amount of staff time needed to implement

Many commenters noted concerns about DEQ's ability to staff current programs or fund new commitments. (0113 – City of Portland; 0137 – Clean Water Services; 0028 – Judith Kirby; 0184 – City of Salem)

“Other costs include the additional managerial and staff time—already in extremely short supply—that the Department will need to devote to addressing permitting and compliance issues associated with the criteria.” (0079 – Oregon Water Quality Standards Group)

“We believe the DEQ staff time listed in the Table of Potential Impacts to DEQ (page 23) is underestimated. The timelines included in the table do not account for the staff time involved in information gathering, reviewing comments and preparing responses on submittals, the negotiation process with the source, discussions with EPA to seek its approval, and other complications a variance would cause in the permit issuance process.

If these time estimates were included - - and they are all a critical portion of accomplishing the work - - the time estimates would be much longer.

The additional time for processing variances as part of the standard NPDES permit renewal process will likely lengthen the DEQ NPDES permit backlog, raising issues with both permittees and the EPA.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services; 0149 – Water Environment Services; 0021 – City of Hermiston; 0112 – Metropolitan Wastewater Management Commission; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0128 – City of Stayton; 0130 – City of Astoria; 0158 – City of Prineville; 0184 – City of Salem; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing)

“We can't not afford the additional expense at the federal and the state levels. The USA and the State of Oregon already have too many expenses for the income collected from taxes. We are BROKE. We need to be reducing programs, employees, etc., to a level we can afford until the State Oregon and USA have balanced budgets. When we have balanced budgets, then we can take a look at this again... Focus on

¹⁰ Science Applications International Corporation. (2008). *Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters*. Reston, VA.

enforcing the laws and regulations we already have on the books. That is plenty of work for current EPA and ODEQ staff to focus on.

I NEVER saw any of you regulators poking around federal lands each year to monitor things, to be sure every project complied with water quality laws and regulations ALREADY ON THE BOOKS. That's where you need to be focusing your time and efforts... implementation and effectiveness and validation monitoring.

I found from my experience working for a federal agency, that the efforts of those environmental organizations and of state and federal agencies FOCUS ON THE WRONG END OF THE PROJECT. So... stop writing new regulations... and get out there and monitor all of the projects being done on the ground where your time will be better spent. People at higher levels of government agencies always become too isolated from what's really going on, what is really needed at the grass roots level. Stop writing laws and regulations and get into the field to learn how existing ones are being implemented and how effective they are.” (0062 – Timothy Bliss)

DEQ Response: As described in responses to preceding comments, due to the fact the implementation of these standards will vary on a facility by facility basis, specific estimates are very difficult without knowing every individual situation. As a result, the Statement of Need and Fiscal and Economic Impact represents DEQ’s best estimate of the needed resources at this time. DEQ acknowledges the importance of timely implementation these new and revised water quality standards and intends to allocate its resources to meet this objective.

No changes were made to the proposed rules in response to these comments.

C. Costs associated with obtaining a variance

Many commenters stated that DEQ’s analysis of fiscal and economic impact underestimated specific costs for obtaining a variance. (0086 – Northwest Pulp and Paper Association; 0081 - Oregon Association of Clean Water Agencies, et al.; 0137 – Clean Water Services) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

Some commenters cited higher estimated costs for obtaining a variance. (0086 – Northwest Pulp and Paper Association; 0081 - Oregon Association of Clean Water Agencies, et al.; 0137 – Clean Water Services) Other commenters also noted the high costs for obtaining a variance. (0130 – City of Astoria; 0128 – City of Stayton; 0021 – City of Hermiston; 0022 – City of Cottage Grove; 0052 – City of Port Orford; 0158 – City of Prineville; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem; 0112 – Metropolitan Wastewater Management Commission) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

“DEQ’s Fiscal and Economic Impact Analysis “underestimates the costs to develop, apply for and renew water quality variances as the only compliance tool for municipalities. DEQ estimates that the one-time cost per major municipality for a variance ranges from \$8,000 to \$44,000. We believe that estimate is low. Estimates provided by national consulting engineering firms to an ACWA member ranged from \$45,000 to \$65,000 for a single variance application based on experiences in other states and completing a variance for three (3) legacy or persistent compounds.

If the estimate was correct and based on ACWA’s analysis that many - - if not all 49 - - domestic majors will ultimately need water quality variances, mostly for legacy pollutants, that is an investment of \$392,000 to \$2,156,000 for a paperwork exercise - - no water quality benefit. That expenditure will reoccur every permit cycle.

DEQ’s statement that first time variance costs are anticipated to be greater than subsequent requests is not supported. The environmental public interest groups participating in the NPDES Work Group have repeatedly stressed in the Working Group discussions their believe that variances are only “short term and temporary”.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

Other commenters requested greater clarification of cost estimates and noted that uncertainty of additional planning cost and potential capital investments makes fiscal planning more difficult. (0113 – City of Portland)

“All this costs money, money to make a reduction plan or money to request a waiver. Could this money be better spent on other water quality improvements? How many items on the toxics list have a reasonable chance for reduction at the permit holder level? Up-stream is where pollution reduction is most likely and I would rather pay DEQ a fee to look at Oregon wide up-stream options than a consultant to get a waiver.” (0115 –City of Pendleton)

DEQ Response: Some commenters asserted that DEQ’s estimates to obtain a variance are low and suggest that an estimate of \$45,000 to \$65,000 for a single variance application is more accurate. Those commenters did not provide the source or basis of this information. As such, DEQ does not have a basis upon which to analyze or verify this estimate and continues to rely upon the information contained in the Statement of Need and Fiscal and Economic Impact.

Some commenters assert that DEQ’s conclusions regarding a lower cost of subsequent variance requests are unsupported. As described in the Statement of Need and Fiscal and Economic Impact, DEQ based this on a commonsense rationale that, while renewal must go through the same administrative process, the data and analysis should be updated and will not need to be created from scratch. Subsequent conversations with other states during variance seminars support this conclusion. Commenters did not specifically identify what aspect of the variance renewal process would result in additional costs, therefore, DEQ continues to rely upon the analysis and conclusions contained in the Statement of Need and Fiscal and Economic Impact.

No changes were made to the proposed rules in response to these comments.

D. Costs for treatment technologies

“The cost analysis for these new regulations were not fully explored and we believe the conclusions of the Fiscal Impact and Implementation Advisory Committee FIIAC, that the end of the pipe treatment would be cost prohibitive for many discharges, states the case for additional study and the need to move slowly when implementing new regulations.” (0042 – Fred Warner, Jr., Chair, Baker County Board of Commissioners)

“DEQ did not provide costs for treatment technologies to meet proposed water quality standards. A municipal permit holder must evaluate the availability of treatment technology before applying for a variance. If technology is available, a permit holder would have to utilize the technology to meet applicable water quality standards. The DEQ issue paper states that there are “numerous end-of-pipe treatment technologies that could be used to reduce toxic pollutants in wastewater effluents.” DEQ does not provide costs of the treatment technology and thus, significantly underestimates the overall costs of complying with the water quality standards. CWS also disputes that numerous technologies exist that would reduce toxic pollutants to the levels anticipated by DEQ in the proposed revisions. Without an analysis of the costs of installing, operating and maintaining these treatment technologies, there is no basis for concluding that the regulations are cost effective... The proposal is also silent as to when and how DEQ will require updated technology that may improve treatment (even if the technology does not achieve the standard). Costs could be substantially greater than suggested.” Commenter provided specific suggestions regarding more accurate cost estimates.” (0137 – Clean Water Services)

DEQ Response: DEQ acknowledges that for some pollutants, the revised criteria may result in new or lower effluent limits for NPDES permitted sources. In some cases, existing treatment may be sufficient, in other cases alternative treatment may need to be evaluated.

As stated in preceding responses in this section, precisely quantifying potential financial impacts would be a facility by facility and pollutant by pollutant evaluation. In addition, data are unlikely to be available in all cases. In the absence of such data and resources, DEQ has relied upon quantitative cost information where it is available, which is largely based upon the analysis conducted by SAIC, as summarized in the Statement of Need and Fiscal and Economic Impact. This data and information is a reasonable assessment of the likely impacts to NPDES permitted sources and is described in more detail in the Statement of Need and Fiscal and Economic Impact and within the report itself.

No changes were made to the proposed rules in response to these comments.

E. Costs that may be borne through permitting process (general)

Many commenters requested more information regarding the costs that may be borne through the permitting process, including impacts to businesses that discharge to permitted facilities. (0137 – Clean Water Services)

“The impacts to businesses that discharge to municipalities with federal and state pretreatment programs is not stated. The evaluation should describe the pretreatment requirements and clarify that some municipalities may need to revise their local limits to meet the revised DEQ water quality standards. Under the federal and State Pretreatment Programs, local limits are calculated by working backwards from the applicable water quality standard. The allowable concentration at the end of the mixing zone to meet the applicable water quality standard is calculated; the domestic sources are then subtracted, and the remaining pollutant load can then be allocated to industrial sources. If the water quality standards are set at a level that there is no ‘room’ after the domestic load, no additional industrial load can be permitted. This might affect large and small Oregon businesses currently operating in Oregon and connected to a wastewater treatment plant. The DEQ conclusion that under that scenario “some businesses and industries would need to disconnect from the sewer system and manage their wastewater on site”. For many Oregon businesses and industries that use large amounts of water, managing their wastewater onsite is not reasonable. This type of thinking will stop Oregon’s business recovery in its tracks.” (0081 – Oregon Association of Clean Water Agencies, et al.)

“DEQ underestimated the impact of the proposal on business and industries. Imposing stricter local limits based on the proposed water quality standards would have a significant impact on large and small Oregon businesses that discharge industrial wastewater to a municipal wastewater treatment plant. Without an evaluation of the impacts on these businesses, DEQ’s fiscal and economic evaluation is incomplete. DEQ concludes that under that scenario “some businesses and industries would need to disconnect from the sewer system and manage their wastewater on site.” For many Oregon businesses and industries that use large amounts of water, managing their wastewater onsite is not a reasonable solution.” (0137 – Clean Water Services)

DEQ Response: Some commenters assert that DEQ did not describe impacts to businesses that discharge to municipalities with federal and state pretreatment programs. DEQ disagrees. The Statement of Need and Fiscal and Economic Impact describes the situations under which DEQ expects the proposed rules would affect these businesses. As stated in preceding responses in this section, precisely quantifying potential financial impacts would be a facility by facility and pollutant by pollutant evaluation. In addition, data are unlikely to be available in all cases. In the case of businesses that discharge to municipalities with federal and state pretreatment programs, it is not possible to quantify potential impacts, since it would require DEQ to presuppose decisions that would be made by the municipalities the requirements they establish in operating their pretreatment programs. As a result, DEQ sought to describe qualitatively situations that may arise that could result in impacts to businesses. This assessment represents a reasonable approach to describing the likely impacts to businesses that discharge to municipalities with federal and state pretreatment programs and is described in more detail in the Statement of Need and Fiscal and Economic Impact.

No changes were made to the proposed rules in response to these comments.

F. Requirements will negatively impact Oregon's economy

Many commenters voiced concern about the negative effect that costs resulting from the proposed rule might have on Oregon's economy. (0028 - Judith Kirby; 0110 – Baker County Republican Central Committee; 0099 – Brenda Kirsch; 0157 – Clinton Shock, oral testimony at Ontario hearing; 0188 – Terry Witt, oral testimony at Portland EQC hearing)

“After listening to the DEQ presentation here in Ontario Oregon I would like to go on record as totally opposing your proposal for several reasons. 1. The current economy of Oregon, and especially eastern Oregon, is almost at a depression level. The unemployment here is higher than the rest of the State and much higher than the general population of the United States. The businesses here are just barely hanging on and do not need another government regulation to add cost to their businesses. 2. The higher minimum wage that all Oregon businesses are required to pay, almost \$1.50 higher than Idaho, is another example of the financial drain that we are under every day to compete with businesses just across the Snake River in Idaho. Everyone on the committee that is working on this matter should be required to run a business before making decisions that will impact Oregon businesses. It is easy to dream, but hard to implement. You have presented the easy part. 3. The thought that this could be delayed for some businesses is just a stop gap measure to get it approved and once that happens any business will be harmed either now or a few short years from now. You are moving too fast and too expensive for the times we are in.” (0024 – Farrell Lawson)

“We cannot, and I repeat cannot tolerate any more regulations on us. As it stands now farms are on the edge financially, due in part to regulations and prices for our products that in no way shape or form keep up with inflation, fuel, input costs, or the ability to comply with anymore regulations.” (0032 – Mark and Karen Kalsch)

“If the DEQ, or other agencies, move forward with the proposed rulemaking language, I believe agriculture landowners and land managers, including myself, could be subject to unreasonable and economically inefficient rules that will regulate farms and ranches out of business in Oregon.” (0033 – J. Edward Vaughn, Vaughns' Farm and Orchard; 0129 – Larry and Pamela Zweifel)

“Your high level of requirements may destroy many of our small businesses, many of our farmers, as well as very adverse impact on our city.” (0034 – Joe Dominick, Mayor, City of Ontario, oral testimony at Ontario hearing)

“Oregon's unemployment rate still sits at 10 percent. Key Oregon industries and employers would not be able to operate under such a regulatory scheme. The costs involved would cripple major employers and industries in the state - causing an even more acute employment crisis in Oregon. The economic impact on Oregon manufacturing of initial compliance with the new regulations is estimated to exceed \$500 million, with a \$30 to \$90 million additional operating cost per manufacturing facility.” (0039 – Form letter sent to Oregon State Legislators by 14 commenters)

“Standards derived by using a consumption factor of 175 g/day will result in the most stringent standard of any state in the nation which will further restrict economic development endeavors and result in additional costs for Oregon's businesses. This will lead to job losses and fewer new jobs.” (0042 – Fred Warner, Jr., Chair, Baker County Board of Commissioners)

“Businesses can not afford the additional expense. MY GOSH... we are in the middle of the most serious recession since the Great Depression... More regulation means businesses will have lower profit margins, which means they will have to lay off employees or their business profit margin may be so low the companies may go bankrupt. You are the government OF THE PEOPLE... and the business owners and

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employees this will adversely affect do not need this or want this. We need LESS REGULATION at this point in time, so businesses can become more profitable and can hire more employees and pay more taxes. The 2010 Oregon tax increase on businesses backfired on the State... and businesses have left the state or laid off employees. These water quality rules will cause a similar problem and will prolong the Oregon recession.

We already have the strictest environmental quality laws of all countries on earth. We don't need more restrictive rules at this time. I took environmental law in graduate school. The case law pointed out how difficult it is to do business in the USA... which is why businesses first moved from the northern to the southern states, then overseas.

I am chairman of a 501(c)(3) watershed council; we don't need stricter laws/regs that will make our watershed improvement work more difficult/expensive.

I am part owner of a farm; we don't need more regulations/expenses at this time, hindering our ability to manage our farm and to do watershed improvement work on it.” (0062 – Timothy Bliss)

“The increased cost to farmers and ranchers would increase food costs to consumers. The increased costs for water treatment and storm water diversion for municipalities would be paid by hard working tax payers. The middle class is being eroded by these regulations. We will end up with a two class system, government workers and persons totally dependent on the government. That does not sound like utopia to me, which is what the progressives “think” they are going to create.” (0070 – Craig Calder)

“The economic impacts cannot be ignored, and I believe the public has considerable interest more now in jobs than they do in further impeding the agricultural economy of the state. Cutting funding for success at the same time we consider egregious and impracticable rules seems to serve no one's interests.” (0080 – Oregon Farm Bureau)

“Another issue of the current rule-making is the lack of in-depth economic analysis, and the financial harm these standards would impose. As has been reflected in previous testimony, urban businesses would suffer with the resultant loss of jobs, as would the agricultural sector, with increased input costs with no monetary compensation.” (0089 – Oregon Cattlemen’s Association)

“I want to continue to do every thing reasonable and practicable to control pollution runoff from my farms, but need a fair playing field to compete with blueberry farmers in other states. These over reaching rules have the potential to make farming blueberries in Oregon unsustainable.” (0119 – Doug Krahmer)

“If the DEQ continues to move forward with the proposed rulemaking language, I believe Placer Mining in Oregon could very likely be subject to unreasonable and economically inefficient rules that regulate Placer Mining in Oregon waters out of business.” (0123 – Tom Quintal; 0124 – Alfred J. Hansen)

“If DEQ continues to move forward with the proposed rulemaking language they will effectively regulate farms and ranches out of business in Oregon. We will NOT let DEQ take our heritage and property rights from our hands.” (0133 – Coos/Curry Farm Bureau)

“Oregon’s unemployment rate still sits at 10 percent. Key Oregon industries and employers would not be able to operate under such a regulatory scheme. The costs involved would cripple major employers and industries in the state - causing an even more acute employment crisis in Oregon. The economic impact on Oregon manufacturing of initial compliance with the new regulations is estimated to exceed \$500 million, with a \$30 to \$90 million additional operating cost per manufacturing facility.” (0134 – Gary Rehnberg)

“The proposed rule making, along with the ridiculous inclusion of recreational in-stream placer mining under NPDES permitting criteria, will cause serious financial harm to some and to the thousands of Oregon citizens, who enjoy these activities, a total denial of rights to access and utilization of recreational resources otherwise available, defendable and appropriate under CWA and Best Practices. Our in-

stream activities do not introduce or create any point source or non-point source toxic pollutants into the waterway and we challenge ODEQ and EPA to prove that it does.” (0125 – Howard Conner; 0147 – Joan Frick)

“This is a “jobs-killing” rule change, and does not reflect the generally high quality of the waters of the state.” (0136 – Baker County Natural Resources Advisory Committee)

“To arbitrarily force another segment of our business community into non existence because of over regulation plus extreme enforcement will kill a thriving mining industry. I can well understand why mining companies steer clear of Oregon. This is one of the major reasons that exploration for Rare Earths and other precious metals have ceased here in Oregon because of the heavy hand of EQC and the subsequent enforcement.” (0138 – Charles Chase)

“I am opposed to any new rules which have the potential to increase costs to both small and large businesses and to Oregon tax Payers (state agencies).” (0139 – Kent Tresidder)

“Any further increase in water quality standards will have a devastating effect on the economy of Oregon. We need to rebuild our fragile economy and address any additional water quality issues when our economy is thriving.” (0140 – Don Buford)

“Increased fish advisories in our area impact a significant economic sector related to recreational fishing. We are also concerned about what could be referred to as an unintended ripple effect on how fish is processed, both from recreational and commercial harvest, both from recreational and commercial harvesters. By-products of fish processing have the potential to contain the highest level of contaminants. Use of fish by-products for planting organic gardens, seeding high mountain spawning areas, and in secondary market applications such as pet food, all have the potential to be impacted.” (0148 – Chris Gannon, Crooked River Watershed Council, oral testimony at Bend hearing)

“We already know from past experience, and from how this has been promoted to us, that we're not talking about something that's economically sensible. And we're certainly not talking about something that's achievable outcome based solution. We're asking you to please knock the agriculture out of business, because that is completely what is potentially possible here.” (0182 – Peggy Browne, oral testimony at Portland EQC hearing)

“Nothing is to be gained by adding another level of regulation on an industry that is already struggling in very difficult times. More regulation always means more cost for the landowner to be in compliance. These costs are not always purely economic, but can include attitude changes, whereby a land owner could say, ‘It’s just not any longer in my best interests to keep this land as timberland.’ We can then expect to see premature harvests and land changes to non-timber development.” (0199 – Dave Messerle)

DEQ Response: Some commenters expressed concern with the impact of the proposed regulation on Oregon businesses and on the overall Oregon economy. For businesses that received NPDES permits, DEQ does not intend for those facilities to put in place treatment technologies that result in unreasonable costs or that are unproven for the application in question. DEQ has considered this issue throughout the process and has spent a significant amount of time with the stakeholder advisory workgroups discussing and developing proposed rules for implementation approaches with this objective in mind. The commenters did not provide a specific explanation describing how the proposed rule revisions would result in significant impacts to businesses as described in their comments, nor did they provide data or an accounting of how they arrived at an estimate of “\$500 million, with a \$30 to \$90 million additional operating cost per manufacturing facility.” As a result, DEQ is unable to evaluate whether this estimate represents additional information that would alter DEQ’s conclusion regarding potential costs to sources, which DEQ concluded is in the range of \$400,00 per year for point sources.

Many commenters also raised concerns regarding the impact of the proposed regulation on landowners and land managers. As noted elsewhere in this section, DEQ's Statement of Need and Fiscal and Economic Impact describes the situations under which DEQ is aware may result in an economic impact resulting from adoption and implementation of the proposed rule. The commenters did not provide a specific explanation describing how DEQ either erred in its analysis nor provide detail describing how they concluded that the proposed rule revisions would result in significant economic impacts. In the absence of such information, DEQ did not revise its analysis or conclusions regarding the potential impacts of this rulemaking related to the implementation of these rules by nonpoint sources.

No changes were made to the proposed rules in response to these comments.

G. Economic benefit of adopting protective standards

"The "Potential Benefits of Raising the Fish Consumption Rate and Meeting the Standards" is presented in Table 2 of the Statement of Rulemaking. The general statements included in this table need to be substantiated. For instance:

- What 'environmentally attributable diseases' are associated with NPDES permits under the current water quality standards?
- What 'reduced risk from water contact' will result from recreational water use? The primary risk associated with water contact is bacteria.
- Please quantify how these standards will result in increased water reuse opportunities. Please provide examples of how the current water quality standards have prevented or stalled water reuse opportunities in Oregon.
- Please provide examples of how the revised standards will result in cleaner intake water for downstream industries, increased tourism, amenity/aesthetic/property value benefits, and avoided costs to industries and utilities.

"For many pollutants, NPDES permitted source reductions to meet Water Quality Based Effluent Limits (WQBELs) will not achieve water quality standards in stream. The listed benefits of litigation cost reduction, reduced hazardous waste removal costs, and reduced O & M costs are not true and should be modified." (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

"Unfortunately, DEQ did not quantify the economic benefits of adopting accurate, protective toxics standards." (0071 – Columbia Riverkeeper, et al.)

"Less contamination in the river will also support the economy by increasing emphasis on tourism for fishing and returning Oregon to the forefront of environmental conservation rather than the butt of jokes regarding Portland Harbor." (0132-C – Audie Huber)

DEQ Response: Some commenters questioned the basis of the benefits identified in DEQ's Statement of Need and Fiscal and Economic Impact. DEQ included the potential benefits listed in this document based on the input of the Fiscal Impact and Implementation Advisory Committee DEQ convened in 2008. The membership of this group consisted of representatives from cities, industries, environmental organizations, tribes, a toxicologist from the Department of Human Services, and environmental economists. Members of this group identified a list of potential benefits contained in the Statement of Need and Fiscal and Economic Impact based on their experience and respective areas of expertise in evaluating potential benefits of reduced and avoided levels toxic pollutants. Based on the lack of time and funding to research and do a quantitative analysis of the direct and indirect potential benefits, DEQ relied on the qualitative input from the Fiscal Impact and Implementation Advisory Committee to identify the types of benefits that might be achieved through achievement of revised human health water quality criteria. The Fiscal Impact and Implementation Advisory Committee's memo, which contains these descriptions can be found on DEQ's website (<http://www.deq.state.or.us/wq/standards/docs/toxics/FIIACMemoToEQCFinal.pdf>).

No changes were made to the proposed rules in response to these comments.

8.4 Comments on Implementation

A. Data concerns / Analytical methods

Several commenters had specific questions regarding analytical methods for measuring toxic pollutants and concerns regarding data.

“The Department’s current Internal Management Directive for Reasonable Potential Analysis for Toxic Pollutants (September, 2005) can be revised to use the flexibility incorporated into the federal EPA Technical Support Document for Water Quality-Based Toxics Control[1] . Specific areas where DEQ should be reevaluating and improving its IMD to focus resources and permitting actions on areas of true toxic concerns include:

- Response to limited data,
- Temporal record for data (how long of a record will be used),
- Response to limited data above reporting levels,
- Response to potential false positives for limited data exceed reporting levels,
- Methods and approaches for focusing deriving geometric means with limited data to develop Water Quality Based Effluent Limits (WQBEL) using a long term average,
- Changing or improving quantitation levels,
- Inability to meet specific quantitation levels due to interference, need for dilution,
- Interpretation and application of data collected either qualified or unqualified reported at below the minimum quantitation levels identified by DEQ, and
- Approach for mixing and larger, complete, or reach mixing especially following TMDL or other comprehensive mass load analysis.

The DEQ has presented their assessment of reasonable potential analysis and noted that they would recommend collecting additional data when available data are limited, especially where data reported are at or near the minimum levels defined by DEQ. The use of sufficiently sensitive analytical method is important for making effective and consistent regulatory and analytical decisions. To be consistent with potential permit limits the RPA analysis should use the reporting levels and methods defined by DEQ as the lowest available methods. The DEQ should update that document to discuss how reporting levels would be adjusted to account for dilution and interference. Other new, developing, or available methods that can provide lower reporting levels than identified by DEQ for methods available in 40 CFR 136 should be encouraged for use in evaluating basin scale TMDLs where the greater precision will be useful in developing targeted and effective toxic control strategies.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“DEQ must use a consistent, defined approach to conducting RPAs. DEQ has used varied approaches, not consistent with its Internal Management Directive and different from that used in the SAIC report, in conducting RPAs. The method for conducting the RPA greatly influences which facilities may require a variance, especially in dealing with limited data sets. Until a consistent approach is applied it is not possible to evaluate the potential financial impacts of the proposed rules.” (0137 – Clean Water Services)

“Since nearly half of the pollutants for which DEQ is proposing standards have criteria below quantitation limits, conclusive statements cannot be made regarding compliance for nearly half of the pollutants. To address this problem, the rules propose that the quantitation limits become the measure of compliance. While initially practical, this approach results in effluent limits becoming more stringent over time as detection technologies improve. Improvements in treatment and management technologies could create a moving target for the viability of variances, leading to pressure to unexpectedly implement more expensive solutions with limited environmental improvements.” (0137 – Clean Water Services)

“Based on current laboratory technologies, this will result in a number of individual compounds with standards that are undetectable by the best existing technology. For those cases where effluent results are reported as non-detect, the water quality standard for those compounds will revert to the analytical detection level. As a result, there is an automatic presumption that a discharge of the compound is occurring at levels above the established water quality level. This is a case of being proven guilty without an ability to prove innocence.” (0149 – Water Environment Services)

“We recognize the difficulties that meeting some of the new standards will create and we would be willing to consider interim measures for cost-effective long term solutions to eliminate toxic chemicals from the waters that we all share. Concerns about quantitation limits and regulatory authority that have been voiced throughout the public comment period, should be handled through changes to the implementation process. This should not affect the proposed water quality standards.” (0143 – Columbia River Inter-tribal Fish Commission)

DEQ Response: DEQ is anticipating the release of revision 3.0 of the Reasonable Potential Analysis Internal Management Directive (RPA IMD) in June 2011. Included in this document is additional guidance in the interpretation of characterization data that addresses many of the commented concerns. There are specific guidelines to address permit development scenarios with limited data, instances where there is limited data above reporting levels and guidelines for identifying and addressing false positives within a data set. Much of this guidance follows the approaches described in EPA’s Technical Support Document for the use of alternate (qualitative) RPA procedures or statistical analysis methods (i.e. Delta log-normal distribution projection). Finally, the Department has included guidance on the use of default values in instances where data collected is detected below quantitation limits.

During each permit renewal, federally mandated priority pollutant data will be collected and the permit writers will evaluate the monitoring results (effluent and ambient) to determine if additional monitoring is needed. Ideally, the permit writer will use the most temporally relevant data when characterizing the current condition of the effluent and receiving water. On a case by case basis, they might use their discretion to use earlier data for characterization purposes.

DEQ has developed a document entitled *Development and Periodic Revision of Analytical Detection Limits for NPDES Permitting* to address the upkeep and maintenance of the list of Quantitation Limits. In instances where a permittee suspects interference of an analytic method, they should provide evidence to the permit writer, who has the discretion to allow a higher analytic method or alternative (40 CFR 136) method on a case-by case basis. In cases where analytic services are available that can meet the department’s QL’s, the permittee must use those services unless they can perform the necessary EPA approved method modifications (i.e. high volume injector) to meet the QL’s.

No changes were made to the proposed rules in response to these comments.

B. Quantitation Limits should be set by rule

Two commenters stated that EQC should adopt rule language on the process for selecting analytic methods for quantitation limits (QLs) and the frequency of revisions.

“Given the fact that nearly half of the new toxics criteria will effectively be the QLs for permitting purposes, Riverkeeper and the Sierra Club urge the EQC to direct DEQ to develop a proposed rule stating: (1) the process in which QLs will be selected to further Oregon’s commitment to reduce toxics and protect human health; and (2) the frequency with which DEQ will revise the QLs for Oregon’s toxics criteria. Given Clean any rule should require DEQ to revise QLs at least every three years.” (0071 – Columbia Riverkeeper, et al.)

“As water quality standards or general polices that relate to criteria, therefore, the QLs that the Department proposes to use in lieu of 48 percent of the otherwise applicable numeric criteria must be set out in rule. DEQ may not rely exclusively on using a guidance document in which the QLs are set out as a method of overriding numeric criteria. Second, the QLs themselves must be subject to the public participation requirements associated with the rulemaking, including that “[t]he proposed water quality standards revision and supporting analyses shall be made available to the public prior to the hearing.” (0078 – Northwest Environmental Advocates)

DEQ Response: The department has provided guidance to staff on recommended quantitation limits in the Reasonable Potential Analysis Internal Management Directive available at (insert link).

The current Quantitation Limits (QLs) are the result of a performance evaluation survey of analytic laboratories that provide services to Oregon’s permitted community. This survey was required to be conducted for each pollutant parameter for which there was a state water quality criterion or federal monitoring requirements. The survey results were reviewed by a panel of analytic chemists representing the Oregon Environmental Laboratory Association, Municipal and the Department’s Laboratory. For each pollutant parameter, the lowest readily available quantitation limit from the survey results was selected and evaluated by the panel before inclusion in the Department’s list of Quantitation Limits. The result was a list of analytic limits that in many cases was more conservative than EPA’s published lists of analytic limits and also met most of EPA’s proposed requirements for the use of “sufficiently sensitive” analytical methods.

The Department has developed a document entitled *Development and Periodic Revision of Analytical Detection Limits for NPDES Permitting* to address the upkeep and maintenance of the list of Quantitation Limits. Under this guidance:

“It is anticipated that the tables of QLs should undergo a major revision every five years and a minor revision every other year or when necessary.

The major revision will include a comprehensive review of the pollutant parameters and regional laboratory capabilities to ensure that any advancement in test methods and instrumentation are included. It is anticipated that a full laboratory survey be conducted.

The minor revision is designed to specifically address new or revised water quality criteria or the development of new test methods. As a result, the survey would be abbreviated as compared to the major revision.

In the event that a QL has not been determined through the major or minor survey, Permit Writers should use the guiding principles of this document, advice from technical staff and their best professional judgment to develop facility specific analytic values. Permit Writers should document their findings in the Permit Evaluation Report or Fact Sheet.”

It is anticipated that the evaluation of the major revisions would include a review by a panel of analytic chemists reflecting the scope of the analytic community (i.e. state, local, commercial and university laboratories).

This approach, over a rule-based approach, is recommended due its flexibility to reflect changes in water quality criteria, improvements in analytic methodology and availability of those analytic methods to Oregon permittees. Additionally, minor changes will be made to the list of QLs to address pollutant parameters specific issues (i.e. matrixing or performance history) or to correct typographic errors. By pursuing a rule-based approach, improvements could only be reflected after a rule making process requiring more staff time and resources.

No changes were made to the proposed rules in response to these comments.

C. Effective Date

DEQ should implement the revised rules immediately

Several commenters urged DEQ to make these revisions effective immediately. (044 - Riverkeeper form letter, 153 commenters; 0060 – Oregon Toxics Alliance form letters, 3 commenters; 0131 – Carla and Fred Hervert; 0143 – Columbia River Inter-tribal Fish Commission)

“Some stakeholders have suggested that the criteria should not become effective upon EPA approval but rather at some point in the future after ODEQ has completed additional work on implementation tools. While we understand that some uncertainty remains, we believe that the time used to discuss these proposals over the last two years has yielded a set of rule revisions and working knowledge of the draft provisions that can serve as a solid framework for implementing these criteria. All the information necessary to implement the proposed rules is currently on the table. Therefore, it is EPA's opinion that it is time to move forward in adopting and implementing the criteria. To allow additional delay through a change in the effective date could be problematic to EPA, would cause delay in EPA's Clean Water Act (CWA) action on the criteria and may be inconsistent with the CWA requirement for states to have criteria protective of all uses.” (0083 – U.S. Environmental Protection Agency, Region 10)

DEQ Response: DEQ agrees with the commenters that the revised rules should not be delayed in their effective date. DEQ has included rule language that clarifies the rule revisions will become effective upon EPA's approval of those revisions it considers to be water quality standards.

Changes were made to the proposed rules in response to these comments.

DEQ should postpone implementation of the revised rules

Some commenters requested that DEQ postpone the effective date for proposed revisions.

“DEQ should delay the effective date of the more stringent human health criteria until March 1, 2013 or one year after EPA approval, whichever is later. This time should be utilized to develop a pilot variance for both a major municipal and major industrial NPDES permit renewal, multi-discharger variance language, and to identify pollutants and waters where the human health criteria will be naturally exceeded.” (0086 – Northwest Pulp and Paper Association) Other commenters supported these comments. (0012 – Associated Oregon Industries; 0082 – Oregon Forest Industries Council)

“Much of the difficulty of developing viable implementation methods is that the potential implementation problems are not yet well known. Until recently, the Department had not focused its limited resources on implementing human health criteria. Now that it has begun to do so, widespread implementation problems associated with even the existing human health criteria, such as arsenic, have developed. As the new criteria are implemented, additional problems are almost certain to develop, but until the problems are identified and understood, it likely will not be possible to develop an appropriate implementation solution. Moreover, the appropriate solution is likely to be specific to a particular pollutant—such as an Oregon-specific criterion or a multi-discharger variance, rather than a generic implementation rule. To allow more time to identify and resolve these problems, while allowing the adoption of revised human health criteria to go forward, OWQSG proposes that the proposed numeric criteria be adopted but with a delayed effective date for those criteria that are more stringent than the currently effective criteria. If that delayed effective date is March 1, 2013, approximately two years from now, there would be sufficient time for the Department to determine the potential scope of likely implementation problems and to develop an appropriate solution for the most important or widespread problems.

(1) Amendments to this rule OAR 340-041-0033 and associated revisions to Tables 20, 33A, 33B or 40 become effective upon approval by the Environmental Protection Agency, except that any

numeric criterion in Table 40 that is more stringent than a corresponding criterion that was in effect immediately prior to the adoption of Table 40 shall not become effective until March 1, 2013 or upon approval by the Environmental Protection Agency, whichever is later.” (0079 – Oregon Water Quality Standards Group)

DEQ Response: DEQ disagrees with the commenters that the revised rules should be delayed. While the proposed rule will become effective upon adoption by the commission and approval by EPA, subsequent actions and requirements associated with the rule revisions will be realized on their current schedules. For example, DEQ will assess whether data and information indicate new or different limits are needed in NPDES permits upon their renewal. As described in responses to other comments regarding the implementation of permitting tools, DEQ is committed to timely implementation of the permitting tools and working with interested parties on their implementation.

No changes were made to the proposed rules in response to these comments.

D. DEQ should “prioritize work”

One commenter suggested that DEQ prioritize its work related to implementing this rule.

“This rulemaking covers such a large number and wide type of pollutants and will likely result in a workload the agency will be unable to absorb. Since, in many cases, these pollutants effectively constitute background levels with no remedy or means of reduction, and that the health implication of these pollutants varies widely, AOI suggest that the agency devise a system to assess the feasibility of reduction and public health implications for each pollutant and phase in the program based on a rationalized, workable schedule.” (0012 – Associated Oregon Industries)

DEQ Response: DEQ appreciates the commenter’s suggestion regarding how DEQ might manage its workload to effectively implement the revised rules. DEQ detailed its estimate of the resources that will be required within the department in the Statement of Need and Fiscal and Economic Impact based on its best estimate of the permitting issues that will arise and the resources needed to implement them. DEQ’s proposed rules incorporate a number of revisions designed to increase the DEQ’s efficiency to address implementation issues, such as the revisions to the administrative process to grant variances, and the intake credit and background pollutant allowance rules. DEQ acknowledges the importance of timely implementation these new and revised water quality standards and intends to allocate its resources to meet this objective. At this time, DEQ does not see the need to devise an alternate system as described by the commenter.

No changes were made to the proposed rules in response to these comments.

E. Comments regarding DEQ’s Toxics Reduction Strategy

Some commenters expressed interest in DEQ’s Toxics Reduction Strategy.

“This rulemaking ... underscores the need for DEQ’s agency-wide toxics reduction strategy, and for an even more comprehensive effort that engages other state agencies.” (0084 – Oregon Environmental Council)

“The Environmental Quality Commission has specifically directed DEQ to develop a comprehensive toxic reduction strategy for the State. The toxic water quality standards are a portion of this overall effort. The Commission should ensure that these efforts are coordinated and focused on the most effective actions to reduce toxics in Oregon. Adoption of the revised toxic water quality standards should not be

undertaken until the overall toxic reduction strategy for Oregon is reviewed and approved by EQC and the necessary steps to implement it initiated.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0022 – City of Cottage Grove; 0128 – City of Stayton; 0130 – City of Astoria; 0137 – Clean Water Services)

DEQ Response: DEQ continues to work on the development of a comprehensive toxics reduction strategy. The agency is currently refining draft strategy recommendations, and anticipates sharing these proposed recommended actions with stakeholders within the next two months. DEQ intends to ensure the final proposed toxics reduction actions in the strategy are well-coordinated and complementary of existing programs and rules, including the revised Human Health Water Quality Criteria rules. The final draft strategy will also be presented to the EQC for their consideration and approval. DEQ also recognizes the need to work with other state agencies to implement integrated actions for toxic chemicals and pollutants that are of concern for multiple agencies. To that end, DEQ will be coordinating with those agencies on the implementation of any final strategy actions focused on such toxics.

No changes were made to the proposed rules in response to these comments.

F. General comments regarding implementation

One commenter recommended that DEQ “create an enforceable standard with clear and complete compliance guidelines. This will prevent (or at least) discourage private industries from taking legal issue against the DEQ for enforcing water quality standards.” (0046 – Shawn Donnille)

One commenter requested that DEQ make water quality standards “as exacting as possible.” (0105 – Mary Holbert)

DEQ Response: DEQ appreciates the commenter’s suggestions. As part of the rulemaking effort, DEQ has been working on a number of internal management directives (internal guidance) that will discuss how DEQ will implement the standards.

No changes were made to the proposed rules in response to these comments.

8.5 Comments on DEQ’s process

A. Request to extend public comment period

DEQ received comments requesting an extension for the public comment period on the proposed rule package.

“These rules are the most far reaching water quality regulation changes proposed in decades. They may well be the most stringent in the nation and can be expected to have great, possibly unforeseen, impacts on this state for years to come. It is imperative that all parties have an ample and full opportunity to review, assess and, comment to the maximum extent possible.

Accordingly, the undersigned organizations respectfully request that the deadline for submittal of comments be extended from February 18, 2011 to a date not sooner than March 18, 2011.”

(0012 - John Ledger, Associated Oregon Industries; Richard Angstrom, Oregon Concrete and Aggregate Producers Association; Ray Wilkeson, Oregon Forest Industries Council; Mark Nelson, Oregon Metals Industries Council; Craig Smith, Northwest Food Processors Association; Katie Fast, Oregon Farm Bureau Federation; Jon Chandler, Oregon Home Builders Association; Terry Witt, Oregonians for Food and Shelter; 0031 – State Senators Ted Ferrioli, Bruce Starr, Frank Morse, Jeff Kruse, Chris Telfer, Doug Whitsett, Jason Atkinson, Brian Boquist, Larry George, Fred Girod, David Nelson, Alan Olsen, Chuck Thomsen and Jackie Winters)

DEQ Response: DEQ extended the public comment period in response to these comments.

B. Clarification regarding EQC's authority

Some commenters sought specific clarification regarding the Environmental Quality Commission's authority to adopt proposed rules.

"What specific Oregon statute, or what specific federal public law, confers authority to the Environmental Quality Commission to adopt the proposed Revised Water Quality Standards and Revised Water Quality Standards Implementation Policies? Please provide specific statutory or public law authority for both the proposed point source and non-point source Standards and Implementation Policies." (0031 – State Senators Ted Ferrioli, Bruce Starr, Frank Morse, Jeff Kruse, Chris Telfer, Doug Whitsett, Jason Atkinson, Brian Boquist, Larry George, Fred Girod, David Nelson, Alan Olsen, Chuck Thomsen and Jackie Winters)

DEQ Response: The following Oregon Revised Statutes are relevant to DEQ's authority in this matter.

- 468B.010 Authority of commission over water pollution; construction.
- 468B.020 Prevention of pollution.
- 468B.035 Implementation of Federal Water Pollution Control Act; rules.
- 468B.110 Authority to establish and enforce water quality standards by rule or order; limitation on authority; instream water quality standards.

No changes were made to the proposed rules in response to these comments.

C. DEQ has not had a sufficient dialogue with potentially affected entities

Stakeholder group was unbalanced

Some commenters expressed concerns regarding whether the stakeholder advisory group was balanced.

"I do not trust that the DEQ is unbiased in their decision making in that the committee deciding these rules were top heavy with environmental groups and those with tribal interests rather than a cross representation of all Oregonians. I especially think that inclusion of a group that is suing the EPA sitting on this committee (The Northwest Environmental Advocates) and the fact that the DEQ basically works under EPA is a conflict of interest." (0028 – Judith Kirby)

"If you are interested in what businesses think, why don't you ask the business community for our input. The people who live in eastern Oregon have a much better idea as to what goes on here than someone on the other side of the state. I would like to know if anyone of the 20 people on the committee are actually from this side of the state of Oregon." (0024 – Farrell Lawson)

DEQ Response: DEQ seeks to include a broad representation of interests when it forms stakeholder advisory workgroups. In this process, DEQ worked with two stakeholder advisory workgroups over the course of two years in the development of the proposed rules. Beginning in December 2008, DEQ convened a stakeholder advisory rulemaking workgroup to develop innovative NPDES implementation options, provide input on rule language development, and identify issues beyond the scope of the rulemaking. This workgroup was comprised of eight members representing municipal and county governments, industry, and environmental organizations, in addition to representatives from EPA and the Confederated Tribes of the Umatilla Indian Reservation.

Based on discussions occurring during that year and the interest of the group in discussing pollutant sources that do not receive an NPDES permit, DEQ expanded the workgroup to add five stakeholder advisory members representing nonpoint source interests, including the forestry and agricultural industry, and charged the

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workgroup with considering potential rule revisions related to nonpoint sources. The Oregon Departments of Agriculture and Forestry also participated in workgroup discussions.

No changes were made to the proposed rules in response to these comments.

DEQ did not consult the non-NPDES workgroup on rule revisions

One commenter expressed concern about the composition of the rulemaking workgroup.

“...in the slides presentation that was on the rule-making, it identified the rule-making group, and then there was the non-NPDS working group. And I noticed that the non people were not included into the rule-making group. Therefore the industry people set the rules, and by the way, you did have a bunch of environmental groups, and others in there, but the people that would be in this room were not a part of the process of setting the rules, the rules working group. Therefore, I think it's - you're biased against those people who have non-point source pollution issues. And by federal law, there is some limitations about what you can do. I realize state laws differ, and you guys have a little different flexibility than federal laws, and far as non-point source pollution. But I think you really need to have both of those in that process, and I have no idea why you chose not to do that.” (0165 – Charles Boyer, oral testimony at Medford hearing)

DEQ Response: As described in the preceding response, DEQ specifically formed an additional advisory workgroup, the “non-NPDES Workgroup,” that it charged with discussing potential rule revisions related to sources that do not receive an NPDES permit, also known as “nonpoint sources.” The Rulemaking Work Group or “RWG” was charged with addressing potential NPDES implementation issues associated with implementing the new criteria. Input from both groups was evaluated as part of this rulemaking.

No changes were made to the proposed rules in response to these comments.

DEQ should have held hearings in different locations

One commenter requested that DEQ hold hearings in more locations.

“I honestly don't think you've looked at Oregon. I don't think you've looked at much outside the Willamette River, and the Columbia River. And you're certainly not going any place outside of those areas, with the exception of Bend, and Ontario, which is on the Snake River, to hold any public meetings... I've traveled all over this state, talking to people, ranchers and farmers, and sportsmen's groups, and land managers - federal and state managers all over this state, and every one of them has the same concerns about water quality, ... and the importance of it. And they spend a lot of time, money, and energy trying to do the best that we can do. But you guys, for some reason, have chosen, in this process, not to even talk to 'em. And I have a problem with that. As a citizen of Oregon, I have a problem with that. I think you need to go do that. (0165 – Charles Boyer, oral testimony at Medford hearing)

Another commenter requested that hearings be held in the evening. (0174 – Jan Nelson, oral testimony at Eugene hearing)

DEQ Response: DEQ aimed to conduct a thorough and transparent public process involving representatives from a variety of potentially affected entities. As described in the Executive Summary to this document, DEQ held a total of nine public hearings in eight locations around the state. Two hundred seventy-nine people attended, and ninety-seven provided oral testimony. In addition, DEQ received written comments from more than 1,000 individuals. DEQ expects that the input received from these efforts represents a broad variety of perspectives, and concludes that holding additional hearings and/or holding hearings only in the evening would not have been a valuable use of the state's limited resources.

No changes were made to the proposed rules in response to these comments.

D. Appreciate that DEQ involved potentially affected entities

Many commenters noted that DEQ worked closely with an advisory committee including affected industries to ensure that the revised rules are feasible to implement. (0027 – Oregon Environmental Council form letter, 19 commenters; 0080 – Oregon Farm Bureau, public testimony at Portland EQC hearing; 0083 – U.S. Environmental Protection Agency, Region 10; 0084 – Oregon Environmental Council)

“We appreciate the countless hours that staff from DEQ, EPA, CTUIR, Northwest Environmental Advocates, and many others devoted to this critical rulemaking process. We also appreciate the high level of engagement and commitment from the EQC.” (0071 – Columbia Riverkeeper, et al.)

“As representatives of Oregon’s principal associations involving wastewater utilities, we appreciate the involvement of our representatives throughout this process.” (0081 – Oregon Association of Clean Water Agencies, et al.) These comments were also supported by other commenters. (0137 – Clean Water Services)

“We want to thank DEQ for its leadership in working with interested parties through the entire public process. The tribe's staff and council have participated in the workshops and meetings, who brought us to the current rule-making, and benefited from hearing other parties' interests and challenges.” (0126 - Confederated Tribes of Grand Ronde, oral testimony at Portland EQC hearing)

Four commenters noted their appreciation for DEQ’s public process, such as holding hearings in multiple locations across the state. (0161 – City of Medford; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0170 – John Steele, oral testimony at Eugene hearing; 0176 – Kathryn Brigham, oral testimony at Coos Bay hearing)

DEQ Response: DEQ acknowledges the commenters’ statements regarding DEQ’s efforts to include interested and affected parties throughout the process. As noted in the preceding response, based on testimony and written comment received, DEQ expects that the input received represents a broad variety of perspectives.

No changes were made to the proposed rules in response to these comments.

E. DEQ should consult other information/studies

“I'm going to suggest, as part of the record, that you review the Smith River study that was done with ... DNA studies on various species that are polluting that river, and how it's exceeded, and continues to exceed, the TMDLs set by DEQ. And the only people that are being affected by those DEQ rules and enforcement are the people who live there, who run livestock, and the forestry industry. The fact that the primary polluters in there are avian, and deer, and elk, cougar, coyotes, and certain marine mammals that are coming up into the lower reaches of that, and possibly some of the - during high water events, or certain event, the sewer treatment facilities in Coos Bay... You can't go out and control all those. Believe it or not, folks, deer have been poopin' in the stream for eons, and they're going to continue to do that, and we just have to find a way to deal with it.” (0165 – Charles Boyer, oral testimony at Medford hearing)

DEQ Response: The commenter suggested DEQ look into a study conducted on the Smith River to trace sources of bacteria. The commenter also makes reference to a TMDL developed by DEQ for the Umpqua basin, however, the commenter did not provide specific information regarding the relationship between the commenter’s concern and the proposed rule. Based on the information provided, DEQ concludes that the comment is outside the scope of this rulemaking.

No changes to the proposed rule were made in response to this comment.

8.6 Comments regarding Issue Papers

“There is much stated in the Issue Papers that DEQ developed for these proposed rules to which we object. However, the sheer volume of DEQ commentary precludes our response other than on the proposed rule changes themselves.” The commenter referenced elements of DEQ’s issue papers in other comments. (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ acknowledges the commenter’s comments in regards to the supporting documentation contained in the Issue Papers accompanying this rule. DEQ staff developed the Issue Papers to support this rulemaking and are intended to help the public understand the various policy and technical issues raised, alternatives discussed, and the DEQ recommendations resulting from discussions with the rulemaking workgroups.

No changes were made to the proposed rules in response to these comments.

8.7 Other rule revisions suggested

A. Comments regarding how this rulemaking applies to stormwater permits

“Oregon’s commitment to reducing toxics is compromised by DEQ’s decision to exempt stormwater permits from complying with the new standards. According to EPA, stormwater discharges from cities, industrial areas, and construction sites as one of the leading causes of degraded water quality. Despite the overwhelming evidence on toxic inputs from stormwater, DEQ is not proposing to implement the new toxics standards in its NPDES permits for stormwater discharges. The EQC should: (1) request a briefing on DEQ’s stormwater program and whether the new standards will, in any respect, result in less toxic discharges from the state’s largest NPDES sector; and (2) direct DEQ to account for the new standards and require more stringent stormwater permits.” (0060 – Oregon Toxics Alliance form letters, 3 commenters; 0071 - Columbia Riverkeeper, et al.; 0131 – Carla and Fred Hervert)

Several other commenters also urged Oregon DEQ to apply water quality toxics standards to stormwater pollution discharge permits. (0044 - Riverkeeper form letter, 153 commenters)

“Despite the complexities of enforcing such a standard, I truly believe that the DEQ should include storm water runoff into the proposed standards.” (0046 – Shawn Donnelle)

“Surfrider urges DEQ to apply the revised toxic limits when it issues stormwater pollution discharge permits to municipal and industrial dischargers. Stormwater is laden with toxic pollutants; the goals of the Clean Water Act (CWA) cannot be achieved without strict compliance with water quality standards. (0049 – Surfrider Foundation)

“...the Department’s announcement that it will not use the new criteria in stormwater permits, a position with no basis in law, means that the criteria will have little impact on the regulatory mechanisms that control pollution in Oregon.” (0078 – Northwest Environmental Advocates)

“Unfortunately, the rulemaking also maintains the current lack of oversight of runoff from small cities, except in cases where a TMDL has been completed. We are hopeful that an EPA stormwater rulemaking currently under development will begin to address this problem.

Stormwater permits for Oregon’s largest cities (phase I MS4 permits) were improved this year in ways that we believe will reduce releases of toxic pollutants into Oregon waters. However, the latest permits still do not include numeric effluent limitations as recommended by the EPA in a November 12, 2010 memo.

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The Environmental Quality Commission needs to seriously consider how Oregon will manage urban stormwater runoff from municipal sources that are completely unregulated today. Runoff from several cities with populations larger than 20,000 is currently unregulated and should be considered a point source.” (0084 – Oregon Environmental Council)

“Number four, your commitment to toxic reduction is being compromised by the exemption of stormwater compliance. The DEQ should require briefing from stormwater project that you have, and reexamine whether they really reduce anything. Runoff is the number one cause of pollution in the rivers.” (0173 – Cat Koehn, oral testimony at Salem hearing)

DEQ Response: The rulemaking proposal does not affect DEQ’s rules and requirements related to stormwater permitting. Municipal stormwater permits are governed by the standard to reduce pollutants to the maximum extent practicable. DEQ is currently in the process of developing new industrial stormwater general permits. DEQ is proposing that industrial stormwater discharges do not cause or contribute to an exceedance of an instream water quality standards (OAR 340-041). DEQ is also proposing that industrial facilities monitor for benchmark and impairment pollutants and take corrective actions.

No changes were made in response to these comments.

Clarify that this does not apply to stormwater permits

One commenter stated that DEQ should clarify that the discharge permitting requirements do not apply to stormwater. (0012 – Associated Oregon Industries)

DEQ Response: As noted in the preceding response, the rulemaking proposal does not affect DEQ’s rules and requirements related to stormwater permitting.

No changes were made to the proposed rules in response to these comments.

B. DEQ should undertake additional rulemaking to address point and nonpoint pollution

One commenter attached documents and other memos that had been previously submitted to DEQ and discussed with the stakeholder advisory workgroups as part of the rule development process. These documents included several suggestions regarding potential options for addressing pollution from nonpoint sources and industrial, commercial and residential sources. Some of the options included additional rulemakings to control toxic inputs into sewage collection systems, to adopt baseline controls for nonpoint sources that would apply as Tier 1 anti-degradation protections, and to incorporate into rule DEQ’s existing commitments under a lawsuit settlement to control nonpoint sources. (0078 – Northwest Environmental Advocates)

DEQ Response: DEQ acknowledges the commenter’s suggestions. DEQ and the rulemaking advisory committee evaluated the commenter’s suggestions during the course of its work to develop the rules. DEQ decided to not pursue the suggested rule revisions for one or more reasons: they were outside the scope of DEQ’s authority; not appropriate to include in DEQ’s regulations; they required a larger, more complex effort than could be addressed within the rulemaking at this time; or did not otherwise meet the objectives for the rulemaking DEQ established. The discussions of the stakeholder advisory workgroups and DEQ’s analysis of rulemaking options considered are documented in the numerous issue papers DEQ published to accompany the proposed rules in December 2010. Many of the commenter’s suggested rule revisions are addressed in DEQ’s issue papers regarding pretreatment and anti-degradation, which contain summaries of the committee’s discussion and conclusions regarding the commenter’s suggestions.

C. DEQ should include revisions to its rules to address toxic pollutants associated with sedimentation

Some commenters were concerned about toxic pollutants associated with sediment. (0173 – Cat Koehn, oral testimony at Salem hearing)

“Herbicides could be reduced by adopting rules to limit run-off and sediment in Oregon’s streams and rivers. Contaminated sediment increases the toxic burden in fish; health standards based on fish consumption is, according to the DEQ, a primary focus of this rule.” (0060 – Oregon Toxics Alliance form letters, 3 commenters; 0029 – Frank Svejcar; 0131 – Carla and Fred Hervet)

“I have documented proof that big timber clear cutting directly adds sediment to our streams. So sediment is a huge issue, because bound to that sediment are the many, many pesticides and herbicides they have sprayed throughout the years. Add to that the slash burning that unleashes plumes of toxic smokes. The Oregon Forest Practices Act rules and ODF have already proven to many concerned citizens that they are not enough to keep our waters clean. This provides the opportunity for DEQ to stand up and take control of the situation, become the designated management agency that fights for our environment, and most importantly, our water.” (0169 – Erin King, oral testimony at Eugene hearing)

“...the real problem is that the pollution, the poison, the herbicides, the pesticides, that's in the mountain streams, we don't have any big factories there discharging it. The poison that's in our streams where we live as forest dwellers is largely from timber industry spraying, which can come up right very close to the creek. There's a very miniscule buffer zone, and aerial spraying occurs, and via runoffs. So what we want you to do is we want you to include sediment in this plan. We want it included, because almost one hundred percent of the pesticides, herbicides that are in the mountain streams ride on sediment. That's how they get in there, via runoff. This program that you've got doesn't address that issue, so for my constituency, people that live in the forest and don't want the water that our kids are playing in having poison in it, we don't the fish that we eat having poison in them. This isn't taking care of us. And so we want you to also care about us forest dwellers, us rural people, and fix your proposal.” (0171 - Day Owen, oral testimony at Eugene hearing)

DEQ Response: DEQ acknowledges that toxic pollutants can be associated with sedimentation. DEQ evaluated options related to toxic pollutant and sediments and concluded that sediment should continue to be addressed through the existing efforts, and rule revisions should not be pursued at this time. Options considered by DEQ and the stakeholder advisory workgroup are further detailed in the Issue Paper, “Sediment Policy Revisions to Reduce Nonpoint Sources of Toxic Pollutants to Oregon Waters” and is available on DEQ’s website <http://www.deq.state.or.us/wq/standards/docs/toxics/humanhealth/rulemaking/SedimentIssuePaper.pdf>.

No changes were made to the proposed rules in response to these comments.

8.8 Comments on other issues/programs not addressed by rulemaking

Many commenters introduced concepts related to other issues or programs not addressed by the Human Health Water Quality Standards rulemaking.

A. Monitoring for toxic and other pollutants

Some commenters stated that more monitoring and assessment are necessary to effectively address the problems of toxic pollutants.

Several commenters suggested that DEQ emulate the testing done by EWEB that features POCIS one-month duration test strips. (0008 - Pitchfork Rebellion, 291 commenters; 0171 – Day Owen)

“...right now ODA is unable to report that the Agricultural Water Quality Management Program is sufficient to meet water quality standards under the Clean Water Act. Important changes to the program are necessary to be able to do so in the future. Adding robust riparian and water quality monitoring are necessary to enable ODA to strategically focus its resources on areas where water quality is of most concern to human health and aquatic life, and to identify the best opportunities for reducing toxic pollution and meeting water quality standards in the future. Monitoring, assessment and reporting are needed for ODA to show progress in reducing agricultural pollution and trends in water quality over time. The Governor’s Recommended Budget currently has a policy option package that will provide this monitoring, assessment and reporting capacity to ODA, which we strongly support.” (0084 – Oregon Environmental Council)

“If we keep our ‘heads in the sand’ to avoid having to address these issues, if we continue to avoid collecting further data because it likely would confirm the magnitude of the problems, if we continue to misinterpret ‘existing data’ to avoid potential 303d listings, we will fall short for salmon and aquatic health recovery.” (0107 – Ray Kinney)

“A lot of the streams that we have in our basin here have not been tested. We don't know what their condition is... So we actually do need some baselines done in this area on streams. I don't think people realize that that has not been done. We don't know the condition, and many of 'em, some of 'em, we don't even know if [they have] fish. We do know there's a problem, though, because we have reduced fishing. Constantly, the season's being shut down. Now there's a reason for that, and that has to do with, really, a lot of it's the - water quality is part of that issue. So not only a baseline. I actually - the Coos estuary is already 303-d limited, so it already has a problem, and we don't know the smaller tributaries that come into that.

I had the concern on this ruling is who's going to do the monitoring, because as DEQ, they're limited, because of funding and stuff, so who does monitor this? We can make all these rules, and I'm all for making the rules and cleaning up the water, but who's going to monitor the - so that we do that? Because even though there's rules, that doesn't mean anything gets done. And that's the funding issue. (0202 - Jody McCaffree, oral testimony, Coos Bay hearing)

One commenter asked for monthly silt testing. (0008-C – (Lydia) Renee Esposito)

DEQ Response: DEQ agrees that monitoring data is important for accurately assessing the extent of water quality issues associated with toxic and other pollutants. However, establishing water quality monitoring requirements is outside of the scope of this rulemaking, and therefore, no revisions were made in response to these comments.

No changes were made to the proposed rules in response to these comments.

B. Arsenic

Some commenters submitted extensive comments regarding DEQ’s revised water quality standards for arsenic. (0034 – City of Ontario; 0157 – Clinton Shock, oral testimony at Ontario hearing)

“The prior proposed arsenic concentration rules were based on extremely low concentration assumptions, and clearly need to be replaced. They are absolutely in error. But the new proposed rules do not adequately correct the extreme rules proposed for arsenic. The amount of fish consumption was discussed, but the numbers for arsenic that were proposed were ridiculously low, point-seven. The DEQ assumption, the fish rate consumed for the highest ten percent of Oregonians is not well founded. There are not ten percent of Oregonians who consume six ounces or more of Oregon fish per day per person, point-eight. The fish that are consumed do not likely have a bio-concentration factor of fourteen. That is the fish consumed that come from fresh water are not likely to have a bio-concentration factor of

fourteen. It is my understanding that the anadromous fish are likely to have much lower bio-concentration figures. References I saw showed numbers as low as one.” (0157 – Clinton Shock, oral testimony at Ontario hearing)

DEQ Response: DEQ acknowledges the comments received regarding arsenic. DEQ separately proposed revisions to the human health arsenic criteria, which were adopted by the Environmental Quality Commission on April 21, 2011. To the extent that revisions to the arsenic criteria do not address the concerns raised by the commenters, DEQ will work with individual permittees to use appropriate implementation tools and/or pursue site-specific water quality standards revisions.

No changes were made to the proposed rules in response to these comments.

C. General concerns about toxic pollutants in the environment/human body

“The current level of toxins allowed in our rivers & streams is unacceptable. I have elevated levels of mercury, lead, aluminum, cadmium among other metals in my body. This has caused me adverse health effects.” (0005 - Sandra Ihrig)

“A few years ago I developed eczema which spread rapidly until my entire body was effected resulting in sleepless nights and fear. Fortunately the cause was determined. My body on toxic overload. The explanation – my drinking water. It did and does contain pesticides and petrochemicals among other things. The water source Woahink Lake. Now I drink only bottled water and use a far infrared sauna to detox as a preventative. I feel fortunate to have had the cause revealed. How many people are ill and do not discover the origin. Your actions will determine the health of our drinking water and hence the health of the people. Look at the big picture and think with your heart too. The quality of the water impacts the quality of life.” (0008-C – Patricia Stutzman)

“Dioxins, furans, metals, PCBs, PAHs, and pesticides, impure water sediments, fish and wildlife. Sediment contamination was highest near urban and industrial areas, with contamination in excess of levels of concern for DDE, PCBs, dioxins, furans and PAHs. Beneficial uses, so how people use the waterways for fishing, shell fishing, wildlife, and water sports are impaired. Many of the toxic contaminants that we find in the Lower Columbia River, and that we're finding in the Willamette River and throughout other parts of the basin here in Oregon are contaminated. So we know that toxic contaminants are moving up the food chain, and they're accumulating in the bodies of animals, humans, and the fish that we eat.

“We also know from these studies that people who eat fish from the Lower Columbia over a long period of time are exposed to health risks from arsenic, PCBs, dioxins, furans, DDT, and its breakdown products. So I just provide this background information to say that this rule-making is not something that's theoretical; it's something that's been decades in the making. It's something that in the year 2011 is the state(?), It's, I think, embarrassing that we haven't come to this point sooner to adopt toxic standards that protect the vast majority of people, including many tribal members who eat fish, and who have for far longer than any of us have been in this state.” (0071 – Columbia Riverkeeper, oral testimony at Portland hearing)

“I was a member of the Yellow Hawk health commission. And at one of our meetings, we were informed that we have forty tribal members that have cancer. So it was a big concern to me whether it's involving the - it must be the water, but I don't know. But I think that was the only thing I had to add. Oh, one more thing. We do have several wells that had a great number of PCB, I guess, which has passed, but they still are holding up in the wells, water level.” (0153 – Myrna Williams Tovey, oral testimony at Pendleton hearing)

“I was exposed to Agent Orange in 1966. I didn't know I had leukemia until 2006. That's how long it took for me, because I was such a healthy kid when I was eighteen. The male of the species is the most resistant... It's just like with Roundup, let's say, which everybody uses in their yards, and it's, ‘Oh man, that stuff ain't gonna hurt you.’ Oh no, not immediately. But twenty years from now, you'll wind up, wow, where did I get this cancer? Where did I get these polyps growing on my skin? Where did I get, you know, this leukemia? You know, where did I get all these diseases that you wind up with, you know? And no matter how little or how much, it all has effect. Again, because it all flows downstream.” (0172 - Reggie DeSoto, oral testimony at Eugene hearing)

“I remove the fat from my salmon, and I don't eat the skin anymore, which is unfortunate, because I always ate the skin. I love crispy salmon skin; it's hard to beat. But it's no longer an option for me until I see that the fish are coming back to their health, the toxin levels are level.” (0189 - David Liberty, oral testimony at Portland EQC meeting)

“So why does the Autism Research Institute correlate mercury toxicity to the disease? It is known that humans excrete heavy metals via their hair. Testing shows that babies with autism have only one eighth - one eighth the amount of mercury in their hair as normal babies do, so perhaps their ability to excrete heavy metals is impaired. Autistic baby's teeth have an average of three hundred percent more mercury than normal babies. So we're talking about a percentage of people who are more severely impacted than the national average, So I, as a parent, am here to support this increased level of scanning and regulation, and testing, because it might help the people with autism, And this is becoming an epidemic. It is growing quickly in the State of Oregon.” (0201 - Arron McNutt, oral testimony at Coos Bay hearing)

“... autism is one out of one hundred and fifty kids, and it is an epidemic. And a lot of that is environmental.” (0202 - Jody McCaffree, oral testimony, Coos Bay hearing)

“And it's been an ongoing battle with this thing about mercury. Sixes up river, for example - and Pam knows about this. There's been mercury in those streams and a lot of the other streams around here for years, (considered to be background?) When you have (ags?) and smolts, salmon and other fish going into that area, that's a very bad time of their life to have mercury around. So you get a lot of problem with that. But forestry people know about it, Pam knows about it, that being there, but they're not doing anything about it, because it's too expensive to go through and clean those streams out. So the problem is that there's mercury there, present, naturally, if you want to call it that way. We have mercury present in our environment. The light bulbs we're using nowadays have mercury in them. One of 'em blows up on you, as it did, and I took it over to DEQ, and it's not our problem, okay? One of those bulbs blows up, that little white cloud coming out of that bulb is mercury, okay? Now it's a lot of in the environment. People who have dental things have mercury in it. People who have rings on have mercury in it. Mercury's a very, very stable element, but it's very toxic at low quantities.” (0203 - Tom Forgatsch, Coos County Soil and Water Conservation District, oral testimony at Coos Bay hearing)

DEQ Response: DEQ is also concerned about toxic pollutants in the environment that may also lead to human health effects. This rulemaking is one step toward limiting the amount of toxic pollutants in Oregon's waters.

No changes were made to the proposed rules in response to these comments.

D. Comments regarding toxics reduction efforts

Many commenters representing municipalities, farmers, ranchers, foresters, and miners described specific activities they are doing to reduce toxic pollutants. (0010 - Robert Freres, Jr.; 0015 - Don Ellsworth; 0018 - James E. Bellknap; 0021 - City of Hermiston; 0022 - City of Cottage Grove; 0032 - Mark and Karen Kalsch; 0034 - City of Ontario; 0047 - Rick Stonex; 0048 - Lon and Sheri Wadekamper; 0052 - City of Port Orford; 0053 - Bob and Bonnie Shumaker; 0054 - Harold T. Nygren; 0055 - Barbara Eigner; 0077 - Jerry W. Marguth;

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0081 – ACWA; 0098 – Susan Waterman; 0099 – Brenda Kirsch; 0111 – Edith Schlossstein; 0112 – Metropolitan Wastewater Management Commission; 0113 – City of Portland; 0115 – Mark Milne, City of Pendleton, oral testimony at Pendleton hearing; 0116 – Lynn Shumway, oral testimony at Ontario hearing; 0119 – Doug Krahmer; 0125 – Howard Conner; 0127 – Dale Buck; 0128 – City of Stayton; 0130 – City of Astoria; 0135 – Baker County Natural Resources Advisory Committee; 0137 – Clean Water Services; 0139 – Kent Tresidder; 0147 – Joan Frick; 0149 – Water Environment Services; 0158 – City of Prineville; 0159 – Tracy Liskey, oral testimony at Portland EQC hearing; 0167 – Dan Hanthorn, City of Corvallis, public testimony at Eugene hearing; 0168 – Michelle Cahill, City of Eugene, public testimony at Eugene hearing; 0179 – Oak Lodge Sanitary District; 0184 – City of Salem; 0185 – Liz VanLeeuwen; 0191 – City of Gresham; 0195 – John P. Hassinger; 0196 – John Platt, oral testimony at Portland hearing; 0199 – Dave Messerle)

DEQ Response: DEQ acknowledges and supports the many actions that municipalities, farmers, ranchers, foresters, miners and others initiate and conduct to effectively reduce toxic pollutants.

No changes were made to the proposed rules in response to these comments.

E. Comments regarding fee increases

A few commenters expressed concern with DEQ fee increases. (0020 – Kelly Brown; 0065 – Donna Hubbard; 0067 – Brad Johnson, Umpqua Basin Water Association)

DEQ Response: These comments were forwarded to Chris Clipper, DEQ's rulemaking coordinator for the permit fee rulemaking.

No changes were made to the proposed rules in response to these comments.

F. Comments regarding specific Total Maximum Daily Loads (TMDLs) and other watershed concerns**Comment regarding the Umatilla River TMDL**

One commenter expressed concern about how DEQ is managing the TMDL in the Umatilla River. (0048 – Lon and Sheri Wadekamper)

Another commenter expressed concern about the mid-Snake TMDL:

“Oregon continues to allow Idaho to discharge elevated mercury into the headwaters of Jordan Creek. ... the mercury continues to contaminate Jordan Creek, Antelope Reservoir, Towhee River, Towhee Reservoir, the Snake River, and its reservoirs. Methyl mercury builds up in the fish and these water bodies, and limits fish consumption. Oh, DEQ's remedy for this is "Don't eat the fish." We sought remediation of this mercury contamination through the mid-Snake TMDL, but mercury was taken off the table by Oregon DEQ and Idaho DEQ for reasons that I do not understand to this day. Oregon and Idaho commissioned a study to remediate the contamination coming to Jordan Creek, and received the recommendations in 1995, but have delayed taking action.” (0157 – Clinton Shock, oral testimony at Ontario hearing)

Two commenters requested that DEQ develop a Mid Coast TMDL to deal with toxics. (0107 – Ray Kinney; 0169 – Erin King, oral testimony at Eugene hearing)

One commenter mentioned that TMDL implementation in the Klamath Basin would help restore fisheries and salmon:

“We're people of the lakes. Yahooskin means "people of the lake," or "people of the lake and marshes," and that's who we are. And even in this compromised situation we're in the Klamath Basin, we're working hard to restore our fisheries and our salmon. And I believe implementation of the TMDLs in that process is going to be important to us in our area.” (0181 – Klamath Tribes, oral testimony at Portland hearing)

DEQ received a list of literature from one commenter related to a conservation effect assessment project in the Calapooia watershed. (0180 – Steve Griffith, USDA Agricultural Research Service)

DEQ Response: DEQ’s management of individual TMDLs is outside the scope of this rulemaking. DEQ also appreciates the efforts of one commenter to provide information regarding the Calapooia watershed.

No changes were made to the proposed rules in response to this comment.

G. Comment regarding climate change

DEQ received one comment suggesting that all resources should focus on global climate change.

“It appears from your summation of the issue - and your input - that the only yardstick for measuring the impacts of this proposed rule is economic. Surely you’re aware that the economics of a situation are – or should be – much less important than the impacts that having such a “stringent” rule would have on our environment. Since global climate change is by far the most pressing issue we as humans have ever faced in our relatively short history on this planet, every issue simply has to be framed in the context of its effects on global climate change. We cannot keep on the same path that has led to the potentially life-threatening situation we find ourselves in today. We must rally all of the forces we have to address global climate change and we must do it now. Until we are able to do that, the only issue on our radar has to be this world-wide threat to continued life on this planet.” (0061 – Mike Higgins)

DEQ received one other comment noting that climate change was real. (0172 - Reggie DeSoto, oral testimony at Eugene hearing)

DEQ Response: DEQ appreciates the commenter’s perspective on the importance of global climate change. DEQ agrees global climate change is an important issue and has several programs focused on addressing climate change within the state of Oregon. The efforts related to climate change does not remove the need for Oregon to carry out its responsibilities under the Clean Water Act and to address the impact of toxic pollutants in Oregon’s waterbodies. As such, DEQ will not forego this rulemaking in favor of additional efforts to address climate change.

No changes were made to the proposed rules in response to these comments.

H. Comments regarding the turbidity rulemaking and the general 700-PM suction dredge mining permit

DEQ received a few comments related to DEQ’s 700-PM permit for suction dredge mining.

“The so called (Turbidity) standards have no science at all - if a person looked at a river as it is raining and the water is brown one would say someone must be dredging up stream, just look at all of this Turbidity. The water is brown for days and it is from bank to bank). As for being a pollutant, well, the contents of the rivers and streams have been put in place by these water ways and nature, these water ways move these gravel, sand, and sediment around every year on heavy runoff periods. To have a

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NPDES permit is about the most ridiculous idea. A polluted discharge by a dredger - how dumb - if anything, pollutants are being taken out of the water, mercury, lead.” (0144 – Louis Frick)

“We, the Oregon practitioners of in-stream recreational small scale mining, offer our assistance and stand ready to participate in any discovery program that uses respected scientific protocols and controls to determine the exact nature of environmental impact in-stream activities might have on fish and water quality, whereas no such data exists to date. Then, we will be happy to work on mitigating whatever, if any, problems are identified. ODEQ and the citizens of the State of Oregon will be better served if we all work together, in a partnership, towards a common goal. Discrimination, exclusion and abusive restrictions acted out towards one group of citizens, based on speculation and outside pressure, is unethical and constitutes an infringement of the Civil Rights of those citizens so afflicted and acted upon, when caused by the very agencies ordained to protect those very rights.” (0125 – Howard Conner; 0147 – Joan Frick)

“I want to continue to reduce water pollution in Oregon waters to the “maximum extent practicable” as provided in the Clean Water Act. Any regulation implemented that infringes on Placer Water Quality Management Area Plans and Rules should be based on best available Placer mining science. There are many studies that demonstrate the effects of Placer mining affecting water quality that demonstrate they are reasonable and practicable to modern Placer mining practices using Best Management Practices.” (0123 – Tom Quintal)

“And you also need to improve your turbidity standard, because it's virtually incomprehensible. I have a masters degree in education, and I couldn't explain it to you if you gave me fifty bucks.” (0173 – Cat Koehn, oral testimony at Salem hearing)

DEQ Response: The water quality standard for turbidity is currently undergoing review in a separate process than the toxics rulemaking. The 700-PM NPDES permit for suction dredge mining is outside the scope of this rulemaking.

No changes were made to the proposed rules in response to these comments.

I. Comments Regarding House Bill 2121

“The DEQ Administrator also mentioned “we are working with the legislature” to transfer NPDES regulation and authority from DEQ to ODA. The bill he was referring to is HB 2121, originating with ODA. DEQ has failed to notify the public making comments on NPDES permits (including myself) that the intended fate of NPDES regulation will be handed over to ODA. It is clear from reading HB2121 that all water quality control regulation authority can be transferred from DEQ/EQC to ODA. Also intended for regulatory diversion is water and pollution emanating from Confined Animal Feeding Operations, dairies, feedlots and chicken farms. It is completely unacceptable for the DEQ to be soliciting rulemaking comments while not disclosing its own agency activity intending rulemaking transfer to ODA.” (0150 – John Sundquist)

DEQ Response: Comments regarding House Bill 2121 are outside the scope of this rulemaking.

J. Comments Regarding Pesticide General Permit

DEQ received one comment regarding the proposed 2300A pesticide general permit (0142 – Jan Wroncy).

DEQ Response: Comments regarding the pesticide general permit are outside the scope of this rulemaking.

K. Comment regarding effectiveness of Area Plans and Need for Additional ODA Funding

“There are many agricultural chemicals on the toxics list, herbicides and pesticides, and the cooperation from DOA relies on the use of “Area Plans”. These plans don’t seem to have any teeth. Couple that with the fact DOA can’t find the money to track herbicides and pesticides and it becomes apparent that the only partner in this program is the NPDES permit holder. A fee per pound of pesticide sold so DOA can afford to track pesticides would be a good start toward making DOA a full partner.” (0115 –City of Pendleton)

DEQ Response: The authority and structure for Agricultural Water Quality Management Plans and Rules overseen by ODA were established by the Oregon legislature and by rules promulgated by ODA, which has authority to manage water quality and regulate activities on agricultural lands. As a result this comment is outside the scope of this rulemaking.

L. Comment Regarding House Bill 872

DEQ received one comment in opposition to House Bill 872.

DEQ Response: House Bill 872 is a legislative matter that is outside the scope of this rulemaking.

M. DEQ should ban pollutants that would be immeasurable under the new criteria

“Another viable option for DEQ to consider would be to propose an outright ban on some of the compounds that, under the new consumption rate, will be set at such low levels as to be immeasurable. or nearly so. When allowable quantities in water approach zero, it makes sense to consider regulations that remove the threat completely.” (0148 – Chris Gannon, Crooked River Watershed Council, oral testimony at Bend hearing)

“Things like phthalates need to be banned at the state level, not through an NPDES permit.” (0115 – Mark Milne, City of Pendleton, oral testimony at Pendleton hearing)

DEQ Response: DEQ acknowledges that one approach to reducing toxics is to ban certain pollutants. However, banning compounds is outside of the scope of this rulemaking and is not within DEQ’s authority, and therefore, no revisions were made in response to these comments.

N. Concern regarding mercury releases at Dorena Dam

One commenter expressed concern regarding the 401 certification at the Dorena Dam and how it was allowing releases of mercury downstream. (0170 – John Steele, oral testimony at Eugene hearing)

DEQ Response: DEQ’s handling of individual 401 certifications is outside the scope of this rulemaking. No revisions were made in response to these comments.

O. Comment about general sedimentation problems

One commenter expressed concern about how DEQ addresses sedimentation problems overall and in specific areas, such as the Willamette Basin, the Tualatin Basin, and the McKenzie River. (0173 – Catherine Koehn, oral testimony at Eugene hearing)

DEQ Response: DEQ’s handling of sedimentation issues is outside the scope of this rulemaking. No revisions were made in response to these comments.

P. Comment about the Three Basin Rule

One commenter requested that protections for river covered by the Three Basin Rule be strengthened. (0173 – Catherine Koehn, oral testimony at Eugene hearing)

DEQ Response: The Three Basin Rule is outside the scope of this rulemaking. No revisions were made in response to these comments.

Index of Public Comments

Rulemaking for Revised Water Quality Standards for Human Health Toxic Pollutants and Implementation Policies

Comment Period: December 21, 2010 - March 21, 2011, 5 p.m.



Note: To review oral testimony, please see Presiding Officers' Reports.

Commenter ID #	Name	Title	Affiliation or Organization	City	How Submitted
0001	Craig McCormack	Toxics Cleanup Program	Department of Ecology	Olympia	Email
0002	Mary Duvall			Clatskanie	Email
0003	Curtis Cude	Program Manager	Oregon Health Authority	Portland	Email
0004	Lyn Cornell			Corvallis	Email
0005	Sandra Ihrig			The Dalles	Email
0006	Sarah Eastman		Portland State University	Portland	Email
0007	Walter E. Reim			Leaburg	Email
0008	Pitchfork Rebellion Newspaper Form Letter (291) ¹				
0009	Matthew Riley			Oakland	Mail
0010	Robert Freres, Jr.	President	Freres Timber, Inc.	Lyons	Mail
0011	Daniel Laury				Email
0012	Richard Angstrom		Oregon Concrete and Aggregate Producers Association		Email
0012	Jon Chandler		Oregon Home Builders Association		Email
0012	Katie Fast		Oregon Farm Bureau Federation		Email
0012	John Ledger	Vice President	Associated Oregon Industries	Salem	Email
0012	Mark Nelson		Oregon Metals Industries Council		Email
0012	Craig Smith		Northwest Food Processors Association		Email
0012	Ray Wilkeson		Oregon Forest Industries Council		Email
0012	Terry Witt		Oregonians for Food and Shelter		Email
0013	Bill Christie				Email
0014	David M. Ehlers	Owner	J2E Tree Farm		Email
0015	Don Ellsworth			Ashland	Fax
0016	Teresa Epstein			Seaside	Email
0017	Vic Gilliam	Representative, District 18	Oregon House of Representatives		Email
0018	James E. Belknap			Cottage Grove	Mail
0019	Michael S. Meredith	Member	Snowy Butte Timberlands LLC	Medford	Email
0020	Kelly Brown			Pendleton	Email
0021	Ed Brookshier	City Manager	City of Hermiston	Hermiston	Mail
0022	Jan Wellman	Public Works Director	City of Cottage Grove	Cottage Grove	Mail, Email
0023	Kathy Ward				Email
0024	Farrell Larson			Ontario	Email
0025	Larry Kelley				Email
0026	Wes Hartman			Jacksonville	Mail
0027	Oregon Environmental Council Form Email (19) ²				
0028	Judith Kirby			Ontario	Email, Mail, Hearing-Ontario-Oral
0029	Frank Svejcar				Email
0030	Glen H. Spain	Northwest Regional Director	Pacific Coast Federation of Fisherman's Associations & the Institute for Fisheries Resources	Eugene	Email
0031	Jason Atkinson	Senator	Oregon State Senate	Salem	Mail
0031	Brian Boquist	Senator	Oregon State Senate	Salem	Mail

Attachment B
June 15-17, 2011, EQC meeting

Comments ID #	Name	Title	Affiliation or Organization	City	How Submitted
0031	Ted Ferrioli	Senate Republican Leader	Oregon State Senate	Salem	Mail
0031	Larry George	Senator	Oregon State Senate	Salem	Mail
0031	Fred Girod	Senator	Oregon State Senate	Salem	Mail
0031	Jeff Kruse	Senate Republican Whip	Oregon State Senate	Salem	Mail
0031	Frank Morse	Deputy Senate Republican Leader	Oregon State Senate	Salem	Mail
0031	David Nelson	Senator	Oregon State Senate	Salem	Mail
0031	Alan Olsen	Senator	Oregon State Senate	Salem	Mail
0031	Senator Bruce Starr	Deputy Senate Republican Leader	Oregon State Senate	Salem	Mail
0031	Chris Telfer	Assistant Senate Republican Leader	Oregon State Senate	Salem	Mail
0031	Chuck Thomsen	Senator	Oregon State Senate	Salem	Mail
0031	Doug Whitsett	Assistant Senate Republican Leader	Oregon State Senate	Salem	Mail
0031	Jackie Winters	Senator	Oregon State Senate	Salem	Mail
0032	Karen Kalsch		Kalsch Farm		Fax
0032	Mark Kalsch		Kalsch Farm		Fax
0033	J. Edward Vaughn		Vaughns' Farm and Orchard	Central Point	Email, Mail
0034	David L. Clark	Senior Vice President	HDR Engineering, Inc.	Boise	Email
0034	Joe Dominick	Mayor	City of Ontario	Ontario	Email, Hearing-Ontario-Oral
0034	Charles R. Mickelson P.E.	Public Works Director	City of Ontario	Ontario	Email, Hearing-Ontario & EQC-Oral
0035	Kimberly Swan	Water Resource Manager	Clackamas River Water Providers	Oregon City	Email
0036	Rosalind C. Sampson			Warm Springs	Mail
0037	Mary Saunders				Email
0038	Tribal Testimony Form Letter (66) ³				
0039	Legislative Form Email (14) ⁴				
0040	Carol Duby	Secretary to the Treasurer	SERBACO, INC.	Portland	Email
0041	Rennie Ferris	Owner	Ferris Landscaping	Newport	Email
0042	Fred Warner, Jr.	Chairman	Baker County Board of Commissioners	Baker City	Mail
0043	Will Newman II			Canby	Email
0044	Riverkeeper Form Email (153) ⁵				
0045	Northwest Coalition for Alternatives to Pesticides Form Email (44) ⁶				
0046	Shawn Donnille			Eugene	Mail
0047	Rick Stonex	Westside Tree Farm Manager	Lower Columbia Tree Farm, LLC	Clatskanie	Mail
0048	Lon Wadekampter		LGW Ranch	Hermiston	Mail, Fax
0048	Sheri Wadekampter		LGW Ranch	Hermiston	Mail, Fax, Hearing-EQC-Oral
0049	Gus Gates	Oregon Policy Manager	Surfrider Foundation	Florence	Email
0050	Melinda McComb			Newport	Email
0051	Ian Fergusson	Resources Director	Association of Northwest Steelheaders	Milwaukie	Email
0052	Michael Murphy	City Administrator	City of Port Orford	Port Orford	Email
0053	Bob Shumaker				Email
0053	Bonnie Shumaker				Email
0054	Harold T. Nygren			Hillsboro	Mail
0055	Barbara Eigner	Forestry		Portland	Mail
0056	Thomas H. Steinberg, Ph.D.			Eugene	Mail
0057	Doug Krahmer	Chair	Oregon Soil & Water Conservation Commission	Salem	Mail

Attachment B

June 15-17, 2011, EQC meeting

Comments ID #	Name	Title	Affiliation or Organization	City	How Submitted
0058	Lyle Bridge		City of La Grande WWTP		Email
0059	Jerry Smith			Eugene	Email
0060	Ingrid Esstrom FNP, M.Ed.		Infrared Breast Health		Email
0060	Jim Goes		Cybernos, LLC	Cottage Grove	Email
0060	Janice Snyder			Portland	Email
0061	Mike Higgins			Halfway	Email
0062	Ted Ferrioli	Senate Republican Leader	Oregon State Senate	Salem	Mail
0062	Doug Whitsett	Senator, District 28	Oregon State Senate	Klamath Falls	Hearing-Salem-Oral & Written
0063	Timothy M. Bliss		Bliss Enterprises LLC	Baker City	Email
0064	Frank Johnson			Vale	Email
0065	Brad Hubbard				Email
0065	Donna Hubbard				Email
0066	Dave Pranger	Weed Supervisor	Morrow County		Email
0067	Brad Johnson		Umpqua Basin Water Association	Roseburg	Email
0068	Tony DeFalco			Portland	Email
0069	Andrew Black			Eugene	Email
0070	Craig Calder				Email
0071	Laruen Goldberg	Staff Attorney	Columbia Riverkeeper		Email, Hearing-EQC-Oral, Portland-Oral
0071	Brett VandenHeuvel	Director	Columbia Riverkeeper	Hood River	Hearing-Pendleton-Oral, EQC-Oral
0072	Robert Keutta		Confederated Tribes of Siletz Indians	Siletz	Hearing-Portland-Oral
0072	Delores Pigsley	Tribal Chairman	Confederated Tribes of Siletz Indians	Siletz	Mail
0072	Stanley van de Wetering			Siletz	Hearing-Portland-Oral
0073	Steve Carter			Eugene	Email
0074	Robb Corbett	City Manager	City of Sutherlin	Sutherlin	Email
0075	Joe Schumacher				Email
0076	Leon Werdinger			Joseph	Email
0077	Jerry W. Marguth		Nixon Farms, Inc.	Junction City	Email
0078	Nina Bell	Executive Director	Northwest Environmental Advocates	Portland	Email, Hearing-Salem-Oral
0079	Michael Campbell		Oregon Water Quality Standards Group	Portland	Email, Hand. Mail
0080	Barry Bushue		Oregon Farm Bureau	Boring	Hearing-EQC-Oral
0080	Joe Hobson		Oregon Farm Bureau	Salem	Hearing-EQC-Oral
0080	Jennifer Shmikler	Regulatory Affairs Specialist	Oregon Farm Bureau	Portland	Email, Hearing-EQC-Oral
0081	Chris Fick		League of Oregon Cities		Email, Hearing-EQC-Oral & Written
0081	Janet Gillaspie		Oregon Association of Clean Water Agencies		Email, Hearing-EQC-Oral & Written;Hearing-Salem-Oral
0081	Mark Landauer		Special Districts Association of Oregon		
0082	Chris Jarmer	Director, Water Policy	Oregon Forest Industries Council	Salem	Email
0083	Michael Bussell	Director, Office of Water and Watersheds	USEPA Region 10	Seattle	Email
0083	Jannine Jennings		USEPA Region 10	Seattle	Hearing-Salem-Oral & Written
0084	Allison Hensey	Program Director, Healthy Food & Farms	Oregon Environmental Council	Portland	Email
0084	Teresa Huntsinger	Program Director, Clean & Healthy Rivers	Oregon Environmental Council	Portland	Email, Hearing-EQC-Oral
0085	Elwood Patawa	Chairman, Board of Trustees	Confederated Tribes of the Umatilla Indian Reservation	Pendleton	Fax, Mail, Hearing-EQC-Oral, Written, Form Ltr 0132
0086	Llewellyn Matthews	Executive Director	Northwest Pulp and Paper Association	Mercer Island	Email
0086	Kathryn VanNatta	Governmental Affairs Manager	Northwest Pulp and Paper Association	Hillsboro	Hearing-EQC-Oral
0087	Tom Fessler	Chair	Oregon State Board of Agriculture	Salem	Email

Attachment B

June 15-17, 2011, EQC meeting

June 15-17, 2011, EQC Meeting

Comments ID #	Name		Title	Affiliation or Organization	City	How Submitted
0087	Katy	Coba	Director	Oregon Department of Agriculture	Salem	Email
0088	Cliff	Bentz	Representative, District 60	Oregon House of Representatives	Salem	Mail
0088	Jason	Conger	Representative, District 54	Oregon House of Representatives		Mail
0088	Bill	Garrard	Representative, District 56	Oregon House of Representatives		Mail
0088	Bob	Jensen	Representative, District 58	Oregon House of Representatives		Mail
0088	Mike	McLane	Representative, District 55	Oregon House of Representatives		Mail
0088	Mike	Schauffer	Representative, District 48	Oregon House of Representatives		Mail
0089	Curtis	Martin	Water Resources Committee Chair	Oregon Cattlemen's Association	Salem	Hearing-EQC-Oral & Written
0089	Robert	Miller	Private Lands Chairman	Oregon Cattlemen's Association	Hornbrook	Hearing-Medford-Oral & Written
0089	Kay	Teisl	Executive Director	Oregon Cattlemen's Association	Salem	Fax
0090	Ann	Vileisis	President	Kalmiopsis Audubon Society		Email
0091	Marissa	Houlberg			Tualatin	Email
0092	Timothy	Delzer				Email
0093	Sandra	Joos, PhD			Portland	Email
0094	Dave	Kruse			Gladstone	Email
0095	Barbara	Gilson				Email
0096	Garland	Gilmore			Canyon City	Mail
0097	Sharon	Waterman	Chairman	Coos Soil & Water Conservation District	Coquille	Mail
0098	Sharon	Waterman		R&B Waterman Ranch, LLC	Bandon	Mail
0099	Brenda	Kirsch		Kirsch Family Farms, Inc.	St. Paul	Mail
0100	Liz	Hamilton	Executive Director	Northwest Sportfishing Industry Association	Oregon City	Email
0101	Jeffrey	Peterson	Principal Environmental Scientist	SLR International Corporation	West Linn	Email
0102	Dick	Nichols, P.E.	Senior Water Quality Engineer	Newton Consultants Inc.	Redmond	Email
0103	NO NAME				Selma	Email
0104	Ayala	Talpai			Marcola	Email
0105	Mary	Holbert				Email
0106	Cheryl B.	Cleveland, Ph.D.	Chair, CLA Dietary Assessment Working Group	Dow AgroSciences		Email
0106	Wendelyn	Jones, Ph.D.	Senior Director, Human Health Policy	CropLife America	Washington	Email
0107	Ray	Kinney				Email
0108	John K.	Lilly	President	Keno Irrigation District	Klamath Falls	Email
0109	Jim	Krahn	Executive Director	Oregon Dairy Farmers Association	Portland	Email
0110	Branda	Holly	Chairman	Baker County Republican Central Committee	Baker City	Fax
0111	Edythe	Schlossstein	Owner/Manager	Heritage Forest Products LLC	McMinnville	Fax, Mail
0112	Ron	Bittler	General Manager	Metropolitan Wastewater Management Commission	Springfield	Email, Mail, Hearing-EQC-Oral
0112	Michelle	Cahill	Wastewater Division Manager	Metropolitan Wastewater Management Commission	Springfield	Email, Mail
0113	Dean	Marriott	Director	City of Portland Bureau of Environmental Services	Portland	Email
0114	Wayne	Miller				Email
0115	Mark	Milne	Wastewater Superintendent	City of Pendleton	Pendleton	Email, Hearing-Pendleton-Oral
0116	Jerry	Franke	Manager	Burnt River Irrigation District	Hereford	Email, mail
0116	Lynn	Shumway	Chairman	Burnt River Irrigation District	Bridgeport	Hearing-Ontario-Oral
0117	Steve	Higgs	Attorney at Law	Perkins Coie LLP	Port	Hearing-EQC-Oral
0117	Mark	Willrett	Director of Public Works	City of Klamath Falls	Klamath Falls	Email, mail

Attachment B

June 15-17, 2011, EQC meeting

Comments ID #	Name	Title	Affiliation or Organization	City	How Submitted
0118	Jim James	Executive Director	Oregon Small Woodlands Association	Salem	Email
0119	Doug Krahmer		Berries Northwest, LLC	St. Paul	Email
0120	E. Martin Kerns		E. G. Kerns Ranches LLC	Klamath Falls	Email
0121	Stanley Petrowski	President/Director	South Umpqua Rural Community Partnership	Tiller	Email
0122	Kathy Krause			Portland	Email
0123	Tom Quintal			Salem	Email
0124	Alfred Hansen			Irrigon	Email
0125	Howard Conner			Salem	Email
0126	Brandy Humphreys	Environmental Resource Specialist	Confederated Tribes of the Grand Ronde Community of Oregon	Grand Ronde	Mail, Hearing-EQC-Oral
0126	Michael Karnosh	Ceded Lands Program Manager	Confederated Tribes of Grand Ronde	Grand Ronde	Hearing-Portland-Oral
0127	Dale Buck	Member	North Coast Basin Agricultural Water Quality Management Area Plan LAC	Cloverdale	Mail
0128	Brenda Kuiken	Sewer System Supervisor	City of Stayton	Stayton	Mail
0129	Larry Zweifel		Zweifel Farms	Tillamook	Mail
0129	Pamela Zweifel		Zweifel Farms	Tillamook	Mail
0130	Ken P. Cook	Public Works Director	City of Astoria	Astoria	Email, mail
0131	Carla Hervert			Eugene	Mail
0131	Fred Hervert			Eugene	Mail
0132	CTUIR Form Letter (198)⁷				
0133	Kevin Westfall	President	Coos/Curry County Farm Bureau		Email
0134	Gary Rehnberg	President	East Side Plating, Inc.	Portland	Email
0135	Baker County NRAC		Baker County Natural Resources Committee (NRAC)	Baker City	Email
0136	Darin Olson	Chair	Marion Soil & Water Conservation District	Salem	Email
0137	Bob Baumgartner		Clean Water Services		Hearing-Portland-Oral
0137	Roger Dilts	Regulatory Affairs Specialist	Clean Water Services		Email
0138	Chuck Chase	Executive Director	Eastern Oregon Mining Association		Email
0139	Kent Tresidder			Coquille	Email
0140	Don Buford		Dust Devil Mining Co.		Email
0141	Tamara Johnson, P.E.	Director, Water Engineering & Operations	Springfield Utility Board	Springfield	Email
0142	Jan Wroncy			Eugene	Email
0143	Dianne Barton	Water Quality Coordinator	CRITFC	Portland	Hearing-Salem & Coos Bay-Oral
0143	Bruce Jim	Chair	CRITFC	Warm Springs	Hearing-Bend-Oral & Written
0143	Aja DeCoteau	Watershed Dept. Manager	CRITFC	Portland	Hearing-EQC-Oral & Written
0143	Laura Gephart	Watershed Program Coordinator	CRITFC	Portland	Hearing-EQC-Written
0143	B. Paul Lumley	Executive Director	CRITFC	Portland	Email, mail, Hearing-Portland-Oral & Written
0143	Mitch Pond		CRITFC	Pendleton	Hearing-Salem-Oral & Written; Portland-Oral
0143	Wilbur Slockish		CRITFC	The Dalles	Hearing-Salem-Oral & Written
0143	Marc A. Whitman		CRITFC		Hearing-EQC-Oral
0143	Jon Kane		CRITFC	Portland	Hearing-EQC-Oral
0144	Louis Frick				Email
0145	Marie Bowers	1st Vice President, Legislative Chair	Oregon Women For Agriculture		Email
0146	Helen Moore	Executive Director	Water for Life, Inc.	Portland	Email
0147	Joan Frick			Jefferson	Email

Attachment B
June 15-17, 2011, EQC meeting

Comments ID #	Name	Title	Affiliation or Organization	City	How Submitted
0148	Chris Gannon		Crooked River Watershed Council	Prineville	Hearing-Bend-Oral & Written
0148	Charles Lang	Chair	Crooked River Watershed Council	Prineville	Email
0149	Chris Storey	Assistant County Counsel	Water Environment Services	Oregon City	Email
0150	John Sundquist			Coburg	Email
0151	David Webb			Walton	Email
0151	Mary Moffat			Walton	Email
0152	Leo Stewart	Vice Chairman	CTUIR	Pendleton	Hearing-Pendleton-Oral
0153	Myrna W. Tovey			Pendleton	Hearing-Pendleton-Oral
0154	Carl Merkle			Pendleton	Hearing-Pendleton-Oral
0155	Curtis W. Martin		V P Ranch	North Powder	Hearing-Ontario-Oral & Written
0156	Peggy Browne		Powder Basin Water & Stream Health Committee	Baker City	Hearing-Ontario-Oral
0157	Clinton C. Shock			Ontario	Hearing-Ontario-Oral
0158	Jerry Brummer	Public Works Superintendant	City of Prineville	Prineville	Hearing-Bend-Oral & Written
0159	Tracey Liskey			Klamath Falls	Hearing-EQC-Oral
0160	Chuck Lang			Prineville	Hearing-Bend-Oral & Written
0161	Dennis Baker	Water Reclamation Manager	City of Medford	Central Point	Hearing-Medford-Oral
0162	Glenn Archambault	Vice President	Jackson County Farm Bureau	Phoenix	Hearing-Medford-Oral
0162	Ronald Bjork	President	Jackson County Farm Bureau	Eagle Point	Hearing-Medford-Oral
0163	Keith F. Nelsen	President	Josephine County Farm Bureau	Kerby	Hearing-Medford-Oral
0164	Don Rowlett		Jackson County Cattlemen	Ashland	Hearing-Medford-Oral
0165	Charles Boyer			Eagle Point	Hearing-Medford-Oral
0166	Shin Takeda			Medford	Hearing-Medford-Oral
0167	Dan Hanthorn		City of Corvallis	Corvallis	Hearing-Eugene & EQC-Oral
0168	Michelle Cahill	Director, Wastewater Division	City of Eugene	Eugene	Hearing-Eugene-Oral
0169	Eron King			Blachly	Hearing-Eugene-Oral
0170	John Steel			Cottage Grove	Hearing-Eugene-Oral
0171	Day Owen			Greenleaf	Hearing-Eugene-Oral & Written
0172	Reggie DeSoto			Pleasant Hill	Hearing-Eugene-Oral
0173	Cat Koehn		Artists 4 Action	Fall Creek	Hearing-Eugene & Salem-Oral
0174	Jan Nelson			Eugene	Hearing-Eugene-Oral
0175	Dixie Lee Noland		Mountain Home Project	Brownsville	Hearing-Eugene-Written
0176	Kat Brigham			Pendleton	Hearing-EQC-Oral; Hearing-Coos Bay-Oral & Written
0177	Jack Giffen, Jr.		Confederated Tribes of the Grand Ronde	Grand Ronde	Hearing-EQC-Oral
0178	Ryan Branstetter			Portland	Hearing-EQC-Oral
0179	J. Michael Read		Oak Lodge Sanitation District		Hearing-EQC-Oral & Written
0180	Steve Griffith		USDA - Agricultural Research Service	Corvallis	Hearing-EQC-Oral & Written
0181	Don Gentry	Vice Chairman	The Klamath Tribes	Chilaquin	Hearing-EQC & Portland-Oral
0182	Peggy Browne	2nd Vice President	OBBF	North Powder	Hearing-EQC-Oral
0183	Doug Krahmer			St. Paul	Hearing-EQC-Oral
0184	Stephanie Eisner		City of Salem	Salem	Hearing-EQC-Oral & Written
0185	Liz VanLeeuwen	Chair	Linn County Soil & Water Conservation District	Halsey	Hearing--EQC-Oral
0186	Mark Mellbye		OSU Extension Service	Albany	Hearing-EQC-Oral
0187	Bobby Begay			The Dalles	Hearing-EQC-Oral
0188	Terry Witt	Executive Director	Oregonians for Food & Shelter	Salem	Hearing-EQC-Oral
0189	David Liberty			Hood River	Hearing-EQC-Oral
0190	Karla Kay Edwards		Cascade Policy Institute		Hearing-EQC-Oral

Attachment B
June 15-17, 2011, EQC meeting

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Commenter ID #	Name	Title	Affiliation or Organization	City	How Submitted
0191	Steve Fancher	Public Works Director	City of Gresham		Hearing-EQC-Written
0192	Jonathan Schlueter	Executive Director	Westside Economic Alliance	Tigard	Hearing-Salem-Oral
0193	Don Winishut, Sr.			Warm Springs	Hearing-Salem-Oral & Written
0194	Ivan Maluski	Conservation Director, Oregon Chapter	Sierra Club	Portland	Hearing-Salem-Oral
0195	John P. (Phil) Hassinger			Cove	Hearing-Portland-Oral & Written
0196	John Platt			Hillsboro	Hearing-Portland-Oral
0197	Victor Stevens			Portland	Hearing-Portland-Oral
0198	Howard Crombie		Confederated Tribes of the Coos, Lower Umpqua, & Siuslaw Indians	Coos Bay	Hearing-Coos Bay-Oral & Written
0199	Dave Messerle		Messerle & Sons	Coos Bay	Hearing-Coos Bay-Oral & Written
0200	Tom Younker	Vice Chair	Coquille Tribe	Coos Bay	Hearing-Coos Bay-Oral & Form Ltr
0201	Arron McNutt			North Bend	Hearing-Coos Bay-Oral
0202	Jody McCaffree			North Bend	Hearing-Coos Bay-Oral
0203	Tom Forgatsch	Director	Coos County Soil & Water Conservation District	Bandon	Hearing-Coos Bay-Oral
0204	Martin Andre	Board Member	Malheur County Soil & Water Conservation District	Ontario	Mail
0204	Tim Newton	Board Member	Malheur County Soil & Water Conservation District	Ontario	Mail
0204	Darrell Standage	Board Member	Malheur County Soil & Water Conservation District	Ontario	Mail

Comments Received After Close of Comment Period

DEQ did not consider these comments in drafting the proposed rules as they were received after the deadline of 5 p.m., March 21, 2011.

Late-01	Jenny Holmes	Environmental Ministries Director	Ecumenical Ministries of Oregon		Email, Received 3/21/2011 at 6:42 p.m.
Late-02	Marshall Gause			Eugene	Email, Received 3/21/2011 at 6:52 p.m.
Late-03	Rich Garber	Environmental Manager	Boise Inc.	Canby	Email, Received 3/21/2011 at 5:32 p.m. and 5:46 p.m.
Late-04	Maureen Anderson	President	Eastern Oregon Mining Association	Baker City	Mail, Received 3/23/2011
Late-05	Doug Brown		Crook-Wheeler County Farm Bureau	Prineville	Mail, Received 4/14/2011
Late-06	Matthew Kaminker			Portland	Email, Received 5/8/2011

¹ For the list of commenters in this group, see Attachment A.

² For the list of commenters in this group, see Attachment B.

³ For the list of commenters in this group, see Attachment C.

⁴ For the list of commenters in this group, see Attachment D.

⁵ For the list of commenters in this group, see Attachment E.

⁶ For the list of commenters in this group, see Attachment F.

⁷ For the list of commenters in this group, see Attachment G.

Attachment A

List of commenters for Commenter ID # 0008



Pitchfork Rebellion Form Letter (Newspaper)

Name	Title	Affiliation or Organization	Location	How Submitted
T. Acfom			Grants Pass	Mail
Alice Adams			Lorane	Mail
Mary Addams			Eugene	Mail
Blaise A. Adkison			Eugene	Mail
Sarah Adkison			Eugene	Mail
Valerie Anne			Springfield	Mail
Kathryn Anne			Milwaukie	Mail
Dennis Baker			Florence	Mail
Greg Baker			Williams	Mail
Jimmy Bell			Blachly	Mail
James Bemrose			Eugene	Mail
Peter Bergin			Cheshire	Mail
Cathy Beyer			Eugene	Mail
James Black			Eugene	Mail
Sekata Blue			Elmira	Mail
Stajah Blue			Elmira	Mail
Michelle Bousquet			Carlton	Mail
R. Bowmaw			Central Point	Mail
Christine Bradshaw			Springfield	Mail
Susan Brenner			Eugene	Mail
Penny Bridgman			Brownsville	Mail
Valerie Brooks			Veneta	Mail
Ollie Bucolo			Elmira	Mail
Carla Burkhart			Eugene	Mail
Mary Camp			Selma	Mail
Orville Camp			Selma	Mail
Mark Carma			Portland	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Adam	Casey			Eugene	Mail
Liz	Casey			Eugene	Mail
Rita	Castillo			Springfield	Mail
Nancy K.	Chroninger			Merlin	Mail
Steve	Chroninger			Merlin	Mail
Eddie	Clark			Eugene	Mail
James	Clarkson			Eugene	Mail
Jim	Clarkson			Eugene	Mail
Melody	Clarkson			Eugene	Mail
Tommy	Claxton			Monroe	Mail
Kristi	Conant			Eugene	Mail
Suzanne	Congdon			Eugene	Mail
Diane	Conrad			Cottage Grove	Mail
Elise	Corin			Eugene	Mail
Terry	Crawford			Selma	Mail
Wayne	Crawford			Selma	Mail
Avana	Crocker			Blachly	Mail
Jamon	Crocker			Deadwood	Mail
Sherly	Crooks			Portland	Mail
Katy	Crosslin			Eugene	Mail
Amy	Currey			Eugene	Hearing-Eugene-Newspaper
Michelle	D'Amico			Eugene	Mail
Barbara B.	Davis			Waldport	Mail
Mario	DiBenedetto			Corvallis	Mail
Jean	Denis			Eugene	Mail
Melda	Desalvo			Eugene	Mail
Diane	DeVillers			Eugene	Mail
Adam	DiBenedetto			Monroe	Mail
Christine	Donaldson			Cottage Grove	Mail
Lamech	Donaldson			Cottage Grove	Mail
Christine	Dopke			Corvallis	Mail
Matt	Dopke			Corvallis	Mail
Annette	Drager			Phoenix	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Dan	Dubach			Eugene	Mail
Harrison	Dubin			Eugene	Mail
Emma	Duzer-Burlat			Marcola	Mail
George	Ehasz			Creswell	Mail
Lucy	Ehasz			Creswell	Mail
Barbara	Elsen			Eugene	Mail
Angela	Englert			Marcola	Mail
Regine	Erickson			Eugene	Mail
Bettina	Evans			Eugene	Mail
Don	Everett			Eugene	Mail
Damian	Farah			Eugene	Mail
Laura	Farrelly			Eugene	Mail
Garry	Federow			Eugene	Mail
Joya	Feltzin			Cave Junction	Mail
Don L.	Ferrell			Eugene	Mail
Merideth	Ferrell			Eugene	Mail
Scott	Fife			Eugene	Hearing-Eugene-Newspaper
Heather	Figi			Eugene	Mail
Dezerae	Firestone				Mail
Kathy A.	Fitzgerald			Eugene	Mail
Ashley	Fly				Mail
Brian	Forge			Cottage Grove	Mail
Lenet	Galloway			Eugene	Mail
Lenet	Galloway			Eugene	Mail
Emmalyn	Garrett			Bandon	Mail
William M.	Gilbert			Eugene	Mail
T.	Glasow			Eugene	Mail
Ronald	Goldfarb			Eugene	Mail
Ben	Gouse			Eugene	Mail
John A.	Guske			Eugene	Mail
Wade	Guthrie			Eugene	Mail
Tom	Hahn			Eugene	Mail
Jodi	Haines			Grants Pass	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Elizabeth	Hall			Grants Pass	Mail
Rhonda	Hampton			Selma	Mail
Laurel	Hanley			Eugene	Mail
Paul	Hanson			Cave Junction	Mail
Eric	Hanson			Cave Junction	Mail
Paul	Hanson			Cave Junction	Mail
Michael	Hart			Eugene	Mail
Carla	Hervert			Eugene	Mail
Fred	Hervert			Eugene	Mail
Cindy	Herzog			Eugene	Mail
Gregory	Hickey			Selma	Mail
Susan	Hickey			Selma	Mail
Kata	Hill-Burke			Eugene	Mail
Arjen	Hoekstra			Eugene	Mail
Rob	Hoffman			Eugene	Mail
Marijette	Hop			Blachly	Mail
Allison	Huber			Grants Pass	Mail
Vera	Hulme			Grants Pass	Mail
Diana	Huntington			Eugene	Mail
Edward	Jacobsen			Brownsville	Mail
James	Jobe				Mail
Joshua	John			Cheshire	Mail
Karryl Anne	Johnson			Grants Pass	Mail
Laura	Johnson			Eugene	Mail
Lawrence E.	Johnson	Attorney at Law		Corvallis	Mail
Christine	Jones			Junction City	Mail
Julia	Jones			Grants Pass	Mail
Rachel	Jordan			Eugene	Mail
Jan	Kaggerud			Selma	Mail
Alan M.	Kapuler			Corvallis	Mail
Dylan	Kapuler			Corvallis	Mail
Eliyrea S.	Kapuler			Corvallis	Mail
Linda	Kapuler			Corvallis	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Prema	Kapuler			Corvallis	Mail
Joshua	Keim			Eugene	Mail
Kirpal	Khalse			Rogue River	Mail
Stephen	Kirkland			Kerby	Mail
Dori	Koberstein			Brownsville	Mail
Kelsie	Koberstein			Brownsville	Mail
N.	Lacchohm				Mail
Edward	Lamadore			Eugene	Mail
Kim	Larsen			Eugene	Mail
Belva	Lean			Eugene	Mail
Vicki	Levine			Eugene	Mail
Helen V.	Liguori			Eugene	Mail
Cathy	Lipe			Grants Pass	Mail
Reva	Lipe			Grants Pass	Mail
Sharon W.	Luchs			Eugene	Mail
D.	Maria			Eugene	Mail
Arlen	Markus			Dexter	Mail
Sita (Elizabeth)	Martin			Eugene	Mail
Kathleen	Mazzola			Malibu	Mail
Ursula	McCobb			Eugene	Mail
Eric	McEwen			Cave Junction	Mail
Eric	McEwen			Cave Junction	Mail
Joy	McEwen			Cave Junction	Mail
Shannon	McGrath			Eugene	Mail
Mark	McNutt			Deadwood	Mail
Mary	McNutt			Deadwood	Mail
Ree	McSween			Eugene	Mail
Mel	Meagle			Brownsville	Mail
Kathy	Meckling			Selma	Mail
Patricia	Mentzer			Greenleaf	Mail
Tom	Miars			Eugene	Mail
William	Mindale			Selma	Mail
Shirlee	Mitchell			Cave Junction	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Frederick	Mittleman			Cave Junction	Mail
William M.	Mondale			Selma	Mail
Audrey	Moore			Selma	Mail
Joel	Moore			Selma	Mail
Margaret M.	Morton			Eugene	Mail
Al	Muelluefer			Klamath	Mail
Paula	Naas			Eugene	Mail
Rich	Nawa			Grants Pass	Mail
Eric	Nicholson			Eugene	Hearing-Eugene-Newspaper
Joe	Ninnemann			Cave Junction	Mail
Carlis	Nixon			Eugene	Mail
NO NAME				Cottage Grove	Mail
Karen	Oich			Eugene	Mail
Steve	Orr			Cave Junction	Mail
Robert L.	Pacina			Eugene	Mail
Elden	Parchim			Cave Junction	Mail
Ruth Anne	Paul			Eugene	Mail
Cynthia	Peers			Lakeside	Mail
Amy	Peterson			Cave Junction	Mail
Peree	Peterson			Cave Junction	Mail
Margaret	Philhower			Cave Junction	Mail
Mike	Piefer			Cheshire	Mail
Susan	Piefer			Cheshire	Mail
Holly	Piper			Marcola	Mail
Chris	Pondelick			Grants Pass	Mail
Laura	Poueymirou			Eugene	Mail
Marnie	Powell			Corvallis	Mail
Peter A.	Powers			Eugene	Mail
Margaret K.	Pratt			Eugene	Mail
Meghan	Quinn			Eugene	Mail
Eugene	Rahn			Rogue River	Mail
Amy	Red Feather			Eugene	Mail
Richard A.	Reese			Eugene	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
David	Resseguie			Eugene	Hearing-Eugene-Newspaper
Jennifer	Rivais			Monroe	Mail
Ray	Robinson			Deadwood	Mail
Leah	Robinson			Williams	Mail
Laura	Romeyn			Eugene	Mail
Aldine	Rubinstein			Eugene	Mail
R.M.	Saceo			Cave Junction	Mail
Paul	Safov			Eugene	Mail
John	Sakewitz			Milwaukie	Mail
Marianne K.	Sakewitz			Milwaukie	Mail
Raven	Sara			Grants Pass	Mail
Bill	Saunders			Eugene	Mail
Laura	Sauter			Salem	Mail
Georgia	Schaefer			Eugene	Mail
Susanne	Shaenzer			Eugene	Mail
Roger	Scheusner			Selma	Mail
Margaret	Scott			Marcola	Mail
Linda L.	Sebring			Corvallis	Mail
Nicole	Setliff			Eugene	Mail
Tom	Severns			Cave Junction	Mail
Sanford N.	Shipp			Brownsville	Mail
Jerry L.	Shultz			Marcola	Mail
Licia A.	Shultz			Marcola	Mail
Nicholas	Siegrist			Eugene	Mail
Lisa J.	Sieracki			Eugene	Mail
Roxy	Sincerny			Selma	Mail
Brian	Slatsky			Eugene	Mail
Don	St. Clair			Eugene	Hearing-Eugene-Newspaper
Jocelyne	Stam			Eugene	Mail
David	Steiner			Cave Junction	Mail
William	Steinle				Mail
JoAnne	Stone			Cave Junction	Mail
Joanne	Stumpf			Grants Pass	Mail

Name		Title	Affiliation or Organization	Location	How Submitted
Diane	Sullivan			Grants Pass	Mail
Micheal	Sunanda		ONess Press	Eugene	Mail
Sean	Sweeney			Dexter	Mail
Ayala	Talpai			Marcola	Mail
R	Talpai			Marcola	Mail
Oliver	Thornton			Eugene	Mail
William K.	Tobias			Corvallis	Mail
Ashlee	Tomas			Eugene	Mail
Allison	Trafton			Ashland	Mail
Clare	Tucker			Eugene	Mail
Desiree	Tullos			Corvallis	Mail
Steve	Utt			Ashland	Mail
Charles	VanDeusen			Eugene	Mail
Kay	W			Cave Junction	Mail
Kristin	Wade			Eugene	Hearing-Eugene-Newspaper
Geraldine	Wagner			Eugene	Mail
E.	Waldin			Cave Junction	Mail
Mary	Walgrave			Grants Pass	Mail
Jack	Walker			Selma	Mail
Janet	Walker			Selma	Mail
Todd	Wangsgard			Grants Pass	Mail
Ray	Welberg			Cave Junction	Mail
Joshua	Welch			Eugene	Mail
Richard	Whyte			Eugene	Mail
Julia	Wildwood			Eugene	Mail
Cody	Willier			Eugene	Mail
Leslie	Wingate			Cave Junction	Mail
Elaine	Wood			Selma	Mail
Mary	Woulfe-Consiglio			Westlake	Mail
Commenters who provided comments in addition to the form letter/email					
Carol	Ach			Leaburg	Mail
Gloria	Bell			Blachly	Mail, Hearing-Eugene-Written

Name		Title	Affiliation or Organization	Location	How Submitted
Cynthia	Biles			Springfield	Mail
Alex	Cesanni			Blachly	Hearing-Eugene-Written
Peter	Consiglio			Westlake	Mail
Deborah	Craig			Eugene	Mail
Neila	Crocker			Blachly	Mail, Hearing-Eugene-Written
Mora	Dewey			Cottage Grove	Mail
Renee	Esposito			Eugene	Mail
Rikki	Estrada			Vida	Hearing-Eugene-Written
Sebastian	Fraser			Creswell	Hearing-Eugene-Written
Daniel	Gee			Blachly	Mail, Hearing-Eugene-Written
Maya	Gee			Blachly	Hearing-Eugene-Written
Mary	Gibney			Deadwood	Hearing-Eugene-Written
Bob	Halbert			Springfield	Mail
NO NAME	Imeligo			Blachly	Hearing-Eugene-Written
Eron K.	King			Blachly	Mail, Hearing-Eugene-Written
Matthew	Johnson	Attorney at Law		Eugene	Mail
Karen L.	Moore			Eugene	Mail
Nancy	Nichols			Deadwod	Mail
Nena	Lovinger			Fall Creek	Mail
Laura M.	Ohanian			Eugene	Mail
Peter M.	Graham			Marcola	Mail
David I.	Piccioni			Eugene	Mail
Bette	Porter			Eugene	Mail
Ryan	Putschler			Springfield	Hearing-Eugene-Written
Kevin	Raymond			Blachly	Hearing-Eugene-Written
Robert	Emmons			Fall Creek	Mail
Brody G.	Schmidt			Eugene	Mail, Hearing-Eugene-Written
Christine	Schmidt			Eugene	Mail, Hearing-Eugene-Written
Mark	Schmidt			Eugene	Hearing-Eugene-Written
Roslyn	Schmidt			Eugene	Mail, Hearing-Eugene-Written
Patricia	Stutzman			Florence	Mail
Andrea	Taylor			Eugene	Mail
Rowan	Waking			Blachly	Hearing-Eugene-Written

Name		Title	Affiliation or Organization	Location	How Submitted
Kay	Wiley			Eugene	Mail
Sunni	Williams			Deadwood	Mail, Hearing-Eugene-Written

Attachment B

List of commenters for Commenter ID # 0027



Oregon Environmental Council (OEC) Form Email

Name		Title	Organization	City	How Submitted
Carine	Arendes			Portland	Email
Becky	Bodonyi			Portland	Email
Wendy	Buchanan			Portland	Email
Heather	Evergreen			Portland	Email
Emily	Kennedy			Portland	Email
Susan	Koger			Salem	Email
Heather	Lindeen			Aurora	Email
Jerry	Melton			Corvallis	Email
Karen	Pazucha			Portland	Email
Antoinette	Pietka			Portland	Email
Mary	Priem			Portland	Email
Lise	Rein			Eugene	Email
Caroline	Skinner			Portland	Email
Joanne	Skirving			Portland	Email
Jackie	Strauss			Portland	Email
Carol	Turtle			Portland	Email
Kyenne	Williams			Portland	Email
Commenters who provided comments in addition to the form letter/email					
Randall	Ireson			Salem	Email
Susan	Millhauser			Portland	Email

Attachment C

List of commenters for Commenter ID # 0038



Tribal Testimony Form Letter

Name		Title	Organization	City	How Submitted
Timothy E.	Addleman	Chief of Police	CTUIR	Pendleton	Hearing-Pendleton-Written
Aaron T.	Ashley			Pendleton	Hearing-EQC-Form Ltr
Margarite A.	Becenti			Pendleton	Hearing-EQC-Form Ltr
Bobby J.	Benton			Cayuse	Hearing-EQC-Form Ltr
Lawanda	Bronson			Pendleton	Hearing-EQC-Form Ltr
Amanda	Brown			Pendleton	Hearing-EQC-Form Ltr
Christopher L.	Buford			Pendleton	Hearing-EQC-Form Ltr
Julie A.	Burke			Pendleton	Hearing-EQC-Form Ltr
Rebecca L.	Burke			Pendleton	Hearing-EQC-Form Ltr
Babette	Campo				Hearing-EQC-Form Ltr
Fermore	Craig, Sr.				Hearing-EQC-Form Ltr
Mariece	Dave			Pendleton	Hearing-EQC-Form Ltr
Michelle	DeRocher			Adams	Hearing-EQC-Form Ltr
Mia	Freeman			Pendleton	Hearing-Pendleton-Written
Adele	Guyer			Pendleton	Mail, Hearing-EQC-Form Ltr
Cecelia D.	Husted			Adams	Hearing-EQC-Form Ltr
Daniel	Jim			Pendleton	Hearing-Pendleton-Written
Judith A.	Johnson			Pendleton	Hearing-Pendleton-Written
Linda R.	Jones			Pendleton	Hearing-EQC-Form Ltr
Lynn Sue	Jones			Pendleton	Hearing-EQC-Form Ltr
Roberta A.	Kipp			Pendleton	Hearing-EQC-Form Ltr
Joseph A.	Lavador, Jr.			Pendleton	Hearing-EQC-Form Ltr
Marcus L.	Luke II	General Council	CTUIR	Pendleton	Email, Hearing-EQC-Form Ltr
Clarese L.	McConnell			Pendleton	Mail, Hearing-EQC-Form Ltr
Damon	McKay			Pendleton	Mail, Hearing-EQC-Form Ltr
Samuel	McKay			Kennewick	Hearing-EQC-Form Ltr
Trish	McMichael				Hearing-EQC-Form Ltr

Name		Title	Organization	City	How Submitted
Randall	Melton			Pendleton	Hearing-EQC-Form Ltr
Antone	Minthorn			Adams	Mail
Janene	Morris			Pendleton	Hearing-Pendleton-Written
Donna	Nez			Pilot Rock	Hearing-EQC-Form Ltr
NO NAME					Hearing-EQC-Form Ltr
NO NAME					Hearing-EQC-Form Ltr
NO NAME					Hearing-EQC-Form Ltr
Travis	Olsen			Pendleton	Hearing-EQC-Form Ltr
Teresa	Parker			Pendleton	Hearing-Pendleton-Written
Kathryn A.	Patrick			Pendleton	Hearing-Pendleton-Written
Leigh	Pinkham-Johnston			Pendleton	Hearing-EQC-Form Ltr
Ronald J.	Pond			Pendleton	Hearing-EQC-Form Ltr
Paula J.	Post			Hermiston	Hearing-EQC-Form Ltr
Imogene D.	Qumawunu			Pendleton	Hearing-Pendleton-Written
Celeste	Reves			Pendleton	Hearing-EQC-Form Ltr
Noelle	Richards			Pendleton	Hearing-EQC-Form Ltr
Andrea F.	Rodriguez			Pendleton	Mail, Hearing-EQC-Form Ltr
Annette	Sampson			Pendleton	Hearing-Pendleton-Written, EQC-Form Letter
Cathy	Sampson-Kruse			Pendleton	Hearing-Pendleton-Written; EQC-Form Letter
Mariah	Sampson			Yakima	Hearing-EQC-Form Ltr
Rose	Sampson				Hearing-EQC-Form Ltr
Sandra	Sampson			Pendleton	Hearing-EQC-Form Ltr
Cheryl	Shippentower			Pendleton	Hearing-EQC-Form Ltr
Rosenda	Shippentown			Pendleton	Hearing-Pendleton-Written, EQC-Form Letter
Rosandra	Shipputown			Pendleton	Mail
Annie	Smith			Pendleton	Hearing-Pendleton-Written
Leila	Spencer			Pendleton	Hearing-EQC-Form Ltr
Michelle	Thompson			Adams	Hearing-Pendleton-Written, EQC-Form Letter
Jiselle Halfmoon	Thompson			Pendleton	Hearing-EQC-Form Ltr
Melissa	Van Pelt			Pendleton	Hearing-Pendleton-Written
Dara	Williams			Pendleton	Hearing-Pendleton-Written
Marjorie	Williams-Waheneka			Pendleton	Hearing-EQC-Form Ltr
Shalaya	Williams				Mail

Name		Title	Organization	City	How Submitted
Leland J.	Wilson			Pendleton	Mail
David	Wolf, Jr.			Adams	Hearing-EQC-Form Ltr
Aaron	Worden			Pendleton	Hearing-EQC-Form Ltr
Commenters who provided comments in addition to the form letter/email					
Jennifer Karston	Engum, Ph.D.			Pendleton	Hearing-EQC-Form Ltr
Chris	Fulton	Fisheries Habitat Biologist	CTUIR		Hearing-EQC-Form Ltr
Joan C.	Watlamet				Hearing-EQC-Form Ltr

Attachment D

List of commenters for Commenter ID # 0039



Legislative Form Email

Name		Title	Affiliation or Organization	City	How Submitted
R.	Beers	Owner	Tree Farm	Eugene	Email
Deanna	Camp	Director of QA/QC	Boardman Foods, Inc.	Boardman	Email
Michael	Camp	Line Mechanic	Boardman Foods, Inc.	Boardman	Email
Fred	Duckwell	President	Duckwall Fruit	Hood River	Email
Sam	Fierro	Branch Manager	Security Contractor Services	Portland	Email
Harold	Foutz	Controller	Wildish Land Company	Eugene	Email
Rob	Freres	President	Freres Lumber Co.	Lyons	Email
Christine	Gyllenberg	Controller	Gyllenberg Equipment, Inc.	Baker City	Email
Karen	Kegler			Boardman	Email
Lawrence	Lear		Lear Farms	Condon	Email
Debbie	Radie			Boardman	Email
Gary	Rehnberg	President	East Side Plating, Inc.	Portland	Email
Denzil	Robbins	President	Robbins Farm Equipment, Inc.	Baker City	Email
Hugh	VanderHeul			Corvallis	Email

Attachment E

List of commenters for Commenter ID # 0044



Riverkeeper Form Email

Name		Title	Affiliation or Organization	City	How Submitted
John	Adams			Jacksonville	Email
Amanda	Alford			Ashland	Email
Mike	Allen			Troutdale	Email
Carol	Ampel			Medford	Email
Stephen	Bachhuber			Happy Valley	Email
Tom	Baldwin			Ashland	Email
Brian	Beinlich			North Plains	Email
Donna	Benjamin			Portland	Email
Geraldine	Bish			Talent	Email
Mick	Bress			Gold Beach	Email
Theresa	Bush			Grants Pass	Email
Michael	Carter			Portland	Email
Michael	Chapman			Portland	Email
Eileen	Chieco			Ashland	Email
Michelle	Cleaver			Ashland	Email
Elizabeth	Cohen			Fall Creek	Email
Barbara	Comnes			Ashland	Email
Leslie	Cox			Gold Hill	Email
Edward	Craig			Eugene	Email
Jo	Cullumbine			Ashland	Email
Carol	Custodio			Ashland	Email
Clark	Custodio			Ashland	Email
Daniel	Dalegowski	City Councilor		Cave Junction	Email
Oceanah	D'amore			Talent	Email
Amu	Danielson			Portland	Email
Shane	Daugherty			Bandon	Email
Adele	Dawson			Florence	Email

Name		Title	Affiliation or Organization	City	How Submitted
Dorothy	Decker			Ashland	Email
Chad	Derosier			Portland	Email
Charles	Descombes			Portland	Email
Melba	Dlugonski			Portland	Email
Don	Dolan			Ashland	Email
Janet	Dolan			Ashland	Email
Bruce	Donelson			Selma	Email
Glenn Roger	Dorband			Astoria	Email
Wendy	Duckhorn			Ashland	Email
Susan	Dunaway			Grants Pass	Email
Frances	Dunham			Ashland	Email
JoAnne	Eggers			Ashland	Email
Forrest	English			Ashland	Email
Bud	Erland			Portland	Email
Angela	Fazzari			Portland	Email
Joya	Feltzin			Cave Junction	Email
Fred	Fleetwood			Trail	Email
Greg	Freer			Grants Pass	Email
Christy	Fuller			Sunrise Beach	Email
Charleyne	Gates			Eugene	Email
Kate	Geary			Ashland	Email
Monica	Gilman			Estacada	Email
Asha	Goldstein			Ashland	Email
James	Grauer			Williams	Email
Rita	Grauer			Williams	Email
Josh	Halloway			Ashland	Email
Rhonda	Hampton			Selma	Email
Robert	Harvey			Ashland	Email
Maura	Hayes			Ashland	Email
Juliette	Hedgecock			Williams	Email
Carla	Hervert			Eugene	Email
Opie	Heyerman			Ashland	Email
Jeff	Hogg			Eugene	Email

Name		Title	Affiliation or Organization	City	How Submitted
Ann	Hollyfield			Seal Rock	Email
Karen	Horn			Ashland	Email
Karen	Horn			Ashland	Email
Judy	Hoyle			Cave Junction	Email
Lester	Hoyle			Cave Junction	Email
Brian	Hudgins			Wilbur	Email
Koema	Hummingbird			Ashland	Email
Jay	Humphrey			Estacada	Email
Courtlandt	Jennings			Ashland	Email
Wayne	Kelly			Ashland	Email
Robert	Kingsnorth			Central Point	Email
Michael	Kloor			Ashland	Email
Basey	Klopp			Bend	Email
Caleb	Laieski			Phoenix	Email
Christina	LaPlante			Grants Pass	Email
George	Lescher			Ashland	Email
Beth	Levin			Ashland	Email
Jon Carlson	Levin			Ashland	Email
Lars	Limburg			Springfield	Email
Claudia	Little			Ashland	Email
Judy	Little			Ashland	Email
Jim	Lockhart			Portland	Email
Herbert	Long			Ashland	Email
Michael	Lovejoy			Helix	Email
Patricia	Lovejoy			Helix	Email
Sara	Lovelady			Ashland	Email
Pamela	Lucas			Ashland	Email
Adam	Marlow			Portland	Email
M.	McGillivray			Eugene	Email
Wency	McGowan			Roseburg	Email
Charles Otter	McSweeney			Selma	Email
Susan	Menanno			Ashland	Email
Sue	Mendelson			Ashland	Email

Name		Title	Affiliation or Organization	City	How Submitted
Jennifer	Miatke			Ashland	Email
Ayani	Mikasi			Ashland	Email
David	Mildrexler			La Grande	Email
Veronica	Miller			Veneta	Email
Edith	Montgomery			Ashland	Email
Robert	Mumby			Phoenix	Email
Milton	Nelson			Port Orford	Email
Hailee	Newman			Bend	Email
Stu	O'Neill			Ashland	Email
Dakota	Otto			Ashland	Email
Dia	Paxton			Ashland	Email
Herve	Perreault			Cottage Grove	Email
Allan	Peterson			Ashland	Email
Sean	Peterson			Eugene	Email
Stu	Philips			Eugene	Email
Gary	Powell			Ashland	Email
John	Rancher			Portland	Email
Hazel	Reagan			O'Brien	Email
M.	Riley			Oakland	Email
Alicia	Ritter			Seaside	Email
Marcia	Rodine			Ashland	Email
Melissa	Schweisguth			Ashland	Email
Drake	Scott			Ashland	Email
Will	Sears			Talent	Email
Bonnie	Shaffer			Ashland	Email
Donna	Sharp			Veneta	Email
Gabriel	Sheridan			Portland	Email
Emily	Skibinski			Ashland	Email
Alan	Sleep			Hillsboro	Email
Thomas	Smith			Eugene	Email
Louis	Smith				Email
Scott	Sonenshine			Ashland	Email
Julian	Spalding			Talent	Email

		Title	Affiliation or Organization	City	How Submitted
Lila	Spiritwalker			Rogue River	Email
Kathy	Stasing			Ashland	Email
Kathy	Stasny			Ashland	Email
Bernard	Stoffel			Ashland	Email
Judi	Stratton			Jacksonville	Email
John M.	Sully			Ashland	Email
Alberta	Swan			Ashland	Email
Amber Gayle	Thalmayer			Eugene	Email
Eva	Thiemann			Jacksonville	Email
Jeff	Thompson			Medford	Email
Janet	Thompson			Ashland	Email
Stephanie	Tidwell			Ashland	Email
Paul	Torrence			Williams	Email
Sarah	Vaile			Ashland	Email
Harlan	Walker-Young			Wolf Creek	Email
Anita	Ward			Klamath Falls	Email
Vonda	Welty			Eugene	Email
Frank	Wetmore			Gold Beach	Email
Gary	Wickham			Port Orford	Email
Margery	Winter			Ashland	Email
Leona J.	Wobbe			Medford	Email
Heidi	Wolfe			Applegate	Email
Elaine	Wood			Selma	Email
Commenters who provided comments in addition to the form letter/email					
Alexa	Wiley				Email
Caroline	Skinner			Portland	Email
Laurie	Caplan			Astoria	Email
Rick	Till				Email

Attachment F

List of commenters for Commenter ID # 0045



Northwest Coalition for Alternatives to Pesticides (NCAP) Form Email

Name		Title	Affiliation or Organization	How Submitted
Carol	Ach			Email
H.	Alomran			Email
Susan	Ammiro			Email
Stephen D.	Auerbach, Ph.D.			Fax
Jason	Blake			Email
Linda	Burdwell			Email
Eileen	Chieco			Email
Susanna	DeFazio			Email
Dorothea	Dorenz			Email
Sally	Dubats			Email
Paul	Engelmeyer			Email
Dianne	Ensign			Email
Arthur	Farley			Email
Jasmine	Filley, M.A.T.			Email
Laeh-Wendy	Garfield			Email
Dianne	Gorveatt			Email
Chad	Hoffman			Email
Susan	Hogg			Email
Harry B.	Houchins			Email
Nyla L.	Jebousek			Email
Karen	Johnson	Principal Broker	Tall Trees Realty	Email
Callie	Jordan			Email
Anita	Jottrand			Email
Paul C.	Katen, Ph.D.			Email
Madeline	Landis			Email
Tom	Landis			Email
Jenya	Lemeshow	Licensed Massage Therapist	Synergy Massage	Email
Wendy	Loren, MS			Email
Shannon	McBride			Email

Name		Title	Affiliation or Organization	How Submitted
Leslie	McClanahan-Hardy			Email
Steve	Miesen			Email
Nancy	Miller			Email
Chris	Pellett			Email
Gary	Pellett			Email
Fran	Recht			Email
Steven F.	Salman			Email
Zeta	Seiple			Email
Shephard	Smith		Soilsmith Services, Inc.	Email
Cheryl	Thoen			Email
Dee	Tvedt			Email
Susan	Viani			Email
Rebecca	Vincent			Email
Sally	White			Email
Rachael	Zahler			Email

Attachment G

List of commenters for Commenter ID # 0132



CTUIR Form Letter

Name	Title	Affiliation or Organization	City	How Submitted
Timothy E. Addleman	Chief of Police	CTUIR	Pendleton	Mail
Andrea Alexander				Hearing-Coos Bay-Form Ltr
Janelle Anderson			Beavercreek	Mail
James Andrews				Hearing-Portland-Form Ltr
Sharon Arceneaux			Portland	Hearing-Portland-Form Ltr
Nancy Asborne			Clatskanie	Hearing-Coos Bay-Form Ltr
Aaron T. Ashley			Pendleton	Mail
Aaron Aust			Gresham	Hearing-Portland-Form Ltr
Travis Axtell			Scappoose	Hearing-Portland-Form Ltr
Kyle Bauman			Clackamas	Hearing-Portland-Form Ltr
Margarite A. Becenti			Pendleton	Mail
Bobby J. Benton			Cayuse	Mail
Mary A. Boyd			Troutdale	Hearing-Portland-Form Ltr
Lynneil A. Brady			Owyhee	Hearing-Coos Bay-Form Ltr
Ron Brainard			Lebanon	Hearing-Coos Bay-Form Ltr
Warren Brainard			Springfield	Hearing-Coos Bay-Form Ltr
Toni Ann Brend			Charleston	Hearing-Coos Bay-Form Ltr
Chris Brigham			Bonners Ferry	Mail, Hearing-EQC-Form Ltr
Daniel Brigham			Cascade Locks	Mail, Hearing-EQC-Form Ltr
N. Kathryn Brigham			Pendleton	Hearing-Coos Bay-Form Ltr
Robert M. Brigham			Pendleton	Mail, Hearing-EQC-Form Ltr
Terrie L. Brigham			Pendleton	Mail, Hearing-EQC-Form Ltr
Joseph P. Brishois			Willamina	Hearing-EQC-Form Ltr
Sharon Brody			Toppenish	Hearing-Coos Bay-Form Ltr
Bryson G. Bronson			Pendleton	Mail, Hearing-EQC-Form Ltr
James Bronson, Jr.			Pendleton	Mail, Hearing-EQC-Form Ltr
Lawanda Bronson			Pendleton	Mail
Erica Buckner			Portland	Hearing-Portland-Form Ltr

Name		Title	Affiliation or Organization	City	How Submitted
Christopher L.	Burford			Pendleton	Mail
Julie A.	Burke			Pendleton	Mail, Hearing-EQC-Form Ltr
Cora L.	Burns			Pendleton	Mail
Reg	Butler, Sr.			Siletz	Hearing-Coos Bay-Form Ltr
Lillie	Butler			Siletz	Hearing-Coos Bay-Form Ltr
Darren L.	Cagley			Myrtle Point	Hearing-Coos Bay-Form Ltr
Douglas	Campbell			Portland	Hearing-Coos Bay-Form Ltr
James	Campbell			Cascade Locks	Mail, Hearing-EQC-Form Ltr
Kim Brigham	Campbell			Cascade Locks	Mail, Hearing-EQC-Form Ltr
G. Paul	Cloutier			Beaverton	Hearing-Coos Bay-Form Ltr
Roberta L.	Conner			Pendleton	Mail
Jill	Conrad			Richland	Hearing-Coos Bay-Form Ltr
Fermore J.	Craig, Sr.			Adams	Mail
Mariece	Dave			Pendleton	Mail
Penny A.	DeLol			Willamina	Hearing-EQC-Form Ltr
Michelle	DeRocher			Adams	Mail, Hearing-EQC-Form Ltr
Catherine	Dickson			La Grande	Mail
Phillip	Dieher			Forks	Hearing-Coos Bay-Form Ltr
Sami Jo	Difuntorum			Newport	Hearing-Coos Bay-Form Ltr
Bryan	Duggan			Coos Bay	Hearing-Coos Bay-Form Ltr
Melissa	Edwards			Portland	Hearing-Portland-Form Ltr
Sara	Engeldinger			Milwaukie	Hearing-Portland-Form Ltr
Jennifer Karson	Engum, Ph.D.			Pendleton	Mail
Carl	Etsitty			Fort Collins	Hearing-Coos Bay-Form Ltr
Linda	Everett			Hillsboro	Hearing-Coos Bay-Form Ltr
Lincoln	Feddeersen			Gresham	Hearing-Portland-Form Ltr
Teara F.	Ferman			Pendleton	Mail
Gilbert T.	Flores III			Fairview	Hearing-Portland-Form Ltr
Susan	Fordice			Pendleton	Mail
Michael A.	Foulke			Vancouver	Hearing-Portland-Form Ltr
Brenda	Francis			Port Angeles	Hearing-Coos Bay-Form Ltr
Jeff	Fryer			Portland	Hearing-Portland-Form Ltr
George	Gates			Portland	Hearing-Portland-Form Ltr

Name		Title	Affiliation or Organization	City	How Submitted
Kathleen Feehan	George			Pendleton	Hearing-Coos Bay-Form Ltr
Richard	George			Toppenish	Hearing-Coos Bay-Form Ltr
Terry	Gibson			Owyhee	Hearing-Coos Bay-Form Ltr
Katherine Minthorn	Goodluck			Pendleton	Hearing-Coos Bay-Form Ltr
Timothy J.	Greene, Sr.	Treasurer	MTC	Neah Bay	Hearing-Coos Bay-Form Ltr
Rob	Greene			Grand Ronde	Hearing-Coos Bay-Form Ltr
Doug	Grugett			Portland	Hearing-Portland-Form Ltr
Jack	H.			Grand Ronde	Hearing-Coos Bay-Form Ltr
Nathan	Haines			Sandy	Hearing-Portland-Form Ltr
Todd	Hanna	Fisheries Instructor	Mt. Hood Community College	Gresham	Hearing-Portland-Form Ltr
David C.	Harrison			Albuquerque	Hearing-Coos Bay-Form Ltr
Chris	Harvey			Aurora	Hearing-Portland-Form Ltr
Reuben	Hewry			Warm Springs	Hearing-Coos Bay-Form Ltr
Bryan	Hill			Hillsboro	Hearing-Coos Bay-Form Ltr
Alison	Hopcroft			Portland	Hearing-Coos Bay-Form Ltr
Boe	Horejsi			Forks	Hearing-Coos Bay-Form Ltr
Bruce	Hovermann				Hearing-Portland-Form Ltr
Michael	Hussey			Cascade Locks	Mail, Hearing-EQC-Form Ltr
Ryan	Jackson			Hoopa	Hearing-Coos Bay-Form Ltr
Daniel	Jim			Pendleton	Mail
Anthony D.	Johnson			Lapwai	Hearing-Coos Bay-Form Ltr
Judith A.	Johnson			Pendleton	Mail
Michael R.	Johnson			Adams	Mail
Riannin	Jones			Cascade Locks	Mail, Hearing-EQC-Form Ltr
Cheryle A.	Kennedy			Grand Ronde	Hearing-Coos Bay-Form Ltr
Roberta A.	Kipp			Pendleton	Mail, Hearing-EQC-Form Ltr
Brook B.	Kristovich			Pendleton	Mail
Lawrence	Leare			Seattle	Hearing-Coos Bay-Form Ltr
David G.	Lewis, Ph.D.			Salem	Hearing-EQC-Form Ltr
Gerald	Lewis			Toppenish	Hearing-Coos Bay-Form Ltr
Cheryl L.	Lohman			Madras	Hearing-Coos Bay-Form Ltr

Name		Title	Affiliation or Organization	City	How Submitted
Dennis	Longknife, Jr.	Energy Director, Energy Efficiency Program	Fort Belknap Indian Community	Harlem	Hearing-Coos Bay-Form Ltr
Maria S.	Lopez			Forks	Hearing-Coos Bay-Form Ltr
Robert C.	Lothuop			Portland	Hearing-Portland-Form Ltr
Norma Jean	Louie			Plummer	Hearing-Coos Bay-Form Ltr
Paul	Lumley			Portland	Hearing-Coos Bay-Form Ltr
Hector	Maldonado			Kingston	Hearing-Coos Bay-Form Ltr
Brandon	Marion			Beaverton	Hearing-Portland-Form Ltr
Chris	Marks			Pendleton	Mail
Carla	May			Grand Ronde	Hearing-EQC-Form Ltr
Arron	McNutt			North Bend	Hearing-Coos Bay-Form Ltr
Heather	Miller			Seattle	Hearing-Coos Bay-Form Ltr
Antone	Minthorn			Adams	Hearing-Coos Bay-Form Ltr
Cassandra	Mitchell			Crescent City	Hearing-Coos Bay-Form Ltr
Daniel	Morris			Stevenson	Mail, Hearing-EQC-Form Ltr
Janene	Morris			Pendleton	Mail
Helen S.	Morrison			Pendleton	Mail
Jesse	Murr			Pendleton	Mail, Hearing-EQC-Form Ltr
Robert Allen	Nagel			Willamina	Hearing-EQC-Form Ltr
No Name					Mail, Hearing-EQC-Form Ltr
No Name				Pendleton	Mail
Marcella	Norton			Hoopla	Hearing-Coos Bay-Form Ltr
Arnold	Nova			Klamath	Hearing-Coos Bay-Form Ltr
McCoy	Oatman			Lapwai	Hearing-Coos Bay-Form Ltr
Travis	Olsen			Pendleton	Mail
William	O'Regan			Sandy	Hearing-Portland-Form Ltr
Joshua	Osborn			St. Helens	Hearing-Portland-Form Ltr
KC	P				Hearing-EQC-Form Ltr
Blaine	Parker			Gresham	Hearing-Coos Bay-Form Ltr
Sharon	Parrish			North Bend	Hearing-Coos Bay-Form Ltr
Kathryn A.	Patrick			Pendleton	Mail, Hearing-EQC-Form Ltr
Sara M.	Patrick			Cascade Locks	Mail, Hearing-EQC-Form Ltr

Name		Title	Affiliation or Organization	City	How Submitted
Patricia T.	Perry			Pendleton	Mail
Marilyn	Portwood			Portland	Mail
Richard	Portwood			Portland	Mail
Gary	Powell			Beaverton	Hearing-Portland-Form Ltr
Mildred	Quaempts			Pilot Rock	Mail
Terry L.	Rambler			Toppenish	Hearing-Coos Bay-Form Ltr
Celeste	Reves			Pendleton	Mail
Ronald L.	Rife			Grand Ronde	Hearing-EQC-Form Ltr
Shelley	Roberts			LaConner	Hearing-Coos Bay-Form Ltr
Andrea F.	Rodriguez			Pendleton	Mail, Hearing-EQC-Form Ltr
Bambi	Rodriguez			Pendleton	Mail
Richard A.	Rolland			Harrison	Hearing-Coos Bay-Form Ltr
Noel	Rude			Pendleton	Mail
Roy H.	Sampsel		Institute for Tribal Government	Portland	Hearing-Coos Bay-Form Ltr
Kristina R.	Sampson			Lyle	Hearing-EQC-Form Ltr
Charles F.	Sams III			Pendleton	Mail
Charles F.	Sams, Jr.			Pendleton	Mail
Heather Medina	Sauceda			Albany	Hearing-Coos Bay-Form Ltr
Khani	Schultz			Grand Ronde	Hearing-EQC-Form Ltr
William	Schumacher				Hearing-Portland-Form Ltr
Marilyn M.	Scott			Sedro Wooley	Hearing-Coos Bay-Form Ltr
Arthur	Seavey			Tenino	Hearing-Coos Bay-Form Ltr
Don E.	Secena			Oakville	Hearing-Coos Bay-Form Ltr
Alicialeigh	Selwyn			Grand Ronde	Hearing-EQC-Form Ltr
Joel P.	Selwyn			Grand Ronde	Hearing-EQC-Form Ltr
Amy K.	Senn			Athena	Mail
Doug	Seymour			Inchelium	Hearing-Coos Bay-Form Ltr
Virgil	Seymour			Inchelium	Hearing-Coos Bay-Form Ltr
Dorothy Lorraine	Shartt			McMinnville	Hearing-EQC-Form Ltr
Eric	Sheets			Portland	Hearing-Coos Bay-Form Ltr
Valorie	Sheker			Grand Ronde	Hearing-EQC-Form Ltr
Theresa	Sheldon			Tulalip	Hearing-Coos Bay-Form Ltr

Name		Title	Affiliation or Organization	City	How Submitted
Cheryl	Shippentower			Pendleton	Mail
Allen P.	Slickpoo, Jr.			Kamiah	Hearing-Coos Bay-Form Ltr
Stanley "Buck"	Smith			Warm Springs	Hearing-Coos Bay-Form Ltr
Wink	Soderling				Hearing-Coos Bay-Form Ltr
Vincent E.	Sohappy			Pendleton	Hearing-EQC-Form Ltr
Steve	Sohappy			Pendleton	Mail
Toni M.	Stanger			Albuquerque	Hearing-Coos Bay-Form Ltr
Tyler	Starkey			Portland	Hearing-Portland-Form Ltr
Shawn	Steinmetz			La Grande	Mail
John F.	Stensgar			Keller	Hearing-Coos Bay-Form Ltr
Lee	Stewart			Pendleton	Mail, Hearing-EQC-Form Ltr
Roberta	Stone			Portland	Hearing-Portland-Form Ltr
Aurolyn	Stwyer-Pinkham			Warm Springs	Hearing-Coos Bay-Form Ltr
Frank V.	Suniga			Salem	Hearing-Coos Bay-Form Ltr
Matthew A.	Takahashi			Damascus	Hearing-Portland-Form Ltr
Michelle	Thompson			Adams	Mail
Eirik	Thorsgard			Grand Ronde	Hearing-EQC-Form Ltr
Martha K.M.	Tomskin			Toppenish	Hearing-Coos Bay-Form Ltr
W. Duane	Wakan			Spokane	Hearing-Coos Bay-Form Ltr
Lindsey X.	Watchman			Pendleton	Mail
Steve	Webster			Gresham	Hearing-Portland-Form Ltr
Ciaran T.	Whatley			Troutdale	Hearing-Portland-Form Ltr
Dara	Williams			Pendleton	Mail
Leland J.	Wilson			Pendleton	Mail
Amber	Wimsatt			Mulino	Hearing-Portland-Form Ltr
Don	Winisnut, Sr.			Warm Springs	Hearing-Coos Bay-Form Ltr
Janet S.	Wintermute		USDA APHIS	Riverdale	Hearing-Coos Bay-Form Ltr
Blaine M.	Wolten			Darrington	Hearing-Coos Bay-Form Ltr
Jenell Prathy	Wrasel		Bureau of Indian Affairs Yakama Agency	Toppenish	Hearing-Coos Bay-Form Ltr
Terry Parr	Wynecoop			Wellpinit	Hearing-Coos Bay-Form Ltr

		Title	Affiliation or Organization	City	How Submitted
Commenters who provided comments in addition to the form letter/email					
Kyle	Dittmer, M.Sc.	Department of Science	Marylhurst University	Marylhurst	Hearing-Portland-Form Ltr
Lea M.	Foster			Beaverton	Hearing-Portland-Form Ltr
Hewy	Fronzoni			Deer Island	Hearing-Portland-Form Ltr
Laura	Gephart			Portland	Hearing-Portland-Form Ltr
Neil	Graham			Portland	Hearing-Portland-Form Ltr
Audie	Huber			Pendleton	Mail
Denise	Kelsey			Portland	Hearing-Portland-Form Ltr
Dale	McCullough			Beaverton	Hearing-Portland-Form Ltr
Kori	Musgrove			Welchers	Hearing-Portland-Form Ltr
Cathy	Sampson-Kruse			Pendleton	Mail
Bianca	Sekayouma			Gaston	Hearing-Portland-Form Ltr
Jo Marie	Tessman			Portland	Hearing-Portland-Form Ltr
Sara	Thompson			Keizer	Hearing-Portland-Form Ltr

Rulemaking Workgroup Members

Organization	Representative
Confederated Tribes of the Umatilla Indian Reservation (CTUIR)	*Ryan Sudbury/Rick George
EPA	Jannine Jennings
Oregon Association of Clean Water Agencies	Dave Kliewer
League of Oregon Cities	Peter Ruffier
Northwest Pulp and Paper	Kathryn Van Natta
Industrial Dischargers	Michael Campbell
Associated Oregon Industries	Rich Garber (alternate Myron Burr)
Northwest Environmental Advocates	Nina Bell
Northwest Environmental Defense Center	**Andrew Hawley
Columbia Riverkeeper	Lauren Goldberg

* Previous participation by Kathleen Feehan

** Did not participate after the first few meetings

Non-NPDES Workgroup Members

Organization	Representative
Confederated Tribes of the Umatilla Indian Reservation (CTUIR)	*Ryan Sudbury/Rick George
EPA	Jannine Jennings
Oregon Association of Clean Water Agencies	Dave Kliewer
League of Oregon Cities	Peter Ruffier
Northwest Pulp and Paper	Kathryn Van Natta
Industrial Dischargers	Michael Campbell
Associated Oregon Industries	Rich Garber (alternate Myron Burr)
Northwest Environmental Advocates	Nina Bell
Northwest Environmental Defense Center	**Andrew Hawley
Department of Forestry	Peter Daugherty
Department of Agriculture	Dave Wilkinson/Ellen Hammond
Oregonians for Food and Shelter	Terry Witt
Oregon Farm Bureau	Jennifer Shmikler
Oregon Forest Industries Council	Chris Jarmer
Association of Oregon Counties	Emily Ackland
Oregon Small Woodlands Association	David Ford
Columbia Riverkeeper	Lauren Goldberg

* Previous participation by Kathleen Feehan

** Did not participate after the first few meetings

Fiscal Impact and Implementation Advisory Committee Membership

Name	Affiliation
Deanna Conners	Oregon Dept. of Human Services (Public Health Division)
Kathleen Feehan	Confederated Tribes of the Umatilla Indian Reservation (Tribe)
Rich Garber	Association of Oregon Industries (Industry)
Sarah Kruse	Ecotrust (Economic Innovation Organization)
Kristin Lee	ECONorthwest (Economic Consulting Firm)
Eric Scott	Confederated Tribes of the Grand Ronde (Tribe)
Susie Smith	Association of Clean Water Agencies (Municipalities)
Willie Tiffany	League of Oregon Cities (Municipalities)
Kathryn VanNatta	Northwest Pulp and Paper Association (Industry)

Human Health Focus Group

Name	Affiliation
Patricia Cirone, PhD, Retired Federal Scientist	Affiliate of University of Washington
Elaine M. Faustman, Ph.D. DABT, Professor and Director	Institute for Risk Analysis and Risk Communication – Department of Environmental and Occupational Health Sciences, University of Washington
Ken Kauffman, Environmental Health Specialist	Public Health Environmental Toxicology, Oregon Department of Human Services (ODHS)
Susan MacMillan, Senior Risk Assessor	URS Corporation
Dave McBride, MS, Toxicologist	Office of Environmental Health Assessments, Division of Environmental Health, Washington State Department of Health
Joan Rothlein, PhD, Senior Research Associate	Center for Research on Occupational and Environmental Toxicology (CROET), Oregon Health & Science University

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 9, 2011

To: Environmental Quality Commission

From: Eric Nigg

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 1, 2011, 1 p.m.

Hearing location: Oregon Department of Transportation Office
 Deschutes River Room
 63055 N. Highway 97
 Bend, OR 97701

This hearing was held in Bend and Eric Nigg served as hearings officer. Twenty-eight people attended the hearing and four people provided oral testimony. DEQ convened the rulemaking hearing on the proposal referenced above at 1 p.m. and closed it at 2:55 p.m.

Nigg introduced Andrea Matzke and Koto Kishida from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At approximately 2:35 p.m., Nigg opened the formal hearing on the proposed rulemaking. He informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Nigg explained his role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. He asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. He noted that written comments would be given the same weight as oral comments. Nigg reminded the audience that the deadline date for receipt of written comments on the proposed rules is Wednesday, Febr. 23, 2011, at 5 p.m. This date was later extended to March 21, 2011. He stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. He added that DEQ's final recommendation for rule adoption will be made at the commission meeting scheduled for June 16-17, 2011, and that EQC

can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Four persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Chris Gannon (also written testimony)	Crooked River Watershed Council	Oppose
2. Jerry Brummer (also written testimony)	City of Prineville	Oppose
3. Bruce Jim (also written testimony)	Warm Springs Tribe	Support
4. Chuck Lang	Private citizen	Oppose

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking.

Chris Gannon: Crooked River Watershed Council – submitted written comments in addition to verbal testimony

The Watershed Council works with local landowners in partnership with other local state and federal agencies. They are very involved in improving water quality, but are concerned that the proposed toxics rules will have unintended consequences and unknown economic impacts. They request that DEQ delay adoption until it has considered what the economic impacts of the rules may be. They are also concerned with indirect consequences of the more stringent rules, including increases in fish advisories and residues of toxic pollutants in by-products of fish harvesting. These could have a dampening effect on beneficial uses of these by-products. The council is not convinced there will be any human health benefit to the proposed consumption rate.

They provide alternatives to the rule including site-specific rules in areas that would likely expose tribal populations or an outright ban of certain toxic chemicals. In closing, Mr. Gannon suggested we consider a philosophical construct of Raymond C. P. Beamesderfer entitled “Deciding When Intervention is Effective and Appropriate.” It is a systematic decision making process to determine for a given case if (1) the problem being addressed is significant enough to warrant action, (2) the solution being proposed is effective in fixing or significantly reducing the size of the problem, and (3) the biological benefits of the action outweigh costs as well as social and political considerations.

Jerry Brummer: Public Works Superintendent for the City of Prineville– submitted written comments in addition to verbal testimony

The City of Prineville is excited about ongoing water quality improvements it has constructed and will continue to invest in facilities that improve water quality. Prineville currently has an unemployment rate near 20 percent and some of the highest sewer service rates in the state. Mr. Brummer described several projects the city is constructing including wetlands for improved wastewater treatment, repair of sewer collection pipes to reduce inflow and infiltration during winter, and stormwater planning. The City is concerned that the DEQ has underestimated the impacts of these new rules and will not be adequately staffed to implement them including more complicated permitting, requirement for variances for permittees, development of basinwide pollution reduction plans all of which will increase costs to permitted sources. They are concerned that there is no effective and feasible technology for treating wastewater sufficiently to meet the proposed rules for legacy pesticides and PCBs.

Bruce Jim: Confederated Tribes of the Warm Springs and Chairman of the Columbia River Inter-Tribal Fish Commission– submitted written comments in addition to verbal testimony

Mr. Jim expressed support for the proposed fish consumption rate of 175 grams per day. This was based on a study that determined 23 eight-ounce servings of fish per month is “a realistic value that represents the fish consumption habits of our people.” The consumption of fish is not only a major food source for tribal members, it is also an integral part of our cultural, economic, and spiritual well-being. Current national estimated fish consumption rates are simply not sufficient to protect our tribal peoples residing in the Columbia River Basin, or other people that consume healthy amounts of fish. I urge the DEQ to adopt the standards that are based on these proposed reasonable and reliable measures of fish consumption by the residents of Oregon.

It seems the tribes are targeted as responsible for some of this. Tribal people in this basin have an important stake through treaty rights, but also have done a lot of work to improve fisheries, water quality and the land. Tribal members have always considered the importance of environment to the headwaters of streams and this has been beneficial to water quality protection. When they do this, it benefits all people in the basin, not just tribal members.

Chuck Lang: Prineville Resident

There are global sources of DDT and PCB that impact ocean food chains including those of salmon. These sources will eventually be reduced or eliminated followed by a painfully slow degradation of the chemicals and concentrations in salmon will follow. This will happen regardless of the proposed consumption rates and related toxics criteria. Including these new salmon consumption rates is not supported by science. He suggests this is why EPA is not recommending applying these rates to marine salmon and consumption of marine species. He

also suggests that studies should be undertaken to determine if juvenile salmon are contaminated before they reach the estuary. While the higher consumption rate may be justified to generate health advisories, using it for inland water quality criteria calculations is premature.

There was no other testimony provided. DEQ adjourned the hearing at 2:55 pm.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 28, 2011

To: Environmental Quality Commission

From: Pamela Wright

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 2, 2011, 9 a.m.

Hearing location: DEQ Eugene Office
Willamette Conference Room
165 East 7th Ave., Suite 100
Eugene, OR 97401

The hearings officer was Pamela Wright. Twenty-eight people attended the hearing, eight provided oral testimony, and 26 written comments were submitted. DEQ convened the rulemaking hearing on the proposal referenced above at 9 a.m. and closed it at approximately 11:05 a.m.

Wright introduced Andrea Matzke and Koto Kishida from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. Two of the testifiers did not sign in, but were counted as part of the total attendees. People were also advised that the hearing was being recorded.

At approximately 10:25 a.m., Wright opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Wright explained that her role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. She added that written comments would be given the same weight as oral comments. Wright reminded the audience that the deadline date for receipt of written comments on the proposed rules is Monday, Feb. 23, 2011, at

5 p.m. This date was later extended to March 21, 2011. She stated that after reviewing the comments, the department may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Eight persons provided oral testimony, and 26 written comments were submitted by persons who did not testify, with the majority of the written comments being a form letter and a coupon clipped out of a newspaper. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Dan Hanthorn	City of Corvallis	Oppose
2. Michelle Cahill	City of Eugene	Oppose
3. Eron King	Private citizen	Oppose
4. John Steele	Private citizen	Support
5. Day Owen (also submitted additional written comments)	Pitchfork Rebellion	Support
6. Reggie DeSoto	Private citizen	Support
7. Cat Koehn	Artists 4 Action	Support
8. Jan Nelson	Private citizen	Support
Written comments received from persons who did not testify		
1. Dixie Lee Noland (Noted she will send written comments to DEQ)	Private citizen	Not noted
2. Letters (18)	Pitchfork Rebellion	Support
3. Newspaper Coupon (7)	Pitchfork Rebellion	Support

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking.

The cities of Corvallis and Eugene have been active and forward thinking in their efforts to reduce toxics. They voiced concern that treatment technologies to meet the proposed toxic

numbers at the wastewater plants are not available at a reasonable cost to ratepayers in the community. Effective and feasible treatment technologies to reduce toxic chemicals, such as legacy pesticides, PCBs or plasticizers do not exist. Effective toxic reduction must be tackled on a watershed basis, and involve all sources of pollution. They believe DEQ has underestimated the financial impact. An effective water quality toxic reduction program must be a broad initiative, and all sources must be addressed. It cannot be just focused on water quality permit holders.

Adopting the proposed standards without implementation plans in them is, ill-advised, and should be developed and included along with a proposed rule for clarity and understanding. Adopting the proposed standard without embedded implementation plans will not advance the improvement of water quality.

DEQ's solution of variances must be improved. The EPA regulations restrict variances to being short term and temporary. Very low levels of PCBs or pesticides that are found throughout the environment cannot be dealt with in the short term. Even addressing current use toxics will be complicated and may take many years to resolve

Erin King and Day Owen live in rural Oregon surrounded by industrial forest land. Both indicated they felt that DEQ is not going nearly far enough to regulate private forestry. Their primary concerns are sediment, pesticides and slash burning. They both indicated variances would provide an excuse for dischargers not to take responsibility for their actions. Jan Nelson and Reggie De Soto indicated support for stronger environmental regulations. Reggie De Soto voiced support for stricter standards for toxics due to cancers they cause.

John Steele voiced concern about the mercury coming through Cottage Grove Lake and wants DEQ to monitor mercury more extensively there. He also was concerned that variances will prevent water quality from being improved.

Catherine Koehn indicated that the headwaters are not being protected as much as they should. DEQ should develop clear numeric standards for copper and delineate a clear riparian buffer policy. DEQ's 303(d) list indicates sediment is a problem throughout the basin and yet the agency is doing nothing about it.

There was no other testimony provided. The hearing was adjourned at approximately 11:05 a.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: April 22, 2011

To: Environmental Quality Commission

From: Zach Loboy

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 2, 2011, 6 p.m.

Hearing location: DEQ Medford Office
 Large Conference Room
 221 Stewart Ave., Suite 201
 Medford, OR 97501

The hearings officer was Zach Loboy. Twenty-three people attended the hearing, eight provided oral testimony. DEQ convened the rulemaking hearing on the proposal referenced above at 6 p.m. and closed it at approximately 8:10 p.m.

Loboy introduced Andrea Matzke and Koto Kishida from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 7:20 p.m., Loboy opened the formal hearing on the proposed rulemaking. He informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Loboy explained his role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. He asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. He added that written comments would be given the same weight as oral comments. Loboy reminded the audience that the deadline date for receipt of written comments on the proposed rules is Monday, Feb. 23, 2011, at 5 p.m. This date was later extended to March 21, 2011. He stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. He added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own

discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Eight persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Dennis Baker	City of Medford	Oppose
2. Glenn Archambault	Jackson County Farm Bureau	Oppose
3. Keith Nelson	Josephine County Farm Bureau, Illinois Valley SWCD, and Illinois Watershed Council	Oppose
4. Ronald Bjork	Jackson County Farm Bureau	Oppose
5. Don Rowlett	Jackson County Cattlemen	Oppose
6. Charles Boyer	Private citizen	Oppose
7. Robert Miller (also written testimony)	Oregon Cattlemens Association	Oppose
8. Shin Takeda	Private citizen	Oppose?

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking.

The list of testifiers all clearly opposed the rulemaking, with the exception of Shin Takeda whose testimony was unclear as to whether he supported or opposed the rulemaking. Shin Takeda's testimony expressed caution and careful consideration of the impact of the rule but discussed diesel engine exhaust, California water quantity issues, DDT and medications in wastewater. In all instances these comments were irrelevant to the proposed rulemaking.

The opponents of the rulemaking consisted of a municipality, members of the Farm Bureau, the Cattlemen's association, and a private citizen. The city commented that the program as proposed is extremely regionalized and does not account for differences in water in areas outside of some coastal lakes, the Willamette River basin, and the Columbia River. The city commented that the variance process being proposed in the new rules are not a viable option for solving water quality problems. Concern was expressed over how the variance process would be administered and if DEQ would have enough resources to review the variances in a timely manner. The city also stressed that the cost of complying with the new rules by installing new treatment technology is exorbitant.

The remainder of the opponents to the rulemaking was comprised of agricultural interests. All said that the proposed rules would regulate agriculture, and especially small farms and ranches, out of business and hurt agriculture production in Oregon. A concern expressed by the Farm

Bureau members and the Cattlemen's Association was the belief that the changes to the rules would have DEQ directly regulate and enforce water quality standards on agricultural properties. They also opposed implementation ready TMDL's. They viewed these things as being in disagreement with the regulatory authority given to ODA by SB1010. They expressed interest in continuing to work under the SB1010 plans.

There was no other testimony provided. DEQ adjourned the hearing at approximately 8:10 p.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: April 11, 2011

To: Environmental Quality Commission

From: Pamela Blake

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 3, 2011, 1:30 p.m.

Hearing location: City Hall, Council Chambers
 500 Central Ave.
 Coos Bay, OR 97420

The hearings officer was Pam Blake. Twenty-one people attended the hearing and eight provided oral testimony. In addition, 79 form letters in support of the rulemaking and a resolution signed by the Affiliated Tribes of Northwest Indians were submitted. DEQ convened the rulemaking hearing on the proposal referenced above at 1:30 p.m. and closed it at approximately 3:45 p.m.

Blake introduced Andrea Matzke and Koto Kishida from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 3:15 p.m., Blake opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Pam explained her role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. She added that written comments would be given the same weight as oral comments. Blake reminded the audience that the deadline date for receipt of written comments on the proposed rules is Monday, Feb. 23, 2011, at 5 p.m. This date was later extended to March 21, 2011. She stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own

discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Eight persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Howard Crombie (additional written comments and signed Council resolution)	Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians	Support
2. Dave Messerle (additional written comments)	Messerle and Sons	Oppose
3. Tom Younker	Coquille Tribe	Support
4. Kathryn Brigham (submitted 79 support letters and a signed resolution from the Affiliated Tribes of NW Indians)	Confederated Tribes of the Umatilla Indian Reservation	Support
5. Diane Barton	Columbia River Intertribal Fish Commission	Support
6. Arron McNutt	Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians	Support
7. Jody McCaffree	Private citizen	Support
8. Tom Forgatsch	Coos County SWCD	Support
Written comments received from persons who did not testify		
1. Form letters (79)	Various tribal members	Support
2. Signed resolution	Affiliated Tribes of NW Indians	Support

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking. Seven of eight persons testifying support the rulemaking. Those who support the rulemaking were tribal members, a private citizen, and a director of the Coos Soil and Water Conservation District. The entity in opposition represents a local family business.

The Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw support the proposed rule and the Tribal Council has passed a resolution in support. A letter of support was also sent to Oregon Environmental Quality Commission Chairman Blosser. The Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw is currently developing its own water quality standards applicable to waters present within reservation lands. These standards will reference the same consumption rates that the state of Oregon is proposing. The tribe has long standing traditions honoring salmon and the cycle of life which they represent. In order to preserve and restore the tribe's culture the tribes need to consume fish and shellfish at traditional levels without fear of

toxins. Fish and shellfish are important to Oregonians and the financial commitment has been significant. The proposed consumption rate represents a balance between a higher more protective rate and the lower consumption rates currently being applied. The Coquille Tribe agrees with and supports the statement provided by the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw.

The Confederated Tribes of the Umatilla Indian Reservation support the consumption rate in the proposed rule. The Umatilla Tribe has adopted a much higher consumption rate but because the tribe agreed to work in partnership and tribal elders are committed to continue planning for the future and future generations they can accept the proposed consumption level in the rule. Although this will mean more regulation, future generations need clean air, water, and land. The Affiliated Tribes of Northwest Indians passed a resolution supporting the adoption of the rule to better protect tribal first foods, and the native people who depend upon them. This individual also spoke as a homeowner and owner of a small acreage farm with irrigation right in support of the rule.

The coordinator for the Columbia River Intertribal Fish Commission, or CRITFC, stated that water quality is a key component in the conservation and restoration of salmonid habitat and natural production. The adoption of the proposed fish consumption rate is a critical first step to improve water quality, protect fisheries, and tribal members. The CRITFC coordinator stated that studies conducted to examine fish consumption rates are scientifically defensible and that DEQ's Human Health Focus Group determined that the fish consumption survey accurately represented the habits of tribal peoples. Of those surveyed, 97 percent eat fish and, based on stated consumption levels, the rule would protect 95 percent of tribal members' health. Other fish surveys looked at other cultures and determined that these cultures also consume fish at the similar levels as Oregon tribes. She also stated that even though salmon spend a great deal of their lives in the ocean, tests of juvenile fish show they contain some contaminants.

A Confederated Tribes of the Coos, Lower Umpqua, Siuslaw council member and parent of an autistic child spoke specifically about mercury. He stated that U.S. Department of Education data identifies autism as the fastest growing developmental disability and that mercury detoxification as a treatment received a far higher effectiveness rating than any drug supplement or special diet. Tests show that babies with autism have only one eighth the amount of mercury in their hair as normal babies do, so perhaps their ability to excrete heavy metals is impaired. Autistic babies' teeth have an average of three hundred percent more mercury than normal babies. He identified this as a group of individuals that are more severely impacted than the national average. He voiced his support for increased surveillance, regulation, and testing.

A private citizen in support of the rule vocalized concerns that conditions will not improve unless additional baseline data is collected. She stated that reduced fishing is indicative of a

problem and water quality is a contributor. She stated her concern that the needed monitoring will not get done because DEQ lacks adequate staffing and funding for monitoring and clean up. She supports the rule but emphasized that it needed to be followed up with testing and cleaning up the water.

A director of the Soil and Water Conservation Service stated that many, including DEQ, have known about local mercury problems for years and have not figured out where it is from or what to do about it. He expressed concern about the adverse impacts of mercury exposure on salmon eggs, smolt, and adults as well as other fish are present in contaminated areas. He stated that Forestry and DEQ know about this and do nothing because it is too expensive to clean these streams. He agrees with the rule but stated that we need to try and remove some of the mercury we know about although some of it may be natural and there might not be anything that can be done. Although in agreement with the rule he stated that most of the fish either comes from or spend a lot of their lives somewhere else. He stated that when algae are tested you will find some chromium and a lot of mercury and that fish eat the algae and store the mercury. He did not agree with using a 150 pound person, and stated that most people are heavier than that in United States. He also stated that contaminants like heavy metals, PCBs, and plastics are stored in fat and start to come out when people are on a diet and losing weight. These people can start having side effects and one of them may be autism.

A representative of Messerle and Sons, private land managers, opposed the rule. The family has managed resource lands for four generations and is concerned that this rule could potentially add another layer of regulation on farm and forest lands. They wish to continue working with the Departments of Agriculture and Forestry, agencies with whom they currently have good relationships.

There was no other testimony provided. DEQ adjourned the hearing at approximately 3:35 p.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 10, 2011

To: Environmental Quality Commission

From: Cheryll Hutchens-Woods

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 7, 2011, 2:30 p.m. (MST)

Hearing location: Ontario City Hall
 Council Chambers (2nd floor)
 444 SW 4th St.
 Ontario, OR 97914

The hearings officer was Cheryll Hutchens-Woods. Thirty-eight people attended the hearing and seven provided oral testimony. DEQ convened the rulemaking hearing on the proposal referenced above at 2:30 p.m. and closed it at approximately 4:24 p.m.

Hutchens-Woods introduced Andrea Matzke and Gene Foster from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 3:50 p.m., Hutchens-Woods opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Hutchens-Woods explained that her role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. She added that written comments would be given the same weight as oral comments. Hutchens-Woods reminded the audience that the deadline date for receipt of written comments on the proposed rules is Monday, Feb. 23, 2011, at 5 p.m. This date was later extended to March 21, 2011. She stated that after reviewing

the comments, DEQ may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Seven persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Chuck Mickelson	City of Ontario	Oppose
2. Judith Kirby	Private citizen	Oppose
3. Curtis Martin (also written testimony)	VP Ranch	Oppose
4. Lynn Shumway	Burnt River Irrigation District	Oppose
5. Peggy Browne	Powder Basin Water & Stream Health Committee	Oppose
6. Joe Dominick	Mayor, City of Ontario	Oppose
7. Clinton Shock	Private citizen	Unknown - made comments on the arsenic rulemaking and not on this rulemaking

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking. All of the testifiers who commented on the proposed rule were opposed to the rulemaking. One person testifying made comments in opposition to the arsenic rule, which is not part of this rulemaking. Those testifying in opposition to the rulemaking mainly consist of municipalities or other government entities, agricultural interest, and private citizens.

The City of Ontario had two officials commenting in opposition to the rule. Their comments included concerns that the citizens of Eastern Oregon are being required to follow statistics from the western half of the state. They encouraged DEQ to develop rules that are area specific. The city also provided details on how the city has worked to improve water quality in their areas by improving their sewage collection system, an aggressive stormwater program, and work done in conjunction with the Watershed Enhancement Board. They also commented that the program needs to address all sources not just focus on water quality permit holders. Finally, there were a number of concerns expressed by the City of Ontario regarding the city's concern around the cost and difficulty of complying with proposed arsenic regulatory levels and potential cost to their ratepayers. Please note, arsenic is not part of this proposed rulemaking.

Many of the private citizens who opposed the rulemaking came from the agricultural sector. They are opposed to having DEQ directly regulate or enforce water quality standards. They expressed concern that the rule as proposed would interfere with the already positive working relationship that they share with Oregon Department of Agriculture. They believe that there has been a great deal of effort put into the developing plans with ODA and they believe that the Agricultural Water Quality Management Plans do work. There were comments by three citizens stating that if DEQ interjects itself into the relationship that they have with ODA it will result in an adversarial relationship. In addition, it was stated that DEQ is acting outside the statute.

Commenters also voiced concern that the implementation of the rule will cause job losses. The rule will put agricultural producers out of business. This will result in fewer jobs available and more people will be out of work. In addition, businesses and jobs are leaving the state because of excess rulemaking.

Finally, there were comments made regarding the fish consumption number that is identified in the rulemaking. There was concern expressed that the number was based on consumption from a study based in the Puget Sound area, not in Oregon. There was also concern voiced that the consumption rates were based on a small segment of Oregon's population and not well founded. Finally, it was noted that the proposed fish consumption rate is 26 times greater than the rate that is currently in place in the State of Washington.

There was no other testimony provided. DEQ adjourned the hearing at approximately 4:24 p.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 11, 2011

To: Environmental Quality Commission

From: Cheryll Hutchens-Woods

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 8, 2011, 2:00 p.m.

Hearing location: St. Anthony's Hospital
Cascade Room (1st floor)
1601 SE Court Ave.
Pendleton, OR 97801

The hearings officer was Cheryll Hutchens-Woods. Twenty-six people attended the hearing, five provided oral testimony and one person submitted 15 support letters. DEQ convened the rulemaking hearing on the proposal referenced above at 2 p.m. and closed it at approximately 3:45 p.m.

Hutchens-Woods introduced Andrea Matzke and Gene Foster from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 3:20 p.m., Hutchens-Woods announced opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Hutchens-Woods explained that her role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. She added that written comments would be given the same weight as oral comments. Hutchens-Woods reminded the audience that the deadline date for receipt of written comments on the proposed

rules is Monday, Feb. 23, 2011, at 5 p.m. This date was later extended to March 21, 2011. She stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Five persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Leo Stewart	Confederated Tribes of the Umatilla Indian Reservation (CTUIR)	Support
2. Myrna Williams Tovey	CTUIR member	Support
3. Brett VandenHeuvel	Columbia Riverkeeper	Support
4. Mark Milne	City of Pendleton	Oppose
5. Carl Merkle (submitted 15 support letters)	Private citizen	Support
Written comments received from persons who did not testify		
1. Form Letters (15)	Various tribal members	Support

The following is a summary of written and oral comments received at the hearing. The department will include these comments in the Summary of Comments and Agency Responses for this rulemaking. There were a total of five people giving testimony and of the five four commented in support of the rulemaking and one opposed the rulemaking.

Those who support the rulemaking were members of the Confederated Tribes of the Umatilla Indian Reservation, the environmental organization Columbia Riverkeeper and a private citizen who also presented 15 letters in support signed by various tribal members. Opposition to the rule came from the City of Pendleton.

The City of Pendleton commented in opposition to the rulemaking. Their representative pointed out that the limits for toxics in the proposed rule are not attainable by the city. The treatment technology is not available to go as low as the proposed limits. DEQ's proposed variance procedure must be improved. The variance procedure will cost money, take staff time and result in no toxics reduction. The city is in the middle of a \$15 million upgrade to their plant which will help the city remove ammonia but not specifically address toxics. In addition, the city

commented that toxins should be removed before they get the plant; the toxins need to be stopped at the source at the watershed level.

The Confederated Tribes of the Umatilla Indian Reservation commented that the proposed rule is more protective of tribal members and other citizens of Oregon who eat fish. The tribe has worked with the State, EPA, and other interested stakeholders to increase the fish consumption rate to better reflect the amount of fish consumed by tribal members. They believe that the proposed rate is a fair and reasonable number and it is already a substantial compromise. When the tribe signed the Treaty of 1855 they understood that the fish would be safe to eat. They also pointed out that water and fish are the first of their first foods and are not just valued as natural resources but also for their cultural and religious values as well. Finally, they commented that the higher fish consumption rate is designed to protect Oregon's more sensitive fish consumers and is similar to Oregon's decision to adopt air quality standards that protect people with asthma.

The commenter on behalf of Columbia Riverkeeper stated on behalf of its three thousand members they support the proposed rule. Twenty years ago, there were studies showing that the assumption of how much fish people eat is not true. The assumption of how much fish people eat is important, because it controls how much toxics are allowed to be discharged. With this rule Oregon is poised to become a leader in water quality standards and we should take pride in this. Telling people that we shouldn't eat fish is not an acceptable solution. Reducing toxins is necessary to protect people who are eating fish; it is a matter of environmental justice and a matter of fairness. The environmental group did have some criticism of rule. The rule exempts stormwater. Stormwater contains toxics gathered as the rain runs off industrial and urban lands. They believe that the rules should apply to stormwater. They also have concerns with the variance procedures.

The final commenter in support of the rule pointed out that even living in Pendleton, the high desert, he still managed to eat a lot of seafood. The commenter supports the proposed rule and consumption rate and pointed out that the old rate did not really reflect what Oregonians ate, the average, non-Indian Oregonians. The new rate does not reflect the consumption of Native Americans, Asian Americans, nor Eastern Europeans. The commenter presented fifteen written testimonies in support of adopting the proposed rate.

There was no other testimony provided. The hearing was adjourned at approximately 3:45 p.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 11, 2011

To: Environmental Quality Commission

From: Beth Moore

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 10, 2011, 6 p.m.

Hearing location: DEQ Headquarters
 Room EQC-A (10th floor)
 811 SW 6th Ave.
 Portland, OR 97204

The hearings officer was Beth Moore. Twenty-seven people attended the hearing, 11 provided oral testimony and one person submitted 41 support letters. DEQ convened the rulemaking hearing on the proposal referenced above at 6 p.m. and closed it at approximately 7:52 p.m.

Moore introduced Andrea Matzke and Gene Foster from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 7 p.m., Moore opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Moore explained that her role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. Moore added that written comments would be given the same weight as oral comments. Moore announced that the deadline date for receipt of written comments on the proposed rules had been extended to March 21, 2011, at 5 p.m. and that there

was an additional hearing scheduled in Salem, details to be determined. She clarified that the end of the public comment period for the proposed arsenic rulemaking will remain Feb. 23, 2011.

She stated that, after reviewing the comments, DEQ may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Eleven persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. John Phil Hassinger (also written testimony)	Private citizen	Oppose
2. Mitch Pond	Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and Columbia River Inter Tribal Fish Commission (CRITFC)	Support
3. Lauren Goldberg	Columbia Riverkeeper	Support
4. Stan Vande Wetering	Confederated Tribes Siletz Indians	Support
5. Paul Lumley (also written testimony and submitted 41 support letters)	CRITFC	Support
6. Robert Keutta	Confederated Tribes Siletz Indians	Support
7. Bob Baumgartner	Clean Water Services	Oppose
8. Don Gentry	The Klamath Tribes	Support
9. John Platt	Private citizen	Support
10. Michael Karnosh	Grand Ronde Tribes	Support
11. Victor Stevens	Private citizen	
Written comments received from persons who did not testify		
1. Form Letters (41)	Various tribal members, non-members, and students	Support

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking.

Those testifiers who generally support the rulemaking included tribal members, several private citizens, an environmental organization and an organization dedicated to protecting salmon and tribal treaty rights.

Several tribal members expressed support for the fish consumption rate. The Confederated Tribe of the Umatilla Indian Reservation, CTUIR stated that the fish resource is not only a major food source for tribal members, but is also an integral part of their cultural, economic, and spiritual way of life. The Klamath Tribe said that tribal members are also farmers, ranchers and fishermen and believe that what Oregon is doing is something that's needed for all of us in this state, and all of us in the region. It's time that we move forward with this proposed rule, and increased water quality standards that are more protective of tribal people because they depend on these fish. He further stated that implementation of TMDLs are going to be an important part of this process in his geographic area.

The Confederated Tribes of Siletz Indians also expressed concerns regarding the proposed implementation-ready TMDL process, but stated they are willing to move forward with what has been proposed at this time. He further clarified that the past history of jurisdictional issues among DEQ, Oregon Department of Forestry and Oregon Department of Agriculture will not improve without additional clarity that ensures one agency or another must meet the standards through this process, and therefore protect the citizens of this state. The Siletz Tribe made a decision several years ago to enter the state's TMDL process for the mid-coast region, rather than set water quality standards for the tribe's areas of interest because they wanted to be a partner with regional stakeholders, and a partner with the state.

The Confederated Tribes of Grande Ronde stated that the Willamette River was very contaminated and that fish that are on the reservation, which include salmon, steelhead, and lamprey have to travel through these contaminated waters. He expressed thanks and support for DEQ in developing these water quality standards over the past several years.

The executive director of the Columbia River Intertribal Fish Commission, CRITFC, said that out in the Pacific Northwest, and particularly along the Columbia, he knows families that eat a lot more than 175 grams per day of fish. They have salmon every day, sometimes several times in the day, so this is not a standard that will protect all Indians; it's just an average. They applaud EPA's stance in trying to protect more tribal communities, and they also applaud Oregon for taking the stance to try and account for higher levels of fish consumption. CRITFC submitted forty-three letters in support of Oregon's water quality standards.

The Columbia Riverkeeper staff attorney believes that the rule package DEQ has proposed is a workable package and one that has had extensive amount of collaboration up to this point. She further emphasized that it is critical that the DEQ moves forward in a timely manner. She indicated that this rulemaking is the culmination of decades of research. EPA funded the Columbia River Inter-tribal Fish Commission to do a more extensive study to look into this issue, and CRITFC provided an in-depth study that showed that there was the presence of at least 92 contaminants in fish that were consumed by tribal members. In Oregon, we already live in a

state with a number of fish advisories, where people are impacted on a daily basis in terms of whether they can go out and eat fish from rivers near their homes and where they work. In reference to the fiscal analysis, she believes that the analysis never looked at the economic benefits. It never quantified how much Oregonians will gain from having water bodies and fish that we can go out and, on a regular basis, eat, and be free of the fear of contamination.

A landowner discussed tribal rights. Tribal members have reserved rights to take fish exclusively within the reservations, as well as the right to take fish at all of their usual and accustomed fishing places. Tribes expected, and the United States agreed, to secure those rights, and those rights are meaningless if the fish are not fit to eat.

A recreational user stated that he has sailed extensively on the Willamette and Columbia Rivers and believes we can do a better job of improving water quality on the river. These rivers and their drainages are one of our greatest regional assets and these regulations will go a long ways to improving that.

Several testifiers voiced opposition to the proposed rulemaking. One landowner stated that Senate Bill 502 and 503 were passed by the legislature in 1995 to give the Oregon Department of Agriculture sole responsibility for developing and implementing their program. This legislation would clearly be violated if DEQ established implementation-ready TMDLs. In addition, DEQ's need to determine specific amounts of surrogate measures needed to achieve TMDL goals is one hundred and eighty degrees away from a cooperative method successfully used since Senate Bill 1010.

Clean Water Services stated that they are committed to effective toxic pollution control and gave examples of the innovative programs they are currently implementing. Their members have participated for a long time on the development of this rule package and they feel it fails to provide clear and effective implementation guidance and implementation programs. This rulemaking could force them into a situation where they spend a substantial amount of money on programs that are not effective at reducing toxics within the basin. They further recommended that the DEQ and the Environmental Quality Commission provide clear and effective guidance associated with this rule and, as much as possible, to integrate implementation guidance within the rule itself. Alternatively, DEQ needs to make sure that guidance is well developed as they review this rule package, and not to proceed with the rulemaking until it is clear on what that guidance contains. The testifier also suggested that the rulemaking should look at the basins more broadly (e.g. implement a watershed approach) and not focus solely on what a waste water treatment plant can provide.

There was no other testimony provided. DEQ adjourned the hearing at approximately 7:52 p.m.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: Feb. 16, 2011

To: Environmental Quality Commission

From: Jane O'Keeffe, EQC commissioner

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: Feb. 16, 2011, 1:30 p.m.

Hearing location: DEQ Headquarters
 Room EQC-A (10th floor)
 811 SW 6th Ave.
 Portland, OR 97204

This hearing was held in front of the Environmental Quality Commission. The hearings officer was Commissioner Jane O'Keeffe, a member of EQC. Sixty-four people attended the hearing, 35 provided oral testimony, and 96 written comments were submitted. The department convened the rulemaking hearing on the proposal referenced above at 1:30 pm and closed it at 4:30 pm.

Commissioner O'Keeffe introduced Jennifer Wigal and Gene Foster from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. Sixteen of the testifiers did not sign in, but were counted as part of the total attendees. People were also advised that the hearing was being recorded.

At approximately 1:45 p.m., Commissioner O'Keeffe announced opened the formal hearing on the proposed rulemaking. She informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. She asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. She added that written comments would be given the same weight as oral comments. Commissioner O'Keeffe reminded the audience that the deadline date for receipt of written comments on the proposed rules is Monday, March 21, 2011,

at 5 p.m. She stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. She added that DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Thirty-five persons provided oral testimony, and 96 written comments were submitted by persons who did not testify, with one of the three written comments being a form letter that was submitted by 94 people supporting the rulemaking. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Elwood Patawa (written testimony and also submitted written comments)	Confederated Tribes of the Umatilla Indian Reservation (CTUIR)	Support
2. Kat Brigham	CTUIR	Support
3. Curtis W. Martin (also written testimony)	Oregon Cattleman's Association	Oppose
4. Jack Giffen, Jr	Confederated Tribes of the Grand Ronde	Support
5. Ryan Bransetter	CTUIR	Support
6. (J.) Michael Read (also written testimony)	Oak Lodge Sanitation District	Oppose
7. Ron Bittler	The Metropolitan Wastewater Management Commission	Oppose
8. Chuck Mickelson	City of Ontario	Oppose
9. Steve Griffith (submitted various research papers)	USDA—Agricultural Research Service	Oppose?
10. Brandy Humphreys	Confederated Tribes of the Grand Ronde	Support
11. Don Gentry	Klamath Tribes	Support
12. Peggy Browne	Natural Resources and Agricultural Consultant/Rancher	Oppose
13. Tracey Liskey	Private citizen	Oppose
14. Doug Krahmer	Private citizen	Oppose
15. Barry Bushue	Oregon Farm Bureau	Oppose
16. Jennifer Shmikler	Oregon Farm Bureau	Oppose
17. Joe Hobson	Oregon Farm Bureau	Oppose
18. Stephanie Eisner (also written testimony)	City of Salem	Oppose
19. Liz VanLeeuwen (also written testimony as private citizen and Board member)	Private citizen and Linn County Soil and Water Conservation District Board	Oppose
20. Mark Mellbye	OSU Extension Service	Oppose

Provided oral testimony		
Name	Affiliation	General position
21. Jon Kane	Columbia River Inter-Tribal Fish Commission (CRITFC)	Support
22. Marc Whitman	Nez Perce Tribe	Support
23. Bobby Begay	Yakama Nation	Support
24. Janet Gillaspie & Chris Fick (also written testimony)	Association of Clean Water Agencies and League of Cities	Oppose
25. Dan Hanthorn	City of Corvallis	Oppose
26. Lauren Goldberg	Columbia Riverkeeper	Support
27. Kathryn VanNatta	Northwest Pulp & Paper Association	Oppose
28. Terry Witt	Oregonians for Food & Shelter	Oppose
29. Steve Higgs	Perkins Coie LLP (representing City of Klamath Falls)	Oppose
30. Aja DeCoteau (also written testimony)	CRITFC	Support
31. David Liberty	CTUIR	Support
32. Teresa Huntsinger	Oregon Environmental Council	Support
33. Brett Vandenheuvel	Columbia Riverkeeper	Support
34. Karla Kay Edwards	Cascade Policy Institute	Oppose
35. Sheri Wadekamper	LGW Ranch	Oppose
Written comments received from persons who did not testify		
1. Laura Gephart	CRITFC	Support
2. Steve Fancher	City of Gresham	Oppose
3. Form letters (94)	Various tribal members	Support

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking. The list of testifiers was distributed between those who generally support the rulemaking and those who do not support the rulemaking. Those who support the rulemaking were members of tribes and several environmental organizations.

Tribal members expressed the need for DEQ to protect the health of those Oregonians who regularly consume fish and shellfish—tribal members, other ethnic groups and Oregonians who choose to eat more fish. Tribal members expressed that fish are not only a major source of food, but are also an integral part of their cultural, economic and spiritual well-being. Some tribal members felt that treaty-protected rights to take fish are threatened if the fish and waterways are contaminated. Supporters state that a fish consumption rate of 175 grams per day is a reasonable and protective value to use as the basis for Oregon’s human health toxics criteria. Tribal members and environmental groups feel that the information and data contained in the CRITFC study and the other studies examined to develop a fish consumption rate are scientifically defensible. One environmental group member expressed that addressing toxics in fish that we eat is an environmental justice issue, while another environmental group representative was

disappointed that members of the various workgroups involved in the rulemaking are now attacking the rule. The Chairman of the Board of Trustees of the Confederated Tribes of the Umatilla Indian Reservation submitted 94 letters of support from primarily tribal members residing in Oregon and Washington.

The Columbia Riverkeeper environmental organization strongly supports going forward with this rulemaking, although they feel there are flaws contained in the rule. For example, stormwater discharges are not considered in this rule, and the rulemaking fails to address nonpoint sources of toxics in any meaningful way because the changes DEQ is proposing to make, simply re-state statutory requirements.

Opponents of the rulemaking mainly consist of municipalities, agricultural and forestry interests, and private landowners.

The cities stressed that they are committed to toxics reduction, as evident in the various pollution reduction strategies and programs that are currently being implemented. However, it would be far more effective to go after the sources of the toxic pollutant. Without the active participation of forestry and agriculture, the water quality objectives will never be met. Once the pollutant is in the waste stream, some of these toxic chemicals are either impossible to remove or are very expensive to treat. Some of the commenters discussed the results of an independent analysis which indicated that most of the publicly-owned treatment works will exceed new water quality criteria for mostly legacy pesticides and PCBs from human waste. In addition, chemicals such as DDT and plasticizers are found everywhere in the environment, in people and in wastewater effluent at low levels.

Many cities and the Association of Clean Water Agencies, ACWA, remain concerned that variances are not a viable or appropriate tool for resolving water quality objectives. As variances may be the primary compliance tool for municipalities, there is concern about how the variance process will be administered and question whether DEQ water quality staff will be able to accomplish expected workload increases in reviewing variances. Many municipalities indicate that the costs to request and approve a variance have been underestimated by DEQ and that the expenditure of funds could potentially divert ratepayer investments from other investments that would have greater water quality benefits. ACWA and several of the municipalities recommended that EQC direct DEQ to develop a specific implementation plan by category of pollutant to indicate which Clean Water Act tool could be used to meet the underlying water quality criteria, including TMDLs, use of site specific criteria or a use attainability analysis.

The remainder of the rulemaking opponents consisted of forestry and agricultural interests. All expressed frustration that the efforts by many landowners to install or implement various best

management practices to reduce nonpoint sources of pollution are being ignored by DEQ. Another point of contention expressed by the Oregon Farm Bureau, soil and water conservation districts, the Oregon Cattlemen's Association and a number of landowners was the belief that the proposed rule language in Division 41 and 42 regarding nonpoint sources is a direct challenge to the statutory and regulatory authority given to the Oregon Department of Agriculture by Senate Bill 1010. Many commenters feel that the current relationship and process between ODA staff and landowners works well and would destroy the cooperation and trust that has taken years to establish.

Northwest Pulp and Paper Association recognizes the challenges faced by dischargers and the department and believes there are other options available. These ideas will be submitted before the end of the comment period.

One person from the Cascade Policy Institute vigorously questioned the scientific validity of 175 grams per day. She indicated that the CRITFC study is over 20 years old and that the fish consumption rate should be recalculated based on current data. In addition, salmon should not be included in the fish consumption rate because they spend the majority of their life cycle in the ocean where Oregon water quality standards do not apply.

There was no other testimony provided. Commissioner O'Keeffe adjourned the hearing at 4:30 pm.

State of Oregon
Department of Environmental Quality

Memorandum

Presiding Officer's Report

Date: March 11, 2011

To: Environmental Quality Commission

From: Steve Schnurbusch

Subject: Presiding Officer's Report for Rulemaking Hearing

Title of proposal: Revising Human Health Water Quality Standards for Toxic Pollutants

Hearing date and time: March 7, 2011, 5:30 p.m.

Hearing location: Labor and Industries Building
350 Winter Street NE, Room 260
Salem, OR 97309

The hearings officer was Steve Schnurbusch. Twenty-four people attended the hearing and 11 provided oral testimony. DEQ convened the rulemaking hearing on the proposal referenced above at 5:30 p.m. and closed it at approximately 7:48 p.m.

Schnurbush introduced Jennifer Wigal and Gene Foster from DEQ, who gave a short presentation summarizing the proposed rulemaking. People were asked to sign registration forms if they wished to present comments. People were also advised that the hearing was being recorded.

At 6:48 p.m., Schnurbush opened the formal hearing on the proposed rulemaking. He informed people that the hearing would be recorded and that testimony would become part of the public record for the rulemaking. Steve explained that his role was to take testimony on behalf of EQC and prepare a report summarizing the written and verbal comments. He asked that people interested in providing oral testimony fill out a witness registration form, and would call people to testify in the order they turned in the form. Schnurbush added that written comments would be given the same weight as oral comments. Schnurbush announced that the deadline date for receipt of written comments on the proposed rules is March 21, 2011, at 5 p.m. He stated that after reviewing the comments, DEQ may consider revisions to the proposed rules. He added that

DEQ's final recommendation for rule adoption will be made at the EQC meeting scheduled for June 16-17, 2011, and that EQC can use its own discretion in deciding whether to adopt all, part or none of the proposed rules, postpone adoption, or hold additional public hearings.

Summary of the testimony

Eleven persons provided oral testimony. Table 1 lists the names of those who provided testimony and the general position supported by each person.

TABLE 1: List of commenters

Provided oral testimony		
Name	Affiliation	General position
1. Senator Doug Whitsett (also written testimony)	Representing District 28	Oppose
2. Nina Bell	Northwest Environmental Advocates	Oppose
3. Jonathan Schlueter	Westside Economic Alliance	Oppose
4. Jannine Jennings (also written testimony)	Environmental Protection Agency Region 10	Support
5. Wilbur Slockish (also written testimony)	Yakama Nation / Columbia River Inter Tribal Fish Commission (CRITFC)	Support
6. Janet Gillaspie	Association of Clean Water Agencies	Oppose
7. Mitch Pond (also written testimony)	Confederated Tribes of the Umatilla Indian Reservation / CRITFC	Support
8. Don Winisnut Sr. (also written testimony)	Confederated Tribes of Warm Springs	Support
9. Diane Barton	CRITFC	Support
10. Cat Koehn	Artists for Action	Support
11. Ivan Maluski	Sierra Club	Support

The following is a summary of written and oral comments received at the hearing. DEQ will include these comments in the final rulemaking.

Eleven people testified at the hearing, with four opposed and seven people in favor of the proposed rules. Four of those in support of the rulemaking are associated with the tribes. They stated the consumption rate of 175 grams per day is a reasonable value to use that would be protective of the majority of their members. Fish are a major source of food for the tribes just as meat is for a large portion of Americans. Fish are also an integral part of their culture and used for ceremonial purposes. They mentioned there are other ethnic groups who are subsistence fishers and this rule would be protective of them as well. They state there are studies that show some toxics are building up in fish tissue and present in the water column, so now is the time to act on these new standards before it is too late.

The Sierra Club was in support of the proposed rule. They were involved with the adoption of Senate Bill 737 which was aimed at toxics monitoring for domestic sources. They feel this rule

will push industrial sources to reduce toxic pollutants in their effluents. They also expressed concern about DEQ needing to work closely with the Oregon Departments of Agriculture and Forestry in improving implementation of nonpoint strategies for reducing toxics.

EPA stated that if DEQ did not adopt these new rules that EPA would be forced to promulgate new rules for the state. In general, they believe states are in the best position to adopt and implement new standards. EPA stated the consumption rate of 175 grams per day is the appropriate value to use. They also stated Oregon's proposed rule provides some innovative compliance tools that EPA would not be proposing if they were forced to promulgate the new standards.

The Association of Clean Water Services expressed support for reducing toxics. They feel all pollution sources need to be involved in reducing toxics pollutants. They support the rule revision for nonpoint sources but feel the language needs to be stronger. They believe there needs to be an implementation strategy for each category of pollutant that will outline the overall strategy for reducing toxics. They state that end of pipe treatment is not necessarily feasible or the most cost effective way to reduce toxics. They would like to see a comprehensive toxics reduction program prior to the adoption of the revised standards. They are also concerned about the use of variances because they are burdensome and expensive to develop and will not resolve the underlying water quality issues.

Northwest Environmental Advocates are opposed to the variance provisions incorporated into the rule, as they feel these are loopholes for point sources. They also feel the rule does not have strong enough language for controlling nonpoint sources of pollution. Overall, they feel this rule will have little, if any, environmental improvements.

Westside Economic Alliance expressed concerns regarding the costs of these new regulations and whether we really know what the problem is that DEQ is trying to solve and what is the goal and how DEQ measures success. They also are concerned about the validity of the fish studies used to determine the fish consumption rate regarding anadromous versus resident fish. They want to know whether a distinction was made between consumption of anadromous fish and resident fish because salmon spend such little time in fresh water where the new standards would apply.

Senator Whitsett opposed the proposed rule primarily because the scientific studies used to establish the fish consumption rate were lacking in merit. He questioned some of the methods used in surveying participants, noting in one study that data was only collected over a two-day period. He also noted that low income individuals were oversampled to ensure their

representation in the survey. In addition, he noted another study reported that some of the fish consumed may not be found in Oregon waters.

Another commenter stated DEQ needs to address toxics in sediment and do more to address nonpoint sources. The commenter did not support variances.

There was no other testimony provided. DEQ adjourned the hearing at approximately 7:48 p.m.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Relationship to Federal Requirements

**Revised Water Quality Standards for Human Health Toxic Pollutants and Revised
Water Quality Standards Implementation Policies**

Answers to the following questions identify how the proposed rulemaking relates to federal requirements and the justification for differing from, or adding to, federal requirements. This statement is required by OAR 340-011-0029(1).

1. Is the proposed rulemaking different from, or in addition to, applicable federal requirements? If so, what are the differences or additions?

No, this proposed rulemaking is not different from or in addition to applicable federal requirements. The federal Clean Water Act requires states to adopt water quality standards to protect beneficial uses of the nation's waters. The standards must be based on substantial evidence. DEQ must submit the proposed standards to EPA for approval if they are adopted by EQC. DEQ has concluded that the proposed standards revisions meet federal requirements. DEQ has worked with EPA through the development of the proposed rules and we expect that EPA will approve the new and revised rules.

States must develop Total Maximum Daily Loads, or TMDLs, for waterbodies that do not meet applicable water quality standards that have been listed on the state's list of impaired waters developed under section 303(d) of the Clean Water Act. Nonpoint sources can be a significant source for some pollutants in some waterbodies. In those areas, nonpoint source load reductions would be needed to meet the TMDL loading capacity and the associated water quality standard. Therefore, nonpoint source implementation to meet the TMDL load allocations is needed to have reasonable assurance that the TMDL, when fully implemented, would lead to water quality standards attainment. Therefore, these proposed rule changes are not different than, or in addition to applicable federal requirements and any reasonable assurance needed to meet TMDL load allocations.

2. If the proposal differs from, or is in addition to, applicable federal requirements, explain the reasons for the difference or addition (including as appropriate, the public health, environmental, scientific, economic, technological, administrative or other reasons).

Not applicable

3. If the proposal differs from, or is in addition to, applicable federal requirements, did DEQ consider alternatives to the difference or addition? If so, describe the alternatives and the reason(s) they were not pursued.

Not applicable

DEPARTMENT OF ENVIRONMENTAL QUALITY
Chapter 340
Proposed Rulemaking
STATEMENT OF NEED AND FISCAL AND ECONOMIC IMPACT

**Revised Water Quality Standards for Human Health Toxic Pollutants and Revised Water Quality Standards
Implementation Policies
Fiscal and Economic Impacts**

This form accompanies a Notice of Proposed Rulemaking

Title of Proposed Rulemaking	Revised Water Quality Standards for Human Health Toxic Pollutants and Revised Water Quality Standards Implementation Policies. Proposed changes affect Divisions 41, 42, and 45.
Statutory Authority or other Legal Authority	ORS 468B.010, ORS 468B.020, ORS 468B.035, ORS 468B.110, and ORS 468.020
Statutes Implemented	ORS 468B.048
Need for the Rule(s)	DEQ's currently effective human health toxics criteria are based on a fish consumption rate that does not provide adequate protection for the amount of fish and shellfish consumed by Oregonians. On June 1, 2010, the U.S. Environmental Protection Agency (EPA) disapproved human health toxics criteria that were submitted for approval in 2004 and were based on a fish consumption rate of 17.5 grams per day (g/day). EPA disapproved the human health toxics criteria because the fish consumption rate (FCR) was not considered protective of many Oregonians. DEQ is addressing EPA's disapproval by proposing to use a higher fish consumption rate of 175 g/day to calculate more protective human health toxics criteria. If DEQ does not promulgate revised criteria, EPA must conduct rulemaking to promulgate human health toxics criteria for Oregon. This rulemaking also proposes new rules and revisions to existing rules for various National Pollutant Discharge Elimination System (NPDES) implementation tools developed to assist dischargers in complying with revised standards. Further, revisions to the water quality standards and Total Maximum Daily Load (TMDL) rules are proposed to make DEQ's rules consistent with state statutes affecting nonpoint sources of pollution and for DEQ to assign load allocations to significant land and air sources in TMDLs.
Documents Relied Upon for Rulemaking	1. <i>Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters</i>, SAIC (June 2008)— The EPA contracted Science Applications International Corporation (SAIC) to estimate the potential incremental compliance actions and costs that may be associated with more stringent criteria based on an increased fish consumption rate. The report extrapolated compliance costs for both baseline criteria (i.e. the criteria in effect at that time: Table 20 and Table 33A) and incremental costs derived from implementation of the criteria based on various increased fish consumption rates. This report constitutes the most current and relevant source of information the department has in regards to fiscal and economic impacts. Discussions of the report's limitations are acknowledged throughout the report. Note that the SAIC report used the effective criteria at the time of the report to determine the base costs for compliance, which were primarily those criteria contained in Table 33A that are based upon a fish consumption rate of 17.5 g/d. Therefore, the report didn't analyze the cost of implementing and attaining the criteria based on the criteria in effect at the time of the proposed rule, which is based on a FCR of 6.5 g/d. Although the effective toxics criteria are based on 6.5 g/day given EPA's June 2010 disapproval of criteria based on 17.5 g/day, in the absence of more precise information, DEQ will use SAIC's baseline cost estimates derived from criteria

	based on a FCR of 17.5 g/day to estimate incremental costs of complying with the proposed criteria based on a FCR of 175 g/day. 2. <u>Fiscal Impact and Implementation Advisory Committee (FIIAC) Memo</u>—The DEQ, EPA, and Confederated Tribes of the Umatilla Indian Reservation (CTUIR) convened a group of interested experts to develop feasible implementation options resulting from an increased FCR and to provide input on the impacts these options may have on a wide range of permitted dischargers, the public, and other stakeholders throughout the state. The expertise of the group ranged from backgrounds in economics, business administration, public works, public health, water quality, and engineering. The FIIAC developed a memo that provides an overview of the charge of the FIIAC, summarizes discussions around costs, benefits and implementation ideas that were considered by the group, and highlights conclusions and concerns regarding the SAIC report. 3. <i>NPDES Implementation Issue Paper, ODEQ (December 2010)</i>—This issue paper was developed by DEQ staff to support the human health toxics criteria rulemaking. The paper is comprised of various potential NPDES implementation tools that could be used in complying with more stringent toxics criteria. Each section describes the tool and includes information such as policy evaluations, DEQ recommendations, alternatives considered, work group discussions and views, proposed rule language and a framework for implementation. (placeholder for website here) 4. <i>Division 41 and 42 Issue Paper, ODEQ (December 2010)</i>—This issue paper was developed by DEQ staff to support the human health toxics criteria rulemaking. The paper discusses potential approaches to revise rules in the water quality standards provisions (Division 41) and the TMDL provisions (Division 42) to make our rules consistent with state statutes and clarify DEQ's regulatory relationship with other state agencies to control nonpoint sources of pollution. The issue paper includes sections on policy evaluation, DEQ recommendations, workgroup discussions and views, and proposed rule language. 5. <i>TMDL Development Issue Paper, ODEQ (December 2010)</i>—This issue paper was developed by DEQ to support the human health toxics criteria rulemaking. The paper discusses the strategy DEQ has developed to implement TMDLs more effectively, including the pollutant source identification at smaller geographic scales, stakeholder involvement on implementation strategies, and time lines and milestones for TMDL goals and the potential to assign load allocations to significant land and air sources in TMDLs. Includes sections on policy evaluation, DEQ recommendations, workgroup discussions and views. 6. <u>EPA National Recommended Water Quality Criteria Website</u> 7. <u>Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health</u>, EPA (2000). EPA 822-B-009-004. 8. <i>Fiscal and Economic Impact Narrative, ODEQ (December 2010)</i>--This document was developed to support the Statement of Need and Fiscal and Economic form and is attached to this form. These documents are available on websites or by contacting Andrea Matzke, Oregon DEQ, Water Quality Division, 811 SW Sixth Ave., Portland, OR 97204-1390, (503) 229-5384 or <u>matzke.andrea@deq.state.or.us</u>
Requests for Other Options	Pursuant to ORS 183.335(2)(b)(G), DEQ requests public comment on whether other options should be considered for achieving the rule's substantive goals while reducing negative economic impact of the rule on business.

Fiscal and Economic Impact, Statement of Cost Compliance										
Overview	The Clean Water Act (CWA) directs states to administer specific sections of the Clean Water Act (CWA). Section 303 of the Act requires that DEQ review Oregon’s water quality standards regularly in order to use the latest scientific information and consider the state’s current needs. Division 41 contains the rules that describe Oregon’s water quality standards. Divisions 45 and 41 contain the rules that govern Oregon’s development of NPDES permits and development of TMDLs, respectively, both of which contain provisions relating to how water quality standards are implemented in each of those CWA programs. Oregonians may be exposed to toxic pollutants through the fish we eat and the water we drink. Oregon’s water quality standards contain human health criteria, which are designed to protect human health from toxic pollutants that may occur in surface waters and may accumulate in fish. A key component of the human health criteria is the fish consumption rate, which is intended to reflect how much fish people eat. This proposal revises the human health criteria for toxics based on a higher fish consumption rate of 175 g/day which is more protective of Oregonians. These criteria, if adopted by the EQC and approved by EPA, will be the most stringent human health criteria in the country. This rulemaking also proposes new rule language and revisions to existing rule language for various NPDES implementation tools to assist dischargers in complying with revised standards. In addition, this rulemaking includes revisions to make DEQ’s rules consistent with state statutes affecting nonpoint sources of pollution and for DEQ to assign load allocations to significant land and air sources in TMDLs. The table below summarizes the proposed rule package. <table><tr><th>Rulemaking Element</th><th>Description</th><th>Comments</th></tr><tr><td colspan="3">Proposed Rules Addressing NPDES Implementation</td></tr><tr><td>Intake credit</td><td>This tool allows a source to pass through pollutants contained in their intake water to their effluent without treatment as long as the facility does not increase either the mass or concentration of the pollutant at the point of discharge.</td><td>DEQ expects there will be few permittees that will use this provision.</td></tr></table>	Rulemaking Element	Description	Comments	Proposed Rules Addressing NPDES Implementation			Intake credit	This tool allows a source to pass through pollutants contained in their intake water to their effluent without treatment as long as the facility does not increase either the mass or concentration of the pollutant at the point of discharge.	DEQ expects there will be few permittees that will use this provision.
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	Background Pollutant Allowance	New water quality standard provisions to allow a small increase in toxic pollutant load above ambient WQ conditions from a single point source, which is small enough that it is not expected to significantly affect human health risk.	Underlying water quality standards remain in effect for all other CWA purposes (e.g. other permittees, 303(d) listing and TMDL development).
	Variances with Pollutant Reduction Plans	A variance is a temporary exemption from meeting certain otherwise applicable water quality standards and must be justified based on one of six reasons specified in federal and state water quality standards regulations. Pollutant reduction plans are required to reduce the pollutant of concern where possible and show reasonable progress toward meeting the underlying water quality standard.	Substantial and widespread economic and social impact is one reason a variance may be granted. Other reasons include high, naturally occurring pollutant concentrations and human-caused conditions or sources of pollution that cannot be remedied or would cause more environmental damage to correct than leave in place. EPA must approve variances. Underlying water quality standards remain in effect for the water body and for all other CWA purposes (e.g. other permittees, 303(d) listing and TMDL development).
	Proposed Rules Addressing Non-NPDES Implementation		
	Division 41 and 42 Amendments	The proposed rules explain and implement ORS 527 and 568, which describe the mechanisms for forestry and agricultural nonpoint sources to meet water quality criteria. The new rules clarify how nonpoint sources must meet water quality criteria and TMDL load allocations. Although DEQ has authority to do so already, its ability to identify significant air and land sources and assign load allocations is not explicit in the existing Division 42 TMDL rule. DEQ proposes to revise this rule to clarify DEQ's authority to assign individual load allocations to air and land sources in TMDLs.	The proposed rules clarify the roles and responsibilities of DEQ, the Departments of Forestry and Agriculture and nonpoint sources to ensure that water quality standards and load allocations for nonpoint sources are achieved. The current rulemaking addresses only water quality regulations, but regulations governing air quality and land quality should also be reviewed in the future to ensure there are regulatory mechanisms to implement and enforce waste load allocations for land and air sources.
The general public, small and large businesses, communities, and public agencies could be impacted by the proposed criteria changes either directly and indirectly. The establishment of criteria, by themselves, has no direct impact or effect. Rather, how the department applies those criteria will affect Oregonians. Specifically, the department may impose additional monitoring and treatment requirements in wastewater discharge permits and to certifications for			

sediment removal and fill activities and hydroelectric operations to comply with the revised criteria. The new and revised criteria may result in more waters being listed as having impaired water quality, which in turn will trigger the requirement to develop additional TMDLs with specified waste load allocations for the pollutants of concern. In addition, the revised criteria may result in the need for altered management practices to control discharges from nonpoint sources, including those subject to Total Maximum Daily Loads (TMDLs) established for water quality limited waterbodies.

The fiscal and economic impact analysis is based on a comparison of impacts between the effective human health toxics criteria, which are based on a FCR of 6.5 g/day, to the proposed toxics criteria, which are based on a FCR of 175 g/d. Therefore, the costs of complying with the existing toxics criteria will not be analyzed for this fiscal review. However, DEQ recognizes that not all CWA programs that are impacted by toxics criteria have been fully implemented at the baseline level.

It is difficult to make a direct comparison between the effective criteria and the proposed criteria and determine what the subsequent associated fiscal and economic impacts will be. Part of the complication arises from the 2004 rulemaking which segregated criteria into two groups (one group being effective for permitting purposes in advance of EPA's action and one group *not* effective until EPA action). The result of the 2004 rulemaking was that dischargers were required to implement the more stringent human health criteria based on 17.5 g/day, while other CWA programs continued to implement criteria based on 6.5 g/day (e.g. section 401 certifications). EPA did not take action on DEQ's 2004 toxics criteria until June 1, 2010, when it disapproved the majority of human health criteria based on EPA's conclusion that the fish consumption rate used in 2004 was not protective enough. Among the criteria disapproved were criteria for approximately 44 toxic pollutants that DEQ added as part of the 2004 rulemaking. In addition, many of these new criteria values DEQ adopted in 2004 were the result of criteria changing from totals of that chemical to individual species of that chemical group (e.g. PAHs, endosulfan, dichlorobenzenes). While the majority of the revised criteria were disapproved, EPA approved the withdrawal of criteria values for eight toxic pollutants based on previous EPA recommendations. In addition, EPA took no action in 2010 on some criteria withdrawn in 2004 and consequently, values for those criteria remain. However, these pollutants no longer have EPA criteria, therefore, DEQ proposes to withdraw these criteria as part of this rulemaking. In addition, DEQ is not proposing to revise eight criteria values that do not rely on a fish consumption rate. Instead, the criteria are derived from drinking water maximum contaminant levels (MCLs). The table below depicts a general comparison of current versus proposed criteria. Please refer to Table 1 in Appendix B of the fiscal narrative attachment for a comparison of the current criteria versus the proposed criteria.

Which Pollutants Have More Stringent Criteria? Proposed vs. Current	*Number
Proposed	48
Current	4
Same	10
Mix**	6

TOTAL 68

* Analysis only includes criteria that have both current and proposed criteria and does not include criteria that were either withdrawn or added

** For example, a "water + org" proposed criterion for a chemical becomes less stringent, but then a new "org only" criterion was proposed.

Approximately 48% of the proposed human health criteria have Quantitation Limits (QLs) (i.e. levels that represent the lowest level at which a pollutant is detectable and quantifiable, using currently accepted analytical methodologies) that are higher than the criterion. For that reason, there may be pollutants in Oregon's water bodies or in wastewater effluent that cannot be measured given limitations in analytical methods. For permitting purposes, the QL becomes the compliance point for dischargers in these circumstances. Consequently, if the criterion for a particular pollutant becomes more stringent, but the QL remains higher than the criterion, there would be no effective change in the point of compliance until and unless analytical methods improve. Historically, the pace of change in laboratory methods has not been rapid. However, when methods do improve, there will likely be additional toxics impairment listings for water bodies and more stringent water quality based effluent limits (WQBELs) for permit holders.

Identifying Pollutants Most Likely to Present Challenges for Sources

The SAIC Report

The SAIC Report identified three pollutants where additional controls may be needed to achieve compliance with lower criteria: (1) arsenic; (2) Bis(2-ethylhexyl)phthalate; and (3) mercury. As part of the 2004 rule revision, Oregon withdrew its national CWA § 304(a) human health criterion for total mercury and replaced these criteria with a new fish tissue-based "organism only" human health criterion for methylmercury. DEQ does not currently have a criterion for methylmercury because EPA disapproved the criterion on June 1, 2010 based on a fish consumption rate that was not considered protective of human health. DEQ is proposing a replacement fish-tissue based methylmercury criterion based on 175 g/day as part of this toxics rulemaking. The SAIC Report assumed that DEQ would use EPA's default values to convert the methylmercury fish tissue criterion into a total mercury water column criterion. However, until data on methylmercury

are collected and analyzed in Oregon water bodies, it is unclear what the state of compliance will be and how relevant the results are from the SAIC Report.

DEQ proposed a revised criterion for arsenic, along with revised criteria for iron and manganese in a separate rulemaking and will not be a part of this rulemaking package. Revised criteria for iron and manganese were adopted by the EQC on December 9, 2010. A revised criterion for arsenic is anticipated to be adopted in April 2011. Because DEQ is proposing a higher criterion for arsenic than what was reflected in the SAIC report, some of the compliance issues associated with arsenic may be minimized. The economic and fiscal impact of revising criteria for iron, manganese, and arsenic will be analyzed separately and will not be addressed here.

Among the 20 facilities evaluated, SAIC found that 3 facilities could have compliance issues with Bis(2-ethylhexyl)phthalate under a fish consumption rate of 175 g/day. It is unknown to what extent additional facilities may face compliance issues. The current QL for Bis(2-ethylhexyl)phthalate is now higher than the proposed criteria (previously, the criterion was greater than the QL), therefore the QL will become the effective compliance point.

Listings for Pollutants and Pollutants Identified as “Potential Concern”

Water column sampling, as well as fish tissue sampling and sediment analysis have indicated the presence of toxics in Oregon's waterbodies. Overall, the 2004/2006 Integrated Report contains a total of 249 water body segments listed for a toxic pollutant criterion.

- 27 of those (11%) are listed for mercury. (These listings are based on fish consumption advisories, which are not affected by water quality standards.)
- 107 of those (43%) are listed for arsenic, iron or manganese, and are being analyzed for compliance issues in separate rulemakings.
- Other most commonly listed pollutants are beryllium, dieldrin, DDT, PCBs, chlorpyrifos, and copper.

Appendix C of the fiscal narrative contains a complete list of waterbodies that are contained in Oregon's 303(d) list for exceeding criteria for certain toxic pollutants. Appendix C also includes a table depicting pollutants of potential concern.

DEQ is targeting adoption of human health criteria based on a FCR of 175 g/day by the EQC in June 2011. Consequently, the proposed criteria will not be adopted and approved by EPA in time to be evaluated as part of the 2010 Integrated Report. DEQ will incorporate the revised human health toxics criteria into the Integrated Report as soon as feasible. Depending upon the timing of EPA approval, DEQ may be able to incorporate the revised criteria into the Integrated

Report as soon as the 2012 Integrated Report. Depending on monitoring results and the ability to quantify low concentrations of toxic pollutants, there may be additional listings for toxics in the 2012 Integrated Report or reports thereafter. For some toxic pollutants, DEQ anticipates removing waterbodies in future 303(d) lists based on: (1) criteria that were recently approved by EPA in June 2010 that DEQ withdrew as water quality standards (i.e. beryllium, cadmium, chromium III and VI, lead, mercury, silver, and trichloroethane 1,1,1,) and (2) criteria changes to arsenic, iron, and manganese as proposed in separate rulemakings. It is difficult for DEQ to predict which other toxics could pose potential compliance issues in the future, given the generally small amount of ambient and effluent monitoring data that is available.

Likely Industrial Sectors Discharging Pollutants

Of the 19 facilities covered by major industrial NPDES permits, approximately nine are pulp and paper industries. Of the remaining 10 facilities, there are several smelting or refining industries, electronics and chemical manufacturing, and food processors. In a summary review of these 19 permits, DEQ has established effluent limits for several toxics, as well as additional monitoring requirements for selected toxics. The table below contains a summary of current toxics effluent limits and requirements for monitoring for a selection of major industrials. Based on a review of available information, DEQ has not established toxic pollutant effluent limits in food processing permits.

Category	Toxic Effluent Limits	Additional Toxics Monitoring
Pulp & Paper Industry	-arsenic (total), adsorbable organic halides (AOX), 2,3,7,8-TCDD, lead, and zinc	-Whole Effluent Toxicity, metals (including total arsenic), inorganic arsenic, cyanide, total phenols, volatile compounds, acidextractable compounds, and pesticides - Priority Pollutant Scan - metals, cyanide, and total phenols -Priority Pollutant Scan - organic toxic pollutants
Primary Smelting and/or Refining	-benzo (a) pyrene, antimony, nickel, aluminum, free cyanide	PCBs
Electronics	-total chromium, total toxics organics (sum of the concentrations for approximately 30 toxic organic compounds)	

Applicability and Potential Effect of Rulemaking Associated with NPDES Permits and §401 Water Quality Certifications

Generally, the proposed human health criteria for toxics are applicable to all individual and general permits. The degree to which these permits are in fact affected by the new and revised criteria will be determined by an analysis of ambient and effluent data. Analysis of monitoring data may indicate the need for WQBELs. Dischargers with WQBELs for toxic pollutants could have varying costs, ranging from minimal staff time involvement (e.g. employing intake credits) to installing various capital improvement measures to meet WQBELs.

Adoption and approval of new criteria will not affect NPDES permits until permits are renewed. DEQ will not modify existing permits in effect to incorporate the new criteria at the time of EPA approval if that approval occurs during their permit cycle. At the time of permit renewal, DEQ will evaluate whether new WQBELs need to be developed to meet revised water quality criteria.

The SAIC report indicated that some dischargers will have issues associated with complying with the existing criteria. The table below represents potential annual compliance costs extrapolated from a sample representing both major municipals and industrials, and indicates that the greatest proportional cost would be attributed to complying with the baseline standard (i.e. 17.5 g/day), rather than the incremental costs associated with a higher fish consumption rate. The highlighted cost range below indicates the incremental costs of complying with a FCR of 175 g/day, not taking into account inflow and infiltration (I&I) of arsenic, which is not relevant for this analysis since arsenic is not being addressed by this proposed rulemaking. For more detailed information on this table, including estimated costs for individual facilities in the sample selection, please see Appendix F in the SAIC Report.

Exhibit ES-1. Summary of Potential Annual Compliance Costs (millions of \$2007)

Scenario	Total		Incremental ¹	
	With I&I Costs ²	No I&I Costs	With I&I Costs ²	No I&I Costs
Baseline	\$3.62 - \$29.7	\$3.62 - \$3.92	NA	NA
63.2 gpd	\$3.69 - \$29.8	\$3.69 - \$4.04	\$0.075 - \$0.13	\$0.075 - \$0.13
113 gpd	\$3.96 - \$30.1	\$3.96 - \$4.31	\$0.35 - \$0.40	\$0.35 - \$0.40
175 gpd	\$3.96 - \$31.0	\$3.96 - \$4.36	\$0.35 - \$1.32	\$0.35 - \$0.45
389 gpd	\$4.46 - \$31.6	\$4.46 - \$4.86	\$0.85 - \$1.82	\$0.85 - \$0.95
620 gpd	\$4.46 - \$31.6	\$4.46 - \$4.86	\$0.85 - \$1.82	\$0.85 - \$0.95

NA = Not applicable

1. Represents the difference between total annual cost and baseline costs (i.e., incremental costs above and beyond those needed for compliance with baseline criteria).

2. High estimate includes cost of I&I to reduce arsenic in municipal sewer systems.

Although there are estimates available for annual compliance costs from the SAIC Report, specific costs for any one facility will vary on a case-by-case basis and will depend on variables such as pollutants present, availability of treatment technologies able to treat to specified levels, and compliance options available to facilities (e.g. intake credits vs. end of pipe treatment technologies vs. variances).

Applicability and Potential Effect of Rulemaking Associated with Stormwater Permits

DEQ issues three different types of stormwater permits: individual Municipal Separate Storm Sewer System (MS4) permits, construction stormwater permits, and industrial stormwater permits. Because stormwater discharges are intermittent, DEQ does not apply the human health criteria (which are generally based on a 70 year exposure) to permits for these discharges and instead, uses the aquatic life criteria as the basis for stormwater permit requirements. This approach is consistent with EPA's approach for stormwater permits. However, in the industrial stormwater permit currently under development (expected to be issued in August 2011), it is likely that sources who discharge to waterbodies that are listed as impaired for any criteria will have to monitor for these pollutants. Therefore, there could be sampling and analysis costs to industrial stormwater permit holders once the permit is finalized and additional impaired waters have been identified based on the revised human health criteria. As a result, there will likely be additional costs to these dischargers who exceed these criteria and are required to develop BMPs to reduce the pollutant of concern. The table below describes the number of facilities with industrial stormwater permits.

Industrial Stormwater Permit	Description	No. of Facilities*
1200-COLS	Facilities located in the Columbia Slough watershed	138
1200-Z	All other industrial facilities in the state	770
Total		908

* As of September 2010

Applicability and Potential Effect of Rulemaking Associated With General Permits for Activities Other than Stormwater

The 1500A permit for petroleum hydrocarbon cleanup from groundwater or surface water is currently the only general permit with requirements for human health criteria. When this permit is renewed, these criteria will need to be addressed. Twenty facilities are registered to the permit. There is an effluent limit for BETX, which is quantified based on an EPA approved test method to determine the total amount for benzene, ethylbenzene, toluene and xylene. The current permit establishes a 10:1 dilution. With a dilution of 10 and a revised criterion of 0.44 ug/L for benzene, the effluent limit at the end of pipe for benzene would be 4.4 ug/L. These effluent limits are met at the end of pipe by treating contaminated water with air stripping and/or activated carbon adsorption. It is not known whether technology can consistently meet a lower

effluent limit. This work would be completed as part of the general permit renewal.

Applicability and Potential Effect of Rulemaking Associated With 401 Certifications

The majority of activities for which DEQ issues Clean Water Act section 401 certifications would not be impacted by the proposed changes to the water quality criteria since the parameters of interest are typically conventional pollutants (e.g., dissolved oxygen, turbidity, temperature, etc.). However, there may be an impact to applicants (e.g. U.S. Corps of Engineers, Port of Portland) who propose sediment removal and fill projects, since some toxic pollutants that may be contained in the sediments can be released into waterbodies through movement of soil. Additional testing of the sediment may be required to assure that projects do not exceed water quality criteria for toxics and, if needed, mitigation measures may be required to reduce the impact of project.

Monitoring Costs

Generally, the costs of monitoring for dischargers could increase. If there is reasonable potential for a discharge to cause or contribute to an exceedance of applicable water quality criteria, more discharge monitoring may be needed which would increase analytical costs. Additionally, there could be a slight increase in the number of monitoring sites and/or frequency of sampling due to the implementation tools(e.g. to sufficiently characterize ambient conditions for variances, or monitoring data needed to meet a background allowance provision). Other potential analytical costs related to new QLs, analyzing individual species of pollutants, and costs for methyl mercury analysis are discussed under Fiscal and Economic Impacts to DEQ (See section III). Analytical costs described there would also be similar to costs incurred by dischargers.

With more stringent toxics criteria, there will likely be additional waterbodies listed as impaired for toxic pollutants and an increase in the subsequent number of TMDLs developed to meet toxics load allocations. Designated Management Agencies that may be identified as part of the TMDL include Oregon Department of Agriculture (ODA), Oregon Department of Forestry (ODF), Bureau of Land Management (BLM), U.S. Forest Service (USFS), municipalities, and irrigation districts and they may need additional resources in order to conduct additional monitoring for TMDL implementation tracking and BMP effectiveness monitoring. These monitoring costs may not be realized until sometime after the approval of the next Integrated Report, which would reflect any new listings based on the proposed toxics criteria.

Effect of Using Different Implementation Tools

Some situations may occur where limits or requirements based on the proposed criteria cannot

be met. Contamination of a facility's intake water by background pollutants (or in the case of municipal wastewater treatment facilities, some contaminants may be present in the drinking water) may result in high wastewater effluent concentrations that can't be feasibly treated or result in undesirable environmental tradeoffs to achieve. These pollutants may occur naturally or result from a variety of human activities. Intake credits, background pollutant allowances, and variances are implementation tools that can be used to address background contaminants and would potentially offset some of the impact of the revised criteria.

Some of the potential costs incurred by sources may be as the result of installing additional treatment technologies to reduce toxic pollutants in wastewater effluents. Some of these technologies are proven and are commonly used. Other technologies may be able to remove toxics to lower levels, but are not yet proven for wide-scale use, are not capable of treating down to the necessary levels, or present other limitations such as hazardous byproducts or prohibitive cost, thereby limiting the feasibility of their use for certain dischargers. For more information on specific treatment technologies, including advantages, disadvantages, and some limited costs, please refer to Appendix C in the SAIC Report.

Because there may not be feasible treatment technologies to remove low concentrations of toxic pollutants or other concerns regarding residual management from certain treatment technologies, some dischargers may pursue other implementation tools to comply with requirements based on the revised criteria. Some of the following tools are new (or revised), while other tools already exist in DEQ regulations. Generally, these tools provide a means to comply with and ensure progress toward meeting water quality standards and implementing regulations while ensuring protection of human health and the environment. Where meeting requirements to meet the revised criteria are infeasible, use of one of the approaches described below in appropriate circumstances can provide a lower cost means to comply with water quality standards than costs associated with removal technologies.

- o **Variances with pollution reduction plan**

DEQ is proposing to revise its current water quality standards regulation to include variances with a pollution reduction plan as an implementation pathway. Variances provide a mechanism for achieving water quality improvements when underlying water quality standards cannot be met in the short term. This provision would be allowed under limited circumstances. Variances are applicable to all types of pollutants and NPDES point sources, although DEQ anticipates that variances for toxic pollutants will be the majority of variance requests and approvals.

If a discharger is unable to comply with a water quality criterion because, for example, there are no feasible or affordable treatment technologies available, variances could be

pursued as a lower cost alternative, while complying with permit requirements and making water quality improvements. Despite lower anticipated net costs, there would still be incremental costs associated with variance requests and approvals for dischargers using this implementation tool. Potential costs include costs to sources to prepare and support an application (e.g. collecting water quality data, conducting an economic analysis, literature review for feasible pollutant removal technologies, etc); developing a pollution reduction plan, including potential strategies and implementing actions contained in the plan.

Impacts associated with this rulemaking focus on the incremental costs of complying with a fish consumption rate of 175 g/day, as opposed to costs associated with the current or baseline criteria. The SAIC Report estimates that one-time expenditures associated with variance applications could range from \$1.43 M to \$7.05 M (total statewide) with a FCR based on 17.5 g/day; incremental variance-related expenditures could range from \$0.59 million to \$2.68 million (total statewide) under revised criteria (highlighted in table below). The table below further shows a breakdown of costs between major municipal and industrial facilities. The average one-time cost per major municipality ranges from \$8,000 to \$44,000 under revised criteria, while the average one-time cost per major industrial ranges from \$9,000 to \$25,000. Costs for arsenic variances are included in these estimates and could not be apportioned out. However, proposed rulemaking to revise criteria for arsenic (i.e. become less stringent based on natural background concentrations) may reduce the need for facilities to use variances as a tool to comply with arsenic. Therefore, the variance cost estimates could be lower than what is reflected in this table.

Exhibit F-9. Potential Baseline and Incremental Statewide One-Time Variance Costs
(millions of 2007\$)

Category	Sample			Statewide	Extrapolated One-Time Cost
	Total One-Time Cost	Number of Facilities	Average Cost per Facility	Number of Facilities ¹	
Baseline Criteria					
Certainty Sample ²	\$0.14 - \$1.20	5	NA	5	\$0.14 - \$1.20
Major Municipals	\$0.21 - \$0.90	9	\$0.023 - \$0.10	45	\$1.05 - \$4.50
Major Industrials	\$0.035 - \$0.20	4	\$0.009 - \$0.050	27	\$0.24 - \$1.35
Total	\$0.39 - \$2.30	18	NA	77	\$1.43 - \$7.05
Revised Criteria (Incremental) ³					
Certainty Sample ²	\$0	5	NA	5	\$0
Major Municipals	\$0.070 - \$0.40	9	\$0.008 - \$0.044	45	\$0.35 - \$2.0
Major Industrials	\$0.035 - \$0.10	4	\$0.009 - \$0.025	27	\$0.24 - \$0.68
Total	\$0.11 - \$0.50	18	NA	77	\$0.59 - \$2.68

NA = not applicable

1. Random sample results extrapolated to total number in category less number in certainty sample.
2. Large flow municipals (one of which is dominated by industrial flow) plus one minor industrial.
3. Represents the annual costs of compliance above and beyond those needed for compliance with baseline criteria.

DEQ anticipates that first-time variance costs would be greater than subsequent requests to renew variances. Discharger costs associated with a renewal of a variance could be less, as most of the information required for a request would be an update of existing information gathered from the initial request. Each renewal request would need to be approved by both DEQ and EPA.

o **Intake credits**

Intake credits will be implemented at the time DEQ's permit writer is determining whether a particular facility has the reasonable potential to cause or contribute to an exceedance of the water quality criteria. Where the conditions meet the requirements in the regulation, the permit writer would conclude that the facility does not need a water quality based requirement in their limit for that pollutant or that the limit is based upon the concentration in the intake water. Without this provision the facility could have incurred the associated costs with meeting effluent limits or other requirements. As a result, where this implementation tool could be employed, the facility would avoid significant costs that would otherwise be incurred. DEQ expects that minimal input (in the form of additional monitoring data, etc.) would be needed from dischargers to facilitate the use of this tool. Given the limitations of this tool (i.e. facilities that have discharge pollutants originating from their intake water and a requirement that the mass and concentration of discharge cannot exceed that of intake water), DEQ estimates that few dischargers will be able to employ intake credits based on pollutants already present in their intake water.

o **Background pollutant allowance**

The background pollutant allowance allows a discharger to discharge effluent that is up to 3% higher than the background pollutant concentration of a water body that approaches or exceeds an applicable human health criterion (mass cannot be increased). The availability of this tool would very likely offset costs that would be incurred by dischargers if they were required to install expensive treatment technologies to reduce pollutant.

DEQ anticipates that some dischargers may need to adjust treatment processes to keep the mass of pollutant at or below upstream mass. Costs for this adjustment would vary

depending on the process needed. Dischargers may also need to adjust treatment processes to keep pollutant concentration to no greater than 3% of upstream concentration.

Based upon a review of current industrial permits, DEQ estimates that 32 minor and four major facilities have the potential to be impacted by background pollutants if present at high levels upstream of their facilities. These facilities typically employ significant quantities of surface water in their processes that result in evaporative loss and an increase in pollutant concentration.

BENEFITS

DEQ did not have the financial resources to conduct a quantitative analysis of the direct and indirect potential benefits associated with an increased fish consumption rate, however, the FIIAC committee members along with representatives from the Oregon Environmental Council and CTUIR agreed that while economic benefits can be difficult to analyze, it is important to describe potential benefits, at the very least, in a qualitative manner. A key outcome of revised water quality standards based on a higher fish consumption rate would not only benefit consumers of fish, but also achieve more stringent water quality criteria by reducing toxic contamination in waterways. The level of benefits achieved will depend on the degree to which pollution reduction is accomplished. Table 2 and the following table below is an excerpt from the FIIAC memo and describe benefits associated with this rulemaking.

Table 2: Potential Benefits of Raising the Fish Consumption Rate and Meeting the Standards

<i>Benefit</i>	<i>Examples</i>
Human Health	-safe drinking water; -avoided costs from environmentally attributable diseases; -reduced risk for those who do eat fish; -recreational – reduced risk from water contact
Environmental	-water reuse opportunities from cleaner effluent; -business—cleaner intake water for downstream industries; -ecosystem health; - tourism; -amenity/aesthetic/property values; -avoided costs to industries and utilities; -fewer contaminants; -fishing – tribal, commercial, recreational and subsistence; -improve other species in the food chain: birds, etc.; -higher quality water supply
Cultural	-enable religious/ceremonial activities; -children; -healthy fish – icon of the Northwest

	-local, and sustainable food options Potential Benefits of Specific Implementation Strategies <table> <tr> <th data-bbox="397 357 743 388">Strategy</th><th data-bbox="743 357 1529 388">Potential Benefit</th></tr> <tr> <td data-bbox="397 388 743 640">Toxic Reductions</td><td data-bbox="743 388 1529 640"> -Reduced human health impacts; -innovative possibilities used to reach more efficient systems when not fearful of litigation stemming from strict liability regulatory framework; -costs of litigation reduced; -reduced O&M; -reduced hazardous waste removal costs; </td></tr> <tr> <td data-bbox="397 640 743 724">Stormwater Control</td><td data-bbox="743 640 1529 724"> -Co-benefits for toxics reductions and control of other important stressors that affect fish health such as sedimentation and warm water temperatures </td></tr> <tr> <td data-bbox="397 724 743 829">Infiltration and Inflow (I&I)*</td><td data-bbox="743 724 1529 829"> -Reduce quantity of water and toxics entering plant, reducing operating costs </td></tr> </table> (* It should be noted that ACWA agencies are already engaged in I&I programs and do not agree that an incremental increase in I&I will result in toxics reduction and question the efficacy of additional increases in I&I rehab work since 100% I&I removal is currently not possible.)	Strategy	Potential Benefit	Toxic Reductions	-Reduced human health impacts; -innovative possibilities used to reach more efficient systems when not fearful of litigation stemming from strict liability regulatory framework; -costs of litigation reduced; -reduced O&M; -reduced hazardous waste removal costs;	Stormwater Control	-Co-benefits for toxics reductions and control of other important stressors that affect fish health such as sedimentation and warm water temperatures	Infiltration and Inflow (I&I)*	-Reduce quantity of water and toxics entering plant, reducing operating costs
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Stormwater Control	-Co-benefits for toxics reductions and control of other important stressors that affect fish health such as sedimentation and warm water temperatures								
Infiltration and Inflow (I&I)*	-Reduce quantity of water and toxics entering plant, reducing operating costs								
Impacts on the General Public	As a result of this rulemaking there will be direct and indirect costs to the general public. DEQ does not have enough information to determine how significant these will be; however, the description in this section qualitatively describes the types of impacts that could be experienced by the general public. The SAIC Report estimated that proposing a fish consumption rate of 175 g/day could result in annual facility costs of \$0.35 to \$0.45 million (see Exhibit ES-1 on page 9). Some of these costs could be passed on to the general public. Direct Impacts - o Agricultural activities are already subject to Agricultural Water Quality Management (AgWQM) Area Plans and Rules that prohibit pollution. Because these plans and rules already require and provide the mechanism for agriculture to meet the water quality standards and TMDL load allocations, DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public. If AgWQM Area Rules need to be revised in order to comply with the proposed toxics WQS, there could be increased costs for some private landowners to comply with the rules including one-time costs for capital improvements. These changes, however, will take years to be implemented. - o In terms of benefits, the objective of this rulemaking is to provide clean water for								

	consumers of fish, shellfish, and drinking water. Depending on the level of toxics reduced into Oregon's water bodies, Oregonians would have access to safer drinking water and fish for consumption. Other parallel benefits as discussed in the overview section would be seen. Indirect impacts: - o Indirect impacts to the general consumer may involve rate increases to water and sewer bills to offset compliance strategies, monitoring, etc. utilized by POTWs. Depending on the costs of the compliance strategies, rate adjustments would vary. - o For consumers of industrial goods, various compliance strategy costs to produce goods could be passed on to consumers in the form of increased prices. In some cases, products may no longer be available depending on a facility's ability to absorb additional costs.	
Impacts to Small Business (50 or fewer employees – ORS183.310(10))	Generally, DEQ does not track small business status as part of its recordkeeping, so limited information was available to determine: 1) whether or not the potentially affected entity was a small business, or (2) if it was a small business, what specific impacts could be attributed to this rulemaking. An inquiry to the Oregon Employment Department indicated that providing small business status information to DEQ was considered confidential information. Similar to the range of costs associated with large businesses, compliance costs for small businesses will vary widely depending on the compliance strategy of the affected entity (e.g. increased treatment, optimization of treatment process, pollutant reduction strategies/best management practices, additional monitoring, implementation tools). The SAIC Report estimated that proposing a fish consumption rate of 175 g/day could result in annual facility costs of \$0.35 to \$0.45 million (see Exhibit ES-1 on page 9). Some of these costs could be passed on to small businesses.	
Cost of Compliance on Small Business (50 or fewer employees – ORS183.310(10))	a) Estimated number of small businesses subject to the proposed rule	<i>Small Business Impacts to Industrial Dischargers</i> Limited DEQ research suggests that none of the 19 major industrials are small businesses (i.e. 50 or fewer employees). DEQ is unaware of how many of the 130 minor industrial permit holders are small businesses, since DEQ does not track this type of information. Facility Type No.

		<table><tr><td>Major Industrial</td><td>19</td></tr><tr><td>Minor Industrial</td><td>130</td></tr><tr><td>Total</td><td>149</td></tr></table>	Major Industrial	19	Minor Industrial	130	Total	149
Major Industrial	19							
Minor Industrial	130							
Total	149							
		<i>Small Business Impacts to Entities Covered Under Industrial Stormwater Permits</i> It is unknown how many of the 908 facilities holding industrial stormwater permits are small businesses. DEQ does not track this kind of information. <i>Small Business Impacts to Entities Covered Under General Permits</i> There are various categories of general permits (totaling approximately 1828 permits statewide) that are regulated by DEQ. The 1500A permit for petroleum hydrocarbon cleanup from groundwater or surface water is currently the only general permit with requirements for human health criteria. When this permit is renewed, these criteria will need to be addressed. It is unknown how many of the 20 facilities holding 1500A permits are small businesses. DEQ does not track this kind of information. <i>Small Business Impacts to Indirect Dischargers</i> DEQ surveyed the five largest pretreatment programs and determined that out of a total number of 285 significant industrial users, approximately 130 users were small businesses. DEQ does not have any data that would lead to any conclusions about how many of these businesses would likely be impacted by the proposed revised criteria. <i>Small Business Impacts to Farms and Ranches</i> According to the Oregon Farm Bureau, 97% of Oregon farms and ranches fall under the category of small businesses based on the definition of small businesses being 50 or fewer employees. Agricultural activities are already subject to Agricultural Water Quality Management (AgWQM) Area Plans and Rules that prohibit pollution. Because these plans and rules already require						

and provide the mechanism for agriculture to meet the water quality standards and TMDL load allocations, DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public. However, if additional practices must be developed or requirements otherwise increase or are better defined, there may be increased costs of production or land management to farmers and landowners on rural lands who operate as small businesses.

Small Business Impacts to Forestry

Forest activities are subject to Forest Practices Act and rules in order to meet water quality standards and TMDL load allocations. Because of the requirements that are currently in place, DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public. If FPA Rules need to be revised in order to comply with the proposed changes to the toxics water quality standards, and if those changes result in restrictions to timber harvest or other forest management activities that reduce growth and yield, there could be, in some cases, increased costs for private landowners to comply with the rules. The outcomes of these rule changes are difficult to predict and also will take years to be implemented.

Oregon Small Woodlands Association (OSWA)

According to information provided by OSWA, there are over 100,000 small businesses that own forest land in Oregon. Approximately 70,000 families own 10 to 5,000 acres and these ownerships are organized in various small business structures. In addition, there are 70,000 more families that own between two to ten acres of forestlands and some of these fall under the small business category.

Non-Permitted Urban Sources

For non-MS4 communities and facilities without NPDES requirements, TMDLs are the main driver for developing water quality management plans. Since TMDLs already require local governments and counties as designated management agencies to develop and implement TMDL implementation plans, the

		agency does not expect significant fiscal or economic impacts for urban sources as a result of this rulemaking process. If new ordinances and codes are required in order to meet TMDL load allocations that are based on the proposed revised toxics water quality standards, there could be an indirect fiscal impact to all small businesses that are within the boundary of the TMDLs.
	b) Types of businesses and industries with small businesses subject to the proposed rule	The types of businesses/industries holding wastewater permits include, but are not limited to: food processors, smelting/refining operations, timber processing, wood products manufacturing, pulp and paper, retail operations, seafood processors, seasonal fresh pack operations, and petroleum hydrocarbon clean-up operations. Other types of businesses that could be subject to this rulemaking include nurseries, dairy and beef producers, fruit growers, and other food producers, industrial, and small forest land owners. Although the businesses above are subject to the proposed rule, they will not necessarily be impacted by the rule.
	c) Projected reporting, recordkeeping and other administrative activities required by small businesses for compliance with the proposed rule, including costs of professional services	For facilities that are small businesses that discharge directly to a water body, facility staff time and contractor fees would be incurred where it was determined that the rules required additional action or compliance strategies by the business. Impacts could be seen in association with reporting, and various recordkeeping requirements associated with compliance strategies, such as a variance request or using a background pollutant allowance. For small businesses that discharge to a POTW with a pretreatment program, there would likely be increased indirect costs associated with recordkeeping and other administrative activities to evaluate pollutant reduction options to meet pretreatment requirements where those requirements are imposed by POTWs.

	d) The equipment, supplies, labor, and increased administration required by small businesses for compliance with the proposed rule	For facilities that are small businesses that discharge the pollutants addressed by this proposed rulemaking directly to a water body, costs associated with treatment or treatment optimization to comply with new criteria could be substantial, depending on the treatment technology used and wastes generated. For small businesses that discharge to a POTW with a pretreatment program, there would likely be increased costs associated with any treatment technology/optimization required to reduce the pollutant of concern to within POTW acceptable limits for indirect discharge. In some cases, small businesses which are indirect dischargers to a POTW may need to treat wastes onsite if they are unable to meet sufficient effluent limits established by a POTW.								
	e) A description of the manner in which DEQ involved small businesses in the development of this rulemaking	The Rulemaking Work Groups have several members representing small business interests: 1) Associated Oregon Industries (AOI), 2) Oregon Small Woodlands Association, 3) Oregon Forests Industry Council, and 4) Oregon Farm Bureau. The AOI member also participated as a member of the FIIAC committee. DEQ discussed the fiscal impact form and solicited input from these members during two work group meetings in August and October 2010. This input was incorporated into DEQ's analysis.								
Impacts on Large Business (all businesses that are not “small businesses” under ORS183.310(10))	Industrial Permits Industrial permits have a complex process to determine monitoring requirements based on the industrial category and the potential for toxicity in the receiving waterbody. The monitoring requirements at a specific facility are determined based upon factors such as industrial category, pre-existing permit status, hazardous material present, new source performance standards or permit writer discretion. The discharger may also be required to conduct additional monitoring that is tied to the pollutants identified in a pretreatment program, 303(d) listed waters or ambient waters.									
		<table><tr><td>Facility Type</td><td>No.</td></tr><tr><td>Major Industrial</td><td>19</td></tr><tr><td>Minor Industrial</td><td>130</td></tr><tr><td>Total</td><td>149</td></tr></table>	Facility Type	No.	Major Industrial	19	Minor Industrial	130	Total	149
Facility Type	No.									
Major Industrial	19									
Minor Industrial	130									
Total	149									
	Of the 19 facilities covered by major industrial NPDES permits, approximately nine are pulp and									

	paper industries. Of the remaining 10 facilities, there are several smelting or refining industries, electronics and chemical manufacturing, and food processors. A limited review of these 19 major industrials indicated that all 19 facilities are large businesses. Potential costs will vary depending on what pollutants are discharged by the facility, as well as the compliance strategy a facility follows. For example, installation of new treatment technologies could be costly, while other compliance strategies, such as using intake credits would be relatively inexpensive. It is unknown how many facilities would have a need for and be eligible to use the relatively inexpensive compliance strategies. As a result, conclusions about whether or not an industrial facility will likely be impacted by more stringent water quality standards are a site-specific analysis, and broad conclusions are difficult to reach.								
Impacts on Local Government	Domestic Permits/Publicly Owned Treatment Works (POTWs) The proposed toxics rulemaking would directly impact all major domestic facilities (i.e. POTWs) that monitor for toxics. Generally, minor domestic sources (average dry weather design flow of less than one million gallons per day (MGD)) have much reduced monitoring and permitting requirements than major domestic sources. The permit writer must conduct a Reasonable Potential Analysis (RPA) for toxic pollutants for major domestic sources (i.e. average dry weather design flow of at least 1 MGD). For minor sources, a permit writer may conduct a RPA for all 303(d) listed toxic pollutants if there is a potential of water quality degradation due to non-typical factors such as significant industrial discharges. <table border="1"> <thead> <tr> <th>Facility Type</th><th>No.</th></tr> </thead> <tbody> <tr> <td>Major Domestic</td><td>49</td></tr> <tr> <td>Minor Domestic</td><td>154</td></tr> <tr> <td>Total</td><td>203</td></tr> </tbody> </table> However, both major and minor sources could be impacted if a Total Maximum Daily Load establishes a waste load allocation for their discharge. For example, if during the development of a TMDL the minor is identified as a source of the toxic pollutant, it could be given a waste load allocation. Alternatively, if a minor source is not identified during the TMDL process, but later becomes known as a source of a toxic pollutant, it may be able to access reserve capacity in the TMDL, if available and accessible to that source. Sometimes dischargers may be allocated their unquantifiable 'current loading' if they are not considered a significant source. Consequently, majors will generally be more impacted by revisions to the human health toxics criteria than minors. Minors may be impacted as well in situations where discharges are to impaired waters where waste load allocations have been established. A range of costs are possible depending on the compliance tools available for each individual circumstance. Variances may be available to POTWs that cannot meet effluent limits for toxics criteria. Cost estimates for variances can be found in the Overview section.	Facility Type	No.	Major Domestic	49	Minor Domestic	154	Total	203
Facility Type	No.								
Major Domestic	49								
Minor Domestic	154								
Total	203								

	Potential Indirect Effects Associated with Municipalities <i>Pretreatment</i> Some businesses do not directly discharge to a water body but rather discharge to a municipal collection system under a municipality's pretreatment program. These businesses may be subject to additional requirements from the municipality. Currently, 23 POTWs have pretreatment programs that place requirements upon businesses discharging to their collection systems. All 23 POTWs have set local limits for metals with only one pretreatment POTW having additional limits for: pentachlorophenol, chlorobenzene, chloroform, trichloroethylene, acrylonitrile, 1,2-dichloroethane, 2,4-dinitrotoluene, nitrobenzene, and chlordane. It is possible that POTWs unable to meet effluent limits contained in the NPDES permit may explore pretreatment requirements for indirect dischargers with known pollutants of concern. However, it is unknown whether POTWs in addition to the 23 with existing pretreatment programs will develop their own pretreatment programs or set local limits for additional toxic pollutants based on more stringent criteria. It is also unknown what the associated costs could be for the indirect discharger with pretreatment requirements. For example, a POTW may not be able to accommodate business or industrial waste streams given new effluent limits for toxic pollutants. Consequently, some businesses and industries may need to disconnect from the sewer system and manage their wastewater on site. The types of businesses that would likely be most affected by local limits imposed by the municipality would be high tech producers, platers, dental offices, and photo processors (ACWA Memo, March 4, 2008). <i>Other Local Government</i> For non-MS4 communities and facilities without NPDES requirements, TMDLs are the main driver for developing water quality management plans. Since TMDLs already require local governments and counties as designated management agencies to develop and implement TMDL implementation plans, the agency does not expect the fiscal or economic impacts to be significant for urban sources as a result of this rulemaking process.
Impacts on State Agencies other than DEQ	For activities related to NPDES implementation, DEQ does not anticipate fiscal or economic impacts to other state agencies with this rulemaking. DEQ is the primary state agency responsible for implementing and enforcing the NPDES program. However, there may be impacts to other state agencies (e.g. ODA and ODF) depending on various circumstances. For example, DEQ anticipates additional 303(d) listings for toxics may result depending on monitoring results. To address impairments, TMDLs will be developed and implementation plans designed to reduce loadings from these sources. ODA and ODF are the Designated Management Agencies responsible for implementing and reducing loads from agricultural and

forestry sources, so therefore could expend FTE and resources to address load reductions. Information below is from ODA and ODF staff.

From Oregon Department of Agriculture:

Existing Agricultural Water Quality Management Area Plans and Rules are expected to be adequate to achieve TMDL load allocations and meet water quality standards on agricultural lands. The plans rely on both voluntary and regulatory approaches to implement management measures that prevent pollution by controlling upland erosion and sediment transport, restoring and maintaining riparian vegetation, appropriately utilizing nutrients, and addressing other agricultural activities as needed to protect surface and ground waters. The plans rely on, and the rules are generally limited to, available and technically feasible conservation practices. The costs of these practices were considered in adopting current area plans and rules.

Oregon Department of Forestry

Forest activities are subject to Forest Practices Act and rules to meet the water quality standards and TMDL load allocations. Because these rules already require and provide the mechanism for forestry to meet the water quality standards and TMDL load allocations, the Department of Forestry does not expect significant fiscal or economic impacts on forest lands.

Impacts on DEQ

The following table summarizes potential fiscal and economic impacts to DEQ programs, staff, and resources. DEQ does not anticipate funding additional staff positions in response to this rulemaking. Consequently, staff time spent on implementing more stringent human health toxics criteria may impact other priorities of the department. DEQ may also receive additional requests to conduct Use Attainability Analyses or develop site specific criteria as a way of addressing compliance issues identified in conjunction with implementing the more stringent toxics criteria, if appropriate. These rules do not generate revenue for DEQ. To estimate dollar amounts below, DEQ assumed a staff Natural Resource Specialist 4 position, Step 7, at \$63/hr.

	DEQ Regional Staff	Headquarters/Lab/Administrative Staff
	Permitting	
Monitoring	- Estimate 4 – 16 additional hrs per permit (\$252 - \$1008) needed for staff to determine monitoring requirements for permits subject to this rulemaking. For this rulemaking, average review per permit could slightly increase depending on individual circumstances and compliance tools used.	-Staff and lab time needed for periodic revisions of quantitation limits (QLs) -Generally, costs increase when criteria for toxic pollutants change from totals of a chemical family to individual chemical species. Costs also generally increase to achieve lower QLs. -The criteria for total mercury will be replaced by a tissue based methyl mercury criteria. Generally, cost for methyl mercury analysis is 2-3 times higher than for total mercury. -Some of the monitoring and analysis costs have already been absorbed given DEQ's investment in toxics monitoring for SB737, the Pesticide Stewardship Program and the toxics monitoring

			program.
	WQBELs and/or other WQ Limits	-Regional staff will need to do more WQBEL assessments if RPA indicates that more dischargers will have reasonable potential. Estimate an additional 8 hrs/parameter/permit (\$504) to establish QBELs where they are identified as needed. -Intake Credits: The RPA IMD would include calculations for intake credits and wouldn't require additional staff time.	-Periodic revisions of RPA IMD may be required to account for intake credits -Increased data input into the Discharge Monitoring System (DMS) which stores information on permit features, schedules, permit limits, required monitoring and discharge monitoring report data for individually permitted facilities. -Because stormwater discharges are intermittent, DEQ does not apply the human health criteria (which are generally based on a 70 year exposure) to permits for these discharges. Therefore, there will not be any anticipated fiscal impact to DEQ related to stormwater permits. However, the industrial stormwater permit is currently being revised. In the current proposal, it is likely that sources which discharge to waterbodies that are listed as impaired for the human health criteria will have to monitor for these pollutants and develop BMPs if criteria are exceeded. In these cases, DEQ staff will need to oversee and review monitoring and associated BMPs as needed. - The only general permit with toxics that would require additional work to modify based on revised human health criteria is the 1500A. The 1500A permit covers petroleum hydrocarbon cleanup from groundwater or surface water. DEQ will need to incorporate the new permit limits as part of the general permit renewal.
	Background Pollutant Allowance	-More staff time needed to review applicability of a background allowance request. DEQ estimates an additional 60 hrs./permit (\$3780) where this tool is used. However, time spent in this analysis could be less than developing other "site specific solutions" if this provision was not available.	-HQ collaboration may be needed in the short term to provide regional consistency in evaluating background pollutant allowances. -Staff time needed for periodic revisions of IMD. -Do not anticipate greater regional or HQ FTE, so less technical assistance may be available for other issues/projects,
	Variances	- Regional permit writers will be interfacing with discharger to evaluate data and information needed for variance request and to incorporate permit conditions based on the variance request. In some cases, significant staff time could be spent gathering this information, possibly conducting literature reviews for treatment technology removal capabilities, and/or reviewing fiscal and economic data from discharger. Variances also require a yearly review of the pollutant reduction plan to be conducted by DEQ staff. DEQ estimates approximately 160 hrs./variance request (\$10,080). -Time spent in this analysis could be less than developing other "site specific solutions" if this provision was not available.	- Since DEQ has yet to receive a variance request, the department is unable to specify costs based on past experience, therefore costs and/or resources described here are estimates. -DEQ anticipates that HQ WQS staff will review variance requests submitted by the permittee and permit writer. - Estimate 0.75 FTE (Standards 0.56 FTE and Permitting 0.19 FTE) to review variance requests and pollutant reduction plans, and coordinate DEQ/EQC/EPA approval. -SAIC extrapolated the potential number of variance applications for the sample facilities and found that DEQ would need to review approximately 40 requests under the baseline criteria (FCR of 17.5 g/day) and an additional 16 under the revised criteria. Assuming a cost of \$3,900 per review, baseline costs could be approximately \$159,000 with incremental costs of approximately \$65,000 under the revised criteria. -DEQ anticipates ongoing costs to review variances depending on the ability of dischargers to meet effluent limits. -Most likely, staff time in reviewing variances could decrease as the process becomes more efficient. In addition, variance renewals should be less

			resource intensive. -Staff time needed for periodic revisions of variance IMD and associated staff training. -Do not anticipate availability of additional FTE, so less HQ technical assistance available for other issues/projects.
	Compliance Schedules	-Regional permit writers may need to develop additional compliance schedules for permittees given more stringent toxics criteria. -Use of compliance schedules would depend on if the discharger could ultimately meet discharge limits within a specified amount of time. - DEQ estimates approximately 40 hrs./compliance schedule development (\$2520). -Generally, more complex permits (e.g. those including compliance schedules) require additional oversight and communication with permittees.	-HQ permitting staff may assist regional permit writers in developing compliance schedules depending on backlog and permitting priorities.
	Non-Permitting		
	More Stringent Criteria <i>TMDL monitoring</i>	-Regional staff may be involved in both developing a sampling and analysis plan and collection of samples needed for development of TMDLs to address waterbodies listed for toxics.	-Lab FTE to develop sampling and analysis plans, collect and analyze data, and develop reports. Will depend on the quality and quantity of data needed for the TMDL and availability of existing data from other sources (e.g. USGS, FWS, BLM, USFS, etc.). -DEQ does not anticipate additional FTE, therefore, costs may be similar to that incurred under the current toxics criteria. However, there may be a backlog of TMDL development due to lack of DEQ monitoring resources.
	<i>TMDL Development</i>	-Regional staff members lead TMDL development by coordinating with HQ and Lab staff and working with local advisory group. - There may also be an additional backlog of TMDL development if there are additional 303(d) listings as anticipated. - Since DEQ will not seek additional FTE for the TMDL program, DEQ expects to issue TMDLs at a slower rate.	-HQ supports TMDL development by providing modeling and programmatic support. - Since DEQ will not seek additional FTE for the TMDL program, DEQ expect to issue TMDLs at a slower rate. -Additional resources maybe needed for Lab in order to support the development of monitoring strategies for Implementation-Ready TMDLs. - There may also be an additional backlog of TMDL development if there are additional 303(d) listings as anticipated.
	TMDL Development 1. TMDLs: Clarifying EQC and DEQ's authorities in Divisions 41 and 42	- The resource needs are expected to double for TMDLs compared to current subbasin level TMDLs. -TMDL development phase, additional resources should not be required for implementation. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)	- The resource needs are expected to double for TMDLs compared to current subbasin level TMDLs. - Toxics TMDLS have roughly cost between 50,000 to 1,000,000 to develop depending on the extent of listings within a basin. -According to the SAIC Report, additional technical assistance may be needed in order for the dischargers to meet TMDL waste load allocations. Requests for pursuing variances by facilities may increase, for example.
	2. Addressing air sources in TMDLs: Clarifying EQC and DEQ's	-No significant increase in resource needs for the regional staff members	-No significant increase in resource needs for the HQ and Lab staff members are expected.

	authorities to regulate air sources to meet TMDL goals in Division 42	are expected. -If air depositional load is determined to be significant through TMDL source analysis, resource needs for Air Quality Division may increase to work with facilities and coordinate with Water Quality Division.	-If air depositional load is determined to be significant through TMDL source analysis, resource needs for Air Quality Division may increase for rulemaking and coordination with Water Quality Division.
	TMDL Implementation	-Regional staff members are central to coordinate implementation efforts and monitoring efforts in their region. Since more work will be done during TMDL development phase, additional resources should not be required for implementation. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)	-HQ and Lab provide technical and programmatic support to the region for TMDL implementation. -Additional resources maybe needed for HQ to provide modeling and analyses associated with TMDLs. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)
	401 Certifications		- Section 401 of the federal Clean Water Act requires that any federal license or permit to conduct an activity that may result in a discharge to waters of the United States must first receive a water quality certification from the state in which the activity will occur. These discharges must meet any new water quality toxics criteria for human health. -DEQ does not anticipate additional FTE or resources needed as part of this rulemaking since new processes or approaches are not anticipated being needed and toxic pollutants are not routinely significant pollutants of concern for these activities.
	Integrated Report		-Potential of additional toxics listings - Data evaluation tools and database systems used to prepare the Integrated Report will need to be revised. -For the 2010 Integrated Report, it required 2 FTE (1 programmer and 1 standards specialist) for 6 months (approximately \$40,000) to evaluate toxics data in LASAR using Table 20 criteria. A similar level of effort is likely needed to revise the data systems to incorporate new criteria. Additional effort will be needed to revise and update the assessment of water bodies done prior to date of EPA approval of new toxic substance criteria. -Water body analytical data in DEQ's LASAR data system may need to be synchronized/correlated to include metadata needed to apply new criteria (e.g. CAS numbers, total forms vs. individual species forms). This analysis is needed to correlate data collected in LASAR to Integrated Report analysis and listing status of that pollutant.
	Land Quality		DEQ's cost to implement the new human health criteria into clean-up standards would be minimal. Work involves substituting lower risk numbers at sites where surface-water discharge is the pathway of concern.

Assumptions	DEQ assumes that the best available information which DEQ has relied on to make these proposed rule revisions, is reasonably true and accurate. DEQ assumes that is it in the interest of the public to expend public and private resources on actions that will result in measurable environmental benefits.																										
Housing Costs	DEQ has determined that this proposed rulemaking will have no effect on the cost of development of a 6,000 square foot parcel and the construction of a 1,200 square foot detached single family dwelling on that parcel.																										
Administrative Rule Advisory Committee	DEQ assembled a Toxics Water Quality Standards Rulemaking Workgroup to assist the department in developing and evaluating the proposed rule. There were two workgroups which focused on specific rulemaking items. The Rulemaking Work Group (RWG) focused on NPDES implementation tools to comply with revised toxics criteria, while the Non-NPDES Work Group, focused on rulemaking items associated with nonpoint sources of pollution contributing to toxics pollution, and pretreatment options for indirect dischargers to POTWs. These groups met on a monthly basis from January 2009 until September of 2010. Materials developed for these work group meetings can be found here. The process to develop and recommend a fish consumption rate occurred earlier from 2006 – 2008. In August and September 2010, DEQ discussed this fiscal analysis with the workgroup and solicited input. DEQ received information from ODA, ODF, Oregon Small Woodlots Association, the Oregon Farm Bureau and the Oregon Association of Clean Water Agencies. The work group consists of the following members: Rulemaking Work Group Members <table data-bbox="391 1377 1515 1722"> <tr> <th>Organization</th><th>Representative</th></tr> <tr> <td>CTUIR</td><td>Ryan Sudbury/Rick George</td></tr> <tr> <td>EPA</td><td>Jannine Jennings</td></tr> <tr> <td>ACWA</td><td>Dave Kliever</td></tr> <tr> <td>League of Oregon Cities</td><td>Peter Ruffier</td></tr> <tr> <td>Northwest Pulp and Paper</td><td>Kathryn Van Natta</td></tr> <tr> <td>Industrial Dischargers</td><td>Michael Campbell</td></tr> <tr> <td>Associated Oregon Industries</td><td>Rich Garber or alternate Myron Burr</td></tr> <tr> <td>Northwest Environmental Advocates</td><td>Nina Bell</td></tr> <tr> <td>Oregon Environmental Council</td><td>Andrew Hawley*</td></tr> <tr> <td>Columbia Riverkeeper</td><td>Lauren Goldberg</td></tr> </table> *Andrew did not participate after the first several meetings Non-NPDES Work Group Members <table data-bbox="391 1843 1515 1908"> <tr> <th>Organization</th><th>Representative</th></tr> <tr> <td>CTUIR</td><td>Ryan Sudbury/Rick George</td></tr> </table>	Organization	Representative	CTUIR	Ryan Sudbury/Rick George	EPA	Jannine Jennings	ACWA	Dave Kliever	League of Oregon Cities	Peter Ruffier	Northwest Pulp and Paper	Kathryn Van Natta	Industrial Dischargers	Michael Campbell	Associated Oregon Industries	Rich Garber or alternate Myron Burr	Northwest Environmental Advocates	Nina Bell	Oregon Environmental Council	Andrew Hawley*	Columbia Riverkeeper	Lauren Goldberg	Organization	Representative	CTUIR	Ryan Sudbury/Rick George
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EPA	Jannine Jennings/Mary Lou Soscia
Department of Forestry	Peter Daugherty
Department of Agriculture	Dave Wilkinson/Ellen Hammond
ACWA	Dave Kliever
League of Oregon Cities	Peter Ruffier
Northwest Pulp and Paper	Kathryn Van Natta
Industrial Dischargers	Michael Campbell
Associated Oregon Industries	Rich Garber or alternate Myron Burr
Northwest Environmental Advocates	Nina Bell
Oregon Environmental Council	Andrew Hawley*
Columbia Riverkeeper	Lauren Goldberg
Oregonians for Food and Shelter	Terry Witt
Oregon Farm Bureau	Jennifer Shmukler
Oregon Forest Industries Council	Chris Jarmer
Association of Oregon Counties	Emily Ackland
Oregon Small Woodlands Association	David Ford

*Andrew did not participate after the first several meetings

The FIIAC met six times from January to June in 2008. Its membership consisted of the following members:

Fiscal Impacts and Implementation Advisory Committee

Organization	Representative
OR Dept. of Human Services	Deanna Conners
CTUIR	Kathleen Feehan
Associated Oregon Industries	Rich Garber
Ecotrust	Sarah Kruse
ECONorthwest	Kristin Lee
Confederated Tribes of the Grand Ronde	Eric Scott*
Association of Clean Water Agencies	Susie Smith
League of Oregon Cities	Willie Tiffany

*Eric participated in the first four FIIAC meetings and was not able to remain on the committee through the completion of the process. Therefore he did not provide input to the FIIAC memo.

Prepared by _____

Printed name _____

Date _____

Approved by DEQ Budget Office _____

Printed name _____

Date _____

**ATTACHMENT
FISCAL AND ECONOMIC NARRATIVE**

Fiscal and Economic Impact Narrative

Objective: The objective of this narrative is to support the Statement of Need and Fiscal and Economic template that is required for rulemaking.

Overall:

- o The fiscal and economic impact analysis characterizes potential costs that may result from the proposed toxics criteria based on a fish consumption rate (FCR) of 175 grams per day (g/d) compared to the existing human health toxics criteria . The costs of complying with the existing toxics criteria will not be analyzed for this fiscal review.
- o There are two main elements contained in this fiscal analysis: (1) Direct and Indirect impacts attributable to the criteria revisions, and (2) Impact of using different implementation tools

I. Direct and Indirect Impacts Attributable to the Criteria Revisions

The general public, small and large businesses, communities, and public agencies will likely be impacted by the proposed criteria changes either directly and indirectly. The establishment of criteria, by themselves, has no direct impact or effect. Rather, how the Department applies those criteria will affect Oregonians. Specifically, the Department may require modifications to wastewater discharge permits and the use of various implementation tools, and to certifications for sediment removal and fill activities and hydroelectric operations to comply with the revised criteria. The new criteria might result in more waters being listed as having impaired water quality. In addition, the revised criteria may alter the management practices required to control discharges from nonpoint sources, including those subject to Total Maximum Daily Loads (TMDLs) established for water quality limited waterbodies.

It is difficult to make a direct comparison between the effective criteria and the proposed criteria and determine what the subsequent associated fiscal and economic impacts will be. Part of the complication arises from the 2004 rulemaking which segregated criteria into two groups (one group being effective for permitting purposes in advance of EPA's action and one group *not* effective until EPA action). The result of the 2004 rulemaking was that dischargers were required to implement the more stringent human health criteria based on 17.5 g/day, while other CWA programs continued to implement criteria based on 6.5 g/day (e.g. section 401 certifications). EPA did not take action on

DEQ's 2004 toxics criteria until June 1, 2010, when it disapproved the majority of human health criteria based on EPA's conclusion that the fish consumption rate used in 2004 was not protective enough. Among the criteria disapproved were criteria for approximately 44 toxic pollutants that DEQ added as part of the 2004 rulemaking. In addition, many of these new criteria values DEQ adopted in 2004 were the result of criteria changing from totals of that chemical to individual species of that chemical group (e.g. PAHs, endosulfan, dichlorobenzenes). While the majority of the revised criteria were disapproved, EPA approved the withdrawal of criteria values for eight toxic pollutants based on previous EPA recommendations. In addition, EPA took no action in 2010 on some criteria withdrawn in 2004 and consequently, values for those criteria remain. However, these pollutants no longer have EPA criteria, therefore, DEQ proposes to withdraw these criteria as part of this rulemaking. In addition, DEQ is not proposing to revise eight criteria values that do not rely on a fish consumption rate. Instead, the criteria are derived from drinking water maximum contaminant levels (MCLs). The table below depicts a general comparison of current versus proposed criteria. Please refer to Table 1 in Appendix B for a comparison of the current criteria versus the proposed criteria.

Which Criteria are More Stringent? Proposed vs. Current	*Number
Proposed	48
Current	4
Same	10
Mix**	6

TOTAL

68

* Analysis only includes criteria that have both current and proposed criteria and does not include criteria that were either withdrawn or added

** For example, a "water + org" proposed criterion for a chemical becomes less stringent, but then a new "org only" criterion was proposed.

Approximately 48% of the proposed human health pollutants have Quantification Limits (QLs) which are higher than the actual criterion. For that reason, there may be small quantities of pollutants in Oregon's waterbodies or in wastewater effluent that cannot be measured given limitations in analytical methodologies. For permitting purposes, the QL becomes the compliance point for dischargers in these circumstances. Consequently, if the criterion for any particular pollutant becomes more stringent, but the QL remains higher than the criterion, there would be no effective change in the point of compliance. As laboratory methodologies improve, it is likely that QLs will begin to shift lower towards (or be lower than) the water quality criterion of these pollutants. While historically, the pace of change

in laboratory methodologies has not been rapid, when methodologies improve, additional toxics listings and WQBELs established for dischargers may result.

a. Identifying pollutants most likely to present challenges for sources

i. The SAIC Report

The SAIC Report identified three pollutants where additional controls may be needed to achieve compliance with lower criteria: (1) arsenic; (2) Bis(2-ethylhexyl)phthalate; and (3) mercury. As part of the 2004 rule revision, Oregon withdrew its national CWA § 304(a) human health criterion for total mercury and replaced these criteria with a new fish tissue-based “organism only” human health criterion for methylmercury. DEQ does not currently have a criterion for methylmercury because EPA disapproved the criterion on June 1, 2010 based on a fish consumption rate that was not considered protective of human health. DEQ is proposing a replacement fish-tissue based methylmercury criterion based on 175 g/day as part of this toxics rulemaking. The SAIC Report assumed that DEQ would use EPA’s default values to convert the methylmercury fish tissue criterion into a total mercury water column criterion. However, until data on methylmercury are collected and analyzed in Oregon water bodies, it is unclear what the state of compliance will be and how relevant the results are from the SAIC Report.

DEQ proposed a revised criterion for arsenic, along with revised criteria for iron and manganese in a separate rulemaking and will not be a part of this rulemaking package. Revised criteria for iron and manganese were adopted by the EQC on December 9, 2010. A revised criterion for arsenic is anticipated to be adopted in April 2011. Because DEQ is proposing a higher criterion for arsenic than what was reflected in the SAIC report, some of the compliance issues associated with arsenic may be minimized. The economic and fiscal impact of revising criteria for iron, manganese, and arsenic will be analyzed separately and will not be addressed here.

Among the 20 facilities evaluated, SAIC found 3 facilities that could have compliance issues with Bis(2-ethylhexyl)phthalate. It is unknown to what extent additional facilities may face compliance issues will be. The current QL for Bis(2-ethylhexyl)phthalate is now higher than the proposed criteria (previously, the criterion was greater than the QL), therefore the QL will become the effective compliance point.

ii. Listings for pollutants and pollutants identified as “potential concern”

Water column sampling, as well as fish tissue sampling and sediment analysis have indicated the presence of toxics in Oregon's waterbodies. Overall, the 2004/2006 Integrated Report contains a total of 249 water body segments listed for a toxic pollutant criterion.

- 27 of those (11%) are listed for mercury. (These listings are based on fish consumption advisories, which are not affected by water quality standards.)
- 107 of those (43%) are listed for arsenic, iron or manganese, and are being analyzed for compliance issues in separate rulemakings.
- Other most commonly listed pollutants are beryllium, dieldrin, DDT, PCBs, chlorpyrifos, and copper.

Appendix C contains a complete list of waterbodies that are contained in Oregon's 303(d) list for exceeding criteria for certain toxic pollutants. Appendix C also includes a table depicting pollutants of potential concern.

DEQ is targeting adoption of human health criteria based on a FCR of 175 g/day by the EQC in June 2011. Consequently, the proposed criteria will not be adopted and approved by EPA in time to be evaluated as part of the 2010 Integrated Report. DEQ will incorporate the revised human health toxics criteria into the Integrated Report as soon as feasible. Depending upon the timing of EPA approval, DEQ may be able to incorporate the revised criteria into the Integrated Report as soon as the 2012 Integrated Report. Depending on monitoring results and the ability to quantify low concentrations of toxic pollutants, there may be additional listings for toxics in the 2012 Integrated Report or reports thereafter. For some toxic pollutants, DEQ anticipates removing waterbodies in future 303(d) lists based on: (1) criteria that were recently approved by EPA in June 2010 that DEQ withdrew as water quality standards (i.e. beryllium, cadmium, chromium III and VI, lead, mercury, silver, and trichloroethane 1,1,1,) and (2) criteria changes to arsenic, iron, and manganese as proposed in separate rulemakings. It is difficult for DEQ to predict which other toxics could pose potential compliance issues in the future, given the generally small amount of ambient and effluent monitoring data that is available.

iii. Likely industrial sectors discharging pollutants

Of the 19 facilities covered by major industrial NPDES permits, approximately nine are pulp and paper industries. Of the remaining 10 facilities, there are several smelting or refining industries, electronics and chemical manufacturing, and food processors. In a summary review of these 19 permits, DEQ has established effluent limits for several toxics, as well as additional monitoring

requirements for selected toxics. The table below contains a summary of current toxics effluent limits and requirements for monitoring for a selection of major industrials. Based on a review of available information, DEQ has not established toxic pollutant effluent limits in food processing permits.

Category	Toxic Effluent Limits	Additional Toxics Monitoring
Pulp & Paper Industry	-arsenic (total), adsorbable organic halides (AOX), 2,3,7,8-TCDD, lead, and zinc	-Whole Effluent Toxicity, metals (including total arsenic), inorganic arsenic, cyanide, total phenols, volatile compounds, acidextractable compounds, and pesticides - Priority Pollutant Scan - metals, cyanide, and total phenols -Priority Pollutant Scan - organic toxic pollutants
Primary Smelting and/or Refining	-benzo (a) pyrene, antimony, nickel, aluminum, free cyanide	PCBs
Electronics	-total chromium, total toxics organics (sum of the concentrations for approximately 30 toxic organic compounds)	

a. Applicability and Potential Effect of Rulemaking Associated with NPDES Permits and §401 Water Quality Certifications

Generally, the proposed human health criteria for toxics are applicable to all individual and general permits. The degree to which these permits are in fact affected by the new and revised criteria will be determined by an analysis of ambient and effluent data. Analysis of monitoring data may indicate the need for WQBELs. Dischargers with WQBELs for toxic pollutants could have varying costs, ranging from minimal staff time involvement (e.g. employing intake credits) to installing various capital improvement measures to meet WQBELs.

Adoption and approval of new criteria will not affect NPDES permits until permits are renewed. DEQ will not modify existing permits in effect to incorporate the new criteria at the time of EPA approval if

that approval occurs during their permit cycle. At the time of permit renewal, DEQ will evaluate whether new WQBELs need to be developed to meet revised water quality criteria.

The SAIC report indicated that some dischargers will have issues associated with complying with the existing criteria. The table below represents potential annual compliance costs extrapolated from a sample representing both major municipals and industrials, and indicates that the greatest proportional cost would be attributed to complying with the baseline standard (i.e. 17.5 g/day), rather than the incremental costs associated with a higher fish consumption rate. The highlighted cost range below indicates the incremental costs of complying with a FCR of 175 g/day, not taking into account inflow and infiltration (I&I) of arsenic, which is not relevant for this analysis since arsenic is not being addressed by this proposed rulemaking. For more detailed information on this table, please see Appendix F in the SAIC Report.

Exhibit ES-1. Summary of Potential Annual Compliance Costs (millions of \$2007)

Scenario	Total		Incremental ¹	
	With I&I Costs ²	No I&I Costs	With I&I Costs ²	No I&I Costs
Baseline	\$3.62 - \$29.7	\$3.62 - \$3.92	NA	NA
63.2 gpd	\$3.69 - \$29.8	\$3.69 - \$4.04	\$0.075 - \$0.13	\$0.075 - \$0.13
113 gpd	\$3.96 - \$30.1	\$3.96 - \$4.31	\$0.35 - \$0.40	\$0.35 - \$0.40
175 gpd	\$3.96 - \$31.0	\$3.96 - \$4.36	\$0.35 - \$1.32	\$0.35 - \$0.45
389 gpd	\$4.46 - \$31.6	\$4.46 - \$4.86	\$0.85 - \$1.82	\$0.85 - \$0.95
620 gpd	\$4.46 - \$31.6	\$4.46 - \$4.86	\$0.85 - \$1.82	\$0.85 - \$0.95

NA = Not applicable

1. Represents the difference between total annual cost and baseline costs (i.e., incremental costs above and beyond those needed for compliance with baseline criteria).

2. High estimate includes cost of I&I to reduce arsenic in municipal sewer systems.

Although there are estimates available for annual compliance costs from the SAIC Report, specific costs for any one facility will vary on a case-by-case basis and will depend on variables such as pollutants present, availability of treatment technologies able to treat to specified levels, and compliance options available to facilities (e.g. intake credits vs. end of pipe treatment technologies vs. variances).

i. Industrial Permits

Industrial permits have a complex process to determine monitoring requirements based on the industrial category and the potential for toxicity in the receiving waterbody. The monitoring requirements at a specific facility are determined based upon factors such as industrial category, pre-existing permit status, hazardous material present, new source

Facility Type	No.
Major Industrial	19
Minor Industrial	130
Total	149

performance standards or permit writer discretion. The discharger may also be required to conduct additional monitoring that is tied to the pollutants identified in a pretreatment program, 303(d) listed waters or ambient waters.

Of the 19 facilities covered by major industrial NPDES permits, approximately nine are pulp and paper industries. Of the remaining 10 facilities, there are several smelting or refining industries, electronics and chemical manufacturing, and food processors. A limited review of these 19 major industrials indicated that all 19 facilities are large businesses. DEQ is unaware of how many of the 130 minor industrial permit holders are small businesses, since DEQ does not track this type of information.

Potential costs will vary depending on what pollutants are discharged by the facility, as well as the compliance strategy a facility follows. For example, installation of new treatment technologies could be costly, while other compliance strategies, such as using intake credits would be relatively inexpensive. It is unknown how many facilities would have a need for and be eligible to use the relatively inexpensive compliance strategies. As a result, conclusions about whether or not an industrial facility will likely be impacted by more stringent water quality standards are a site-specific analysis, and broad conclusions are difficult to reach.

ii. Stormwater Permits

DEQ issues three different types of stormwater permits: individual Municipal Separate Storm Sewer System (MS4) permits, construction stormwater permits, and industrial stormwater permits. Because stormwater discharges are intermittent, DEQ does not apply the human health criteria (which are generally based on a 70 year exposure) to permits for these discharges and instead, uses the aquatic life criteria as the basis for stormwater permit requirements. This approach is consistent with EPA's approach for stormwater permits. However, in the industrial stormwater permit currently under development (expected to be issued in August 2011), it is likely that sources who discharge to waterbodies that are listed as impaired for any criteria will have to monitor for these pollutants. Therefore, there could be sampling and analysis costs to industrial stormwater permit holders once the permit is finalized and additional impaired waters have been identified based on the revised human health criteria. As a result, there will likely be additional costs to these dischargers who exceed these criteria and are required to develop BMPs to reduce the pollutant of concern. The table below describes the number of facilities with industrial stormwater permits.

Industrial Stormwater Permit	Description	No. of Facilities*
1200-COLS	Facilities located in the Columbia Slough watershed	138
1200-Z	All other industrial facilities in the state	770
Total		908

* As of September 2010

Small Business Impacts to Entities Covered Under Industrial Stormwater Permits

It is unknown how many of the 908 facilities holding industrial stormwater permits are small businesses (50 or less employees). DEQ does not track this kind of information.

iii. General Permits for Activities Other than Stormwater

The 1500A is the only general permit with requirements for toxic pollutants that have human health criteria that would require additional work to modify based on the revised human health criteria. The 1500A permit covers petroleum hydrocarbon cleanup from groundwater or surface water. It expired on June 30, 2005. Twenty facilities are registered to the permit. There is an effluent limit for BETX, which is quantified based on an EPA approved test method to determine the total amount for benzene, ethylbenzene, toluene and xylene. There is an effluent limit of 0.025 mg/L (25 ug/L) for benzene. A 10:1 dilution is required for the mixing zone in the current permit. These effluent limits are met at the end of pipe by treating contaminated water with air stripping and/or activated carbon adsorption or equivalent in order to meet the permit limits. With a dilution of 10 and a revised criterion of 0.44 ug/L for benzene, the effluent limit at the end of pipe for benzene would have to meet 4.4 ug/L. Effluent limits would then need to be lowered. It is not known whether technology can consistently meet a lower effluent limit. This work would be completed as part of the general permit renewal.

Small Business Impacts to Entities Covered Under General Permits

It is unknown how many of the 20 facilities holding 1500A permits are small businesses (50 or less employees). DEQ does not track this kind of information.

iv. Local Government

Domestic Permits/Publicly Owned Treatment Works (POTWs)

The proposed toxics rulemaking would directly impact all major domestic facilities (i.e. POTWs) that monitor for toxics.

Generally, minor domestic sources (average dry weather design flow of less than one million gallons per day (MGD)) have much reduced monitoring, and, subsequently, permitting requirements

Facility Type	No.
Major Domestic	49
Minor Domestic	154
Total	203

than major domestic sources. The permit writer must conduct a Reasonable Potential Analysis (RPA) for toxic pollutants for major domestic sources (i.e. average dry weather design flow of at least 1 MGD). For minor sources, a permit writer may conduct a RPA for all listed toxic pollutants if there is a potential of water quality degradation due to non-typical factors such as significant industrial discharges.

However, both major and minor sources could be impacted if a Total Maximum Daily Load establishes a waste load allocation for their discharge. For example, if during the development of a TMDL the minor is identified as a source of the toxic pollutant, it could be given a waste load allocation. Alternatively, if a minor source is not identified during the TMDL process, but later becomes known as a source of a toxic pollutant, it may be able to access reserve capacity in the TMDL, if available and accessible to that source. Sometimes dischargers may be allocated their unquantifiable 'current loading' if they are not considered a significant source.

Consequently, although majors will generally be more impacted by revisions to the human health toxics criteria than minors, minors may be impacted as well in situations where discharges are to impaired waters where waste load allocations have been established. A range of costs are possible depending on the compliance tools available for each individual circumstance. One possible implementation tool a POTW could use if it cannot meet effluent limits for toxics criteria would be variances. General costs associated with variances are found under section II.

Other Local Government

For non-MS4 communities and facilities without NPDES requirements, TMDLs are the main driver for developing water quality management plans. Since TMDLs already require local governments and counties as designated management agencies to develop and implement TMDL implementation plans, the agency does not expect the fiscal or economic impacts to be significant for urban sources as a result of this rulemaking process.

v. 401 Certifications

The majority of activities for which DEQ issues Clean Water Act section 401 certifications would not be impacted by the proposed changes to the water quality criteria since the parameters of interest are typically conventional pollutants (e.g., dissolved oxygen, turbidity, temperature, etc.). However, there may be an impact to applicants (e.g. U.S. Corps of Engineers, Port of Portland) who propose sediment removal and fill projects, since some toxic pollutants that may be contained in the sediments can be released into waterbodies through movement of soil. Additional testing of the sediment may be required to assure that projects do not exceed water quality criteria for toxics and, if needed, mitigation measures may be required to reduce the impact of project.

b. Monitoring costs based on priority pollutant scans and other required monitoring

Generally, the costs of monitoring for dischargers could increase. If there is reasonable potential for a discharge to cause or contribute to an exceedance of applicable water quality standards, more discharge monitoring may be needed which would increase analytical costs. Additionally, there could be a slight increase in the number of monitoring sites and/or frequency of sampling due to implementation tools used to stay in compliance (e.g. to sufficiently characterize ambient conditions for variances, or monitoring data needed to meet a background allowance provision). Other potential analytical costs related to new QLs, analyzing individual species of pollutants, and costs for methyl mercury analysis are discussed under Fiscal and Economic Impacts to DEQ (See section III). Analytical costs described there would also be similar to costs possibly incurred by dischargers.

With more stringent toxics criteria, there could be additional waterbody listings for toxic pollutants and an increase in the subsequent number of TMDLs developed to meet toxics load allocations. Designated Management Agencies that may be identified as part of the TMDL include ODA, ODF, BLM, USFS, municipalities, and irrigation districts and they may need additional resources in order to conduct additional monitoring for toxics listings as well as for TMDL implementation tracking and BMP effectiveness monitoring. These monitoring costs may not be realized until sometime after the approval of the next Integrated Report, which would reflect any new listings based on the proposed toxics criteria.

c. Indirect Effects

1. **Potential Indirect Effects Associated with Municipalities**

1. Pretreatment

Some businesses do not directly discharge to a waterbody but rather, discharge to a municipal collection system under a municipality's pretreatment program. These businesses may be subject to additional requirements from the municipality. Currently, 23 POTWs have pretreatment programs that place requirements upon businesses discharging to their collection systems. All 23 POTWs have set local limits for metals with only one pretreatment POTW having additional limits for: pentachlorophenol, chlorobenzene, chloroform, trichloroethylene, acrylonitrile, 1,2-dichloroethane, 2,4-dinitrotoluene, nitrobenzene, and chlordane.

It is possible that POTWs unable to meet effluent limits contained in the NPDES permit may explore pretreatment requirements for indirect dischargers with known pollutants of concern. However, it is unknown at this time whether POTWs in addition to the 23 with existing pretreatment programs will develop their own pretreatment programs or set local limits for additional toxic pollutants based on more stringent criteria. It is also unknown what the associated costs could be for the indirect discharger with pretreatment requirements. For example, a POTW may not be able to accommodate business or industrial waste streams given new effluent limits for toxic pollutants. Consequently, some businesses and industries would need to disconnect from the sewer system and manage their wastewater on site. The types of businesses that would likely be most affected by local limits imposed by the municipality would be high tech producers, platers, dental offices, and photo processors¹.

Small Business Impacts to Indirect Dischargers

DEQ surveyed the five largest pretreatment programs and determined that out of total number of 285 significant industrial users, approximately 130 users² were small businesses. DEQ does not have any data that would lead to any conclusions about how many of these businesses would likely be impacted by the proposed revised criteria.

¹ ACWA Memo. March 4, 2008.

² Estimate given through DEQ pretreatment coordinator communications with the five largest pretreatment programs

2. Costs passed on to municipal ratepayers

Indirect impacts to the general consumer may involve rate increases to water and sewer bills to offset compliance strategies, monitoring, etc. utilized by POTWs. Depending on the costs of the compliance strategies, rate adjustments would vary.

2. **Potential Indirect Effects Associated with Industrial Sources**

For consumers of industrial goods, various compliance strategy costs to produce goods could be passed on to consumers in the form of increased prices. Higher costs for goods and services could drive consumers to other lower-cost competitor products which are not affected by more stringent water quality compliance responsibilities.

d. Implications for other sources (direct and indirect implementation)

SAIC report states that existing regulatory programs are currently not fully implemented for nonpoint sources. For example, there has not been a formal review of the sufficiency of nonpoint source control programs for meeting water quality standards for toxic pollutants. As a result, it is not possible to determine the additional controls that are required to be in compliance above what would be required if the current regulations are fully implemented. Precise fiscal and economic impact from the rulemaking therefore cannot be determined. If sufficiency reviews of nonpoint source programs are conducted, it is possible that additional controls are needed to meet the water quality standards for toxic pollutants. If that is the case, there could be significant fiscal and economic impacts on nonpoint source control programs such as the AgWQM Program, FPA rules, and non-MS4 urban stormwater control programs. DEQ's determination that this proposed rulemaking will not have a significant fiscal and economic effect on the following sectors of nonpoint sources of pollution is based on the assumption that current nonpoint source programs are generally sufficient to meet the current water quality standards for toxics.

1. Agriculture

1. Relevant pollutants

The List of relevant Pollutants for nonpoint sources (Appendix A) shows pollutants on Table 40 that are applicable to agriculture. The relevant pollutants to agriculture include a couple of current use pesticides, but most of them are legacy pollutants.

2. Changes in agricultural activities and conservation practices

In Oregon, agricultural activities are subject to AgWQMA rules that prohibit pollution. AgWQMA Plans and Rules are the mechanisms used for agriculture to meet water quality standards and where applicable, TMDL load allocations. There is a possibility that AgWQM Area plans and rules will need to be revised in order to meet the proposed amendment to the toxics water quality standards in some areas.

3. Types and Numbers of small business

According to Oregon Farm Bureau, 97% of Oregon farms and ranches fall under the category of small businesses based on the definition of small businesses being 50 or less FTEs.

Impacts on small businesses and general public

Agricultural activities are already subject to AgWQM Area Plans and Rules that prohibit pollution. Because these plans and rules already require and provide the mechanism for agriculture to meet the water quality standards and TMDL load allocations, DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public. If AgWQM Area Rules need to be revised in order to comply with the proposed toxics WQS, there could be increased costs for some private landowners to comply with the rules including one-time costs for capital improvements. These changes, however, will take years to be implemented.

Impacts on State Agencies

Oregon Department of Agriculture³

Existing Agricultural Water Quality Management Area Plans and Rules are expected to be adequate to achieve TMDL load allocations and meet water quality standards on agricultural lands. The plans rely on both voluntary and regulatory approaches to implement management measures that prevent pollution by controlling upland erosion and sediment transport, restoring and maintaining riparian vegetation, appropriately utilizing nutrients, and addressing other agricultural activities as needed to protect surface and ground waters. The plans rely on, and the rules are generally limited to, available and technically

³ Dave Wilkinson, OR Department of Agriculture, e-mail September 24, 2010

feasible conservation practices. The cost of these practices were considered in adopting current area plans and rules.

Impacts on Small Business

If additional practices must be developed or requirements otherwise increase or are better defined, there may be increased costs of production or land management to farmers and landowners on rural lands who operate as small businesses.

OAR 340-041-0061(12)

The proposed rule describes how DEQ would communicate with ODA if DEQ believed that an area plan was not adequate to achieve a water quality standard. Currently, all waters of the state on agricultural lands are addressed with one of 39 area plans and area rules to implement them. The area plans are designed to achieve water quality standards and meet TMDL load allocations. Because ORS 568.930 currently provides for the EQC to petition ODA for changes to the area plans, no additional cost from this proposed rule is anticipated. If DEQ determines any of the area plans are inadequate, in some aspect, there could be additional cost to ODA, and possibly to landowners, if the area plans must be modified.

The proposed rule also clarifies that DEQ has the authority to require a landowner to change their activities if found to be causing or contributing to a water quality standards violation. The rule reflects current DEQ practice of first referring the landowner to ODA to resolve the issue. Because this rule clarifies existing interagency practice to address pollution from agricultural activities, no additional cost to ODA or landowners is anticipated.

OAR 340-042-0080(2)

This proposed rule explains that area plans and rules must be adequate to prevent and control water pollution from agricultural activities and soil erosion as provided by ORS 568.900 to 933 and 561.191. The rule allows the DEQ to request the EQC to petition ODA to modify an area plan if it believes the plan to be inadequate. Because the ability of the EQC to petition ODA is provided in law

and is currently available to the EQC to resolve any perceived plan deficiencies, no additional cost is anticipated by this proposed rule change.

The proposed rule also allows DEQ to assign load allocations to specific agricultural sources or sectors. As with TMDLs generally, the cost of compliance can be shifted from one type of source to another through assignment of load allocations. Any specific load allocation would be achieved through an area plan and implementation of area rules. Since plans and rules are currently designed to meet load allocations by implementing available conservation practices, any increase in specific load allocation could result in additional cost to the agricultural producers in that source or sector. Until an individual source or sector has been identified in this way, it is not possible to estimate any additional cost compared to current requirements to prevent and control pollution.

Total Maximum Daily Loads (TMDL)

o TMDL Development

DEQ proposes to develop TMDLs with improved spatial scale and source assessment. The potential benefit would be to better inform ODA, other agricultural agencies, and landowners more specifically where water quality problems exist and restoration projects or management changes would be most beneficial. There would likely be no direct cost savings because the amount of work to be done is large compared to the resources available. However, the investments in time and effort could, potentially yield better water quality results.

DEQ proposes to include timelines and associated milestones in TMDLs. A potential benefit of this would be to allow area plans to set clear objectives and work effectively and measurably toward the identified milestones. Costs could potentially be increased to ODA and landowners if timelines are accelerated beyond the current implementation rate. Until individual TMDL timelines and milestones are created, it is not possible to estimate potential additional costs.

o TMDL Implementation

DEQ proposes to further clarify TMDLs goals by working collaboratively with ODA to identify surrogates to water quality standards and evaluate measures to

effectively achieve the surrogates. A benefit could be realized by using surrogates that are easily applied by landowners and reported as progress in implementation. No additional cost is anticipated, however landowners and local agencies may be able to work more effectively toward agreed upon water quality goals.

2. Forestry

1. The List of relevant Pollutants for nonpoint sources (Appendix A) shows applicable pollutants on Table 40 for forestry. These pollutants include a couple of current use pesticides.
2. Forest activities are subject to Forest Practices Act and rules to meet the water quality standards and TMDL load allocations. Because these rules already require and provide the mechanism for forestry to meet the water quality standards and TMDL load allocations, the agency does not expect significant fiscal or economic impacts on forest lands.
3. Types and Numbers of Small Business
According to information provided by OSWA, there are over 100,000 small businesses that own forest land in Oregon. Approximately 70,000 families own 10 to 5,000 acres and these ownerships are organized in various small business structures. In addition, there are 70,000 more families that own between 2 to 10 acres of forestlands and some of these fall under the small business category.

Impacts on small businesses and general public

Forest activities are subject to Forest Practices Act and rules in order to meet water quality standards and TMDL load allocations. Because of these requirements that are currently in place, DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public. If FPA Rules need to be revised in order to comply with the proposed changes to the toxics WQS, and if those changes result in restrictions to timber harvest or other forest management activities that reduce growth and yield, there could be, in some cases, increased costs for private landowners to comply with the rules. The outcomes of these rule changes are difficult to predict and also will take years to be implemented.

Impacts on state agencies

Where toxics TMDLs are developed due to proposed lower criteria, ODF may need additional staff resources for administrative and technical assistance.

3. Non-Permitted Urban Sources

1. Relevant pollutants

Appendix A, the List of relevant Pollutants for nonpoint sources, indicates the pollutant on Table 40 that are applicable to urban areas.

2. Changes in urban BMPs

For non-MS4 communities and facilities without NPDES requirements, TMDLs are the main driver for developing water quality management plans. Since TMDLs already require local governments and counties as designated management agencies to develop and implement TMDL implementation plans, the agency does not expect significant fiscal or economic impacts for urban sources as a result of this rulemaking process.

3. Types and Numbers of small businesses affected

If new ordinances and codes are required in order to meet TMDL load allocations that are based on the proposed revised toxics WQS, there could be an indirect fiscal impact to all small businesses that are within the boundary of the TMDLs.

Potential Impacts on small businesses and general public

Urban stormwater and other water quality parameters in urban areas are subject to TMDLs. DEQ has determined that this proposed rulemaking does not have additional fiscal impacts or effects on small businesses and general public. If new ordinances and codes are required in order to meet TMDL load allocations that are based on the proposed revised toxics WQS, there could be an indirect fiscal impact to small businesses and general public to implement additional control measures.

Impacts on other state agencies

The department does not expect other state agencies to experience significant fiscal or economic impacts.

4. Land & Air sources

1. Relevant pollutants

The List of relevant Pollutants for nonpoint sources (Appendix A) shows which pollutants are naturally occurring or could potentially be air deposited on Table 40.

2. Changes in air source control

DEQ made a policy decision to limit the scope of the toxics water quality standards rulemaking to divisions under water program. The actual regulatory mechanism for addressing TMDL allocations through other media programs still needs to be defined and described. Since DEQ has all along had the authority to assign load allocations to air sources, the current rulemaking process does not have any fiscal or economic impact.

Types and Numbers of small businesses affected

Fiscal analysis for air sources will be determined if air rules need to be revised or established in order to implement TMDL load allocations.

Impacts on small businesses and general public

Air sources are already subject to TMDLs under current rules. DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public.

3. Impacts on state agencies

The department does not expect other state agencies to experience significant fiscal or economic impacts.

e. Benefits attributable to revision and implementation of human health criteria for toxics

DEQ did not have the financial resources to conduct a quantitative analysis of the direct and indirect potential benefits associated with an increased fish consumption rate, however, the FIIAC committee members along with representatives from the Oregon Environmental Council and CTUIR agreed that while economic benefits can be difficult to analyze, it is important to describe potential benefits, at the very least, in a qualitative manner. A key outcome of revised water quality standards based on a higher fish consumption rate would not only benefit consumers of fish, but also achieve more stringent water quality criteria by reducing toxic contamination in waterways. The level of benefits achieved will depend on the degree to which

pollution reduction is accomplished. Tables 1 and 2 below are excerpts from the FIIAC memo and describe benefits associated with this rulemaking.

Table 1: Potential Benefits of Raising the Fish Consumption Rate and Meeting the Standards

Benefit	Examples
Human Health	-safe drinking water; -avoided costs from environmentally attributable diseases; -reduced risk for those who do eat fish; -recreational – reduced risk from water contact
Environmental	-water reuse opportunities from cleaner effluent; -business—cleaner intake water for downstream industries; -ecosystem health; - tourism; -amenity/aesthetic/property values; -avoided costs to industries and utilities; -fewer contaminants; -fishing – tribal, commercial, recreational and subsistence; -improve other species in the food chain: birds, etc.; -higher quality water supply
Cultural	-enable religious/ceremonial activities; -children; -healthy fish – icon of the Northwest -local, and sustainable food options

Table 2: Potential Benefits of Specific Implementation Strategies

Strategy	Potential Benefit
Toxic Reductions	-Reduced human health impacts; -innovative possibilities used to reach more efficient systems when not fearful of litigation stemming from strict liability regulatory framework; -costs of litigation reduced; -reduced O&M; -reduced hazardous waste removal costs;
Stormwater Control	-Co-benefits for toxics reductions and control of other important stressors that affect fish health such as sedimentation and warm water temperatures
Infiltration and Inflow (I&I)	-Reduce quantity of water and toxics entering plant, reducing operating costs

(* It should be noted that ACWA agencies are already engaged in I&I programs and do not agree that an incremental increase in I&I will result in toxics reduction and question the efficacy of additional increases in I&I rehab work since 100% I&I removal is currently not possible.)

II. Effect of Utilizing Different Implementation Tools

Some situations may occur where limits or requirements based on the proposed criteria cannot be met. Contamination of a facility's intake water by background pollutants (or in the case of municipal wastewater treatment facilities, some contaminants may be present in the drinking water) may result in high wastewater effluent concentrations that can't be feasibly treated or result in undesirable environmental tradeoffs to achieve. These pollutants may occur naturally or result from a variety of

human activities. Intake credits, background pollutant allowances, and variances are implementation tools that can be used to address background contaminants and would potentially offset some of the impact of the revised criteria.

Some of the potential costs incurred by sources may be as the result of installing additional treatment technologies to reduce toxic pollutants in wastewater effluents. Some of these technologies are proven and are commonly used. Other technologies may be able to remove toxics to lower levels, but are not yet proven for wide-scale use, are not capable of treating down to the necessary levels, or present other limitations such as hazardous byproducts or prohibitive cost, thereby limiting the feasibility of their use for certain dischargers. For more information on specific treatment technologies, including advantages, disadvantages, and some limited costs, please refer to Appendix C in the SAIC Report.

Because there may not be feasible treatment technologies to remove low concentrations of toxic pollutants or other concerns regarding residual management from certain treatment technologies, some dischargers may pursue other implementation tools to comply with requirements based on the revised criteria. Some of the following tools are new (or revised), while other tools already exist in DEQ regulations. Generally, these tools provide a means to comply with and ensure progress toward meeting water quality standards and implementing regulations while ensuring protection of human health and the environment. Where meeting requirements to meet the revised criteria are infeasible, use of one of the approaches described below in appropriate circumstances can provide a lower cost means to comply with water quality standards than costs associated with removal technologies.

i. New Implementation Tools

1. Variances with pollution reduction plan

DEQ is proposing to revise its current water quality standards regulation to include variances with a pollution reduction plan as an implementation pathway. Variances provide a mechanism for achieving water quality improvements when underlying water quality standards cannot be met in the short term. This provision would be allowed under limited circumstances. Variances are applicable to all types of pollutants and facilities, although DEQ anticipates that variances for toxic pollutants will be the majority of variance requests and approvals.

If a discharger is unable to comply with a water quality standard because, for example, there are no feasible or affordable treatment technologies available, variances could be pursued as a lower cost alternative, while complying with permit requirements and

making water quality improvements. Despite lower anticipated net costs, there would still be incremental costs associated with variance requests and approvals for dischargers using this implementation tool. Potential costs include costs to sources to prepare and support an application (e.g. collecting water quality data, conducting an economic analysis, literature review for feasible pollutant removal technologies, etc); developing a pollution reduction plan, including potential strategies and implementing actions contained in the plan.

Impacts associated with this rulemaking focus on the incremental costs of complying with a fish consumption rate of 175 g/day, as opposed to costs associated with the current or baseline criteria. The SAIC Report estimates that one-time expenditures associated with variance applications could range from \$1.43 M to \$7.05 M (total statewide) with a FCR based on 17.5 g/day; incremental variance-related expenditures could range from \$0.59 million to \$2.68 million (total statewide) under revised criteria (highlighted in table below). The table below further shows a breakdown of costs between major municipal and industrial facilities. The average one-time cost per major municipality ranges from \$8,000 to \$44,000 under revised criteria, while the average one-time cost per major industrial ranges from \$9,000 to \$25,000. Costs for arsenic variances are included in these estimates and could not be apportioned out. However, proposed rulemaking to revise criteria for arsenic (i.e. become less stringent based on natural background concentrations) may reduce the need for facilities to use variances as a tool to comply with arsenic. Therefore, the variance cost estimates could be lower than what is reflected in this table.

Exhibit F-9. Potential Baseline and Incremental Statewide One-Time Variance Costs
(millions of 2007\$)

Category	Sample			Statewide	Extrapolated One-Time Cost
	Total One-Time Cost	Number of Facilities	Average Cost per Facility	Number of Facilities ¹	
Baseline Criteria					
Certainty Sample ²	\$0.14 - \$1.20	5	NA	5	\$0.14 - \$1.20
Major Municipals	\$0.21 - \$0.90	9	\$0.023 - \$0.10	45	\$1.05 - \$4.50
Major Industrials	\$0.035 - \$0.20	4	\$0.009 - \$0.050	27	\$0.24 - \$1.35
Total	\$0.39 - \$2.30	18	NA	77	\$1.43 - \$7.05
Revised Criteria (Incremental) ³					
Certainty Sample ²	\$0	5	NA	5	\$0
Major Municipals	\$0.070 - \$0.40	9	\$0.008 - \$0.044	45	\$0.35 - \$2.0
Major Industrials	\$0.035 - \$0.10	4	\$0.009 - \$0.025	27	\$0.24 - \$0.68
Total	\$0.11 - \$0.50	18	NA	77	\$0.59 - \$2.68

NA = not applicable

1. Random sample results extrapolated to total number in category less number in certainty sample.
2. Large flow municipals (one of which is dominated by industrial flow) plus one minor industrial.
3. Represents the annual costs of compliance above and beyond those needed for compliance with baseline criteria.

DEQ anticipates that first-time variance costs would be greater than subsequent requests to renew variances. Discharger costs associated with a renewal of a variance are anticipated to be less, as most of the information required for a request would be an update of existing information gathered from the initial request. Each renewal request would need to be approved by both DEQ and EPA.

2. Intake credits

Intake credits will be implemented at the time DEQ's permit writer is determining whether a particular facility has the reasonable potential to cause or contribute to an exceedance of the water quality criteria. Where the conditions meet the requirements in the regulation, the permit writer would conclude that the facility does not need a water quality based requirement in their limit for that pollutant or that the limit is based upon the concentration in the intake water. Without this provision the facility could have incurred the associated costs with meeting effluent limits or other requirements. As a result, where this implementation tool could be employed, the facility would avoid significant costs that would otherwise be incurred. DEQ expects that minimal input (in the form of additional monitoring data, etc.) would be needed from dischargers to facilitate the use of this tool. Given the limitations of this tool (i.e. facilities that have discharge pollutants originating from their intake water and a requirement that the mass and concentration of discharge cannot exceed that of intake water), DEQ estimates that few dischargers will be able to employ intake credits based on pollutants already present in their intake water.

3. Background pollutant allowance

The background pollutant allowance allows a discharger to discharge effluent that is up to 3% higher than the background pollutant concentration of a water body that approaches or exceeds an applicable human health criterion (mass cannot be increased). The availability of this tool would very likely offset costs that would be incurred by dischargers if they were required to install expensive treatment technologies to reduce pollutant.

DEQ anticipates that some dischargers may need to adjust treatment processes to keep the mass of pollutant at or below upstream mass. Costs for this adjustment would vary depending on the process needed. Dischargers may also need to adjust treatment processes to keep pollutant concentration to no greater than 3% of upstream concentration.

Based upon a review of current industrial permits, DEQ estimates that 32 minor and four major facilities have the potential to be impacted by background pollutants if present at high levels upstream of their facilities. These facilities typically employ significant quantities of surface water in their processes that result in evaporative loss and an increase in pollutant concentration.

ii. Existing Tools/Mechanisms

Generally, there should be no additional costs for administering these tools, unless there is a significant increase in the use of these tools.

1. Compliance schedules

A compliance schedule can be used to implement newly applicable water quality-based effluent limits that the permittee is unable to meet upon issuance of the permit. Although the schedule must ensure that the limits are achieved as soon as possible, it allows the permittee additional time to comply with criteria. DEQ anticipates that the use of this tool will mitigate some of the costs to sources who would otherwise need to immediately comply with effluent limits upon permit renewal

2. General Permits

General permits may be used as an alternative to address background pollutants. Typically, DEQ develops an individual NPDES permit to regulate the discharge of a single effluent stream derived from multiple industrial activities. If this effluent stream from a facility was separated into individual streams, many of these individual industrial activities could qualify for a general permit. Because general permits do not have many of the pollutant monitoring and reasonable potential analysis requirements that individual permits have, it could be more cost effective for dischargers to separate processes and comply with general permit conditions, rather than conduct compliance actions to meet effluent limits resulting from a mixed waste stream.

3. Use Attainability Analysis (UAA)

Federal water quality standards regulations allow states to remove or revise a designated use which is not an existing use if the State can demonstrate that attaining the designated use is not feasible based on one of six reasons. The objective of the UAA is to replace a use with a use that is determined to be attainable. In some cases, Oregon has established designated uses for waterbodies that may not be attainable (e.g. drinking water designated use for irrigation dominated water bodies). By setting appropriate and attainable designated use goals, resources can be allocated where they are more likely to accomplish the desired environmental result. Although there are costs involved to develop a UAA, appropriate designations of water bodies may be less costly than actions needed to comply with more stringent water quality standards based on more sensitive designated uses. In cases where changes in designated uses are deemed to be appropriate, such an action could result in applicable standards that are less costly to meet.

4. Possibility of trading with upstream sources to meet WQBEL

Upstream trading allows a permittee to reduce loading from an upstream source of the same pollutant in order to create the assimilative capacity they need to meet water quality standards. This option could allow a permittee to achieve toxics reductions more cost effectively than meeting effluent WQBELs, as long as there are other sources upstream discharging the same pollutant of concern.

DEQ does not know of any precedence for toxics pollutant trading to comply with a water quality criterion in Oregon or elsewhere outside of a TMDL, given the concern of creating acute toxic environments near the vicinity of the effluent outfall. If such a situation arose, DEQ would carefully evaluate the feasibility of conducting such a trade.

III. Impact to DEQ Programs, Staff, and Resources

The following table summarizes potential fiscal and economic impacts to DEQ programs, staff, and resources. DEQ does not anticipate funding additional staff positions in response to this rulemaking. Consequently, staff time spent on implementing more stringent human health toxics criteria may impact other priorities of the department. DEQ may also receive additional requests to conduct Use Attainability Analyses or develop site specific criteria as a way of addressing compliance issues identified in conjunction with implementing the more stringent toxics criteria, if appropriate. These rules

do not generate revenue for DEQ. To estimate dollar amounts below, DEQ assumed a staff Natural Resource Specialist 4 position, Step 7, at \$63/hr.

Table of Potential Impacts to DEQ

	DEQ Regional Staff	Headquarters/Lab/Administrative Staff
	Permitting	
Monitoring	- Estimate 4 – 16 additional hrs per permit (\$252 - \$1008) needed for staff to determine monitoring requirements for permits subject to this rulemaking. For this rulemaking, average review per permit could slightly increase depending on individual circumstances and compliance tools used.	-Staff and lab time needed for periodic revisions of quantitation limits (QLs) -Generally, costs increase when criteria for toxic pollutants change from totals of a chemical family to individual chemical species. Costs also generally increase to achieve lower QLs. -The criteria for total mercury will be replaced by a tissue based methyl mercury criteria. Generally, cost for methyl mercury analysis is 2-3 times higher than for total mercury. -Some of the monitoring and analysis costs have already been absorbed given DEQ's investment in toxics monitoring for SB737, the Pesticide Stewardship Program and the toxics monitoring program.
WQBELs and/or other WQ Limits	-Regional staff will need to do more WQBEL assessments if RPA indicates that more dischargers will have reasonable potential. Estimate an additional 8 hrs/parameter/permit (\$504) to establish QBELs where they are identified as needed. -Intake Credits: The RPA IMD would include calculations for intake credits and wouldn't require additional staff time.	-Periodic revisions of RPA IMD may be required to account for intake credits -Increased data input into the Discharge Monitoring System (DMS) which stores information on permit features, schedules, permit limits, required monitoring and discharge monitoring report data for individually permitted facilities. -Because stormwater discharges are intermittent, DEQ does not apply the human health criteria (which are generally based on a 70 year exposure) to permits for these discharges. Therefore, there will not be any anticipated fiscal impact to DEQ related to stormwater permits. However, the industrial stormwater permit is currently being revised. In the current proposal, it is likely that sources which discharge to waterbodies that are listed as impaired for the human health criteria will have to monitor for these pollutants and develop BMPs if criteria are exceeded. In these cases, DEQ staff will need to oversee and review monitoring and associated BMPs as needed. - The only general permit with toxics that would require additional work to modify based on revised human health criteria is the 1500A. The 1500A permit covers petroleum hydrocarbon cleanup from groundwater or surface water. DEQ will need to incorporate the new permit limits as part of the general permit renewal.
Background Pollutant Allowance	-More staff time needed to review	-HQ collaboration may be needed in the short term to

	applicability of a background allowance request. DEQ estimates an additional 60 hrs./permit (\$3780) where this tool is used. However, time spent in this analysis could be less than developing other “site specific solutions” if this provision was not available.	provide regional consistency in evaluating background pollutant allowances. -Staff time needed for periodic revisions of IMD. -Do not anticipate greater regional or HQ FTE, so less technical assistance may be available for other issues/projects,
Variances	- Regional permit writers will be interfacing with discharger to evaluate data and information needed for variance request and to incorporate permit conditions based on the variance request. In some cases, significant staff time could be spent gathering this information, possibly conducting literature reviews for treatment technology removal capabilities, and/or reviewing fiscal and economic data from discharger. Variances also require a yearly review of the pollutant reduction plan to be conducted by DEQ staff. DEQ estimates approximately 160 hrs./variance request (\$10,080). -Time spent in this analysis could be less than developing other “site specific solutions” if this provision was not available.	- Since DEQ has yet to receive a variance request, the department is unable to specify costs based on past experience, therefore costs and/or resources described here are estimates. -DEQ anticipates that HQ WQS staff will review variance requests submitted by the permittee and permit writer. - Estimate 0.75 FTE (Standards 0.56 FTE and Permitting 0.19 FTE) to review variance requests and pollutant reduction plans, and coordinate DEQ/EQC/EPA approval. -SAIC extrapolated the potential number of variance applications for the sample facilities and found that DEQ would need to review approximately 40 requests under the baseline criteria (FCR of 17.5 g/day) and an additional 16 under the revised criteria. Assuming a cost of \$3,900 per review, baseline costs could be approximately \$159,000 with incremental costs of approximately \$65,000 under the revised criteria. -DEQ anticipates ongoing costs to review variances depending on the ability of dischargers to meet effluent limits. -Most likely, staff time in reviewing variances could decrease as the process becomes more efficient. In addition, variance renewals should be less resource intensive. -Staff time needed for periodic revisions of variance IMD and associated staff training. -Do not anticipate availability of additional FTE, so less HQ technical assistance available for other issues/projects.
Compliance Schedules	-Regional permit writers may need to develop additional compliance schedules for permittees given more stringent toxics criteria. -Use of compliance schedules would depend on if the discharger could ultimately meet discharge limits within a specified amount of time. - DEQ estimates approximately 40 hrs./compliance schedule development (\$2520). -Generally, more complex permits (e.g. those including compliance	-HQ permitting staff may assist regional permit writers in developing compliance schedules depending on backlog and permitting priorities.

	schedules) require additional oversight and communication with permittees.	
Non-Permitting		
More Stringent Criteria <i>TMDL monitoring</i>	-Regional staff may be involved in both developing a sampling and analysis plan and collection of samples needed for development of TMDLs to address waterbodies listed for toxics.	-Lab FTE to develop sampling and analysis plans, collect and analyze data, and develop reports. Will depend on the quality and quantity of data needed for the TMDL and availability of existing data from other sources (e.g. USGS, FWS, BLM, USFS, etc.). -DEQ does not anticipate additional FTE, therefore, costs may be similar to that incurred under the current toxics criteria. However, there may be a backlog of TMDL development due to lack of DEQ monitoring resources.
<i>TMDL Development</i>	-Regional staff members lead TMDL development by coordinating with HQ and Lab staff and working with local advisory group. - There may also be an additional backlog of TMDL development if there are additional 303(d) listings as anticipated. - Since DEQ will not seek additional FTE for the TMDL program, DEQ expects to issue TMDLs at a slower rate.	-HQ supports TMDL development by providing modeling and programmatic support. - Since DEQ will not seek additional FTE for the TMDL program, DEQ expect to issue TMDLs at a slower rate. -Additional resources maybe needed for Lab in order to support the development of monitoring strategies for Implementation-Ready TMDLs. - There may also be an additional backlog of TMDL development if there are additional 303(d) listings as anticipated.
TMDL Development 1. TMDLs: Clarifying EQC and DEQ's authorities in Divisions 41 and 42	- The resource needs are expected to double for TMDLs compared to current subbasin level TMDLs. -TMDL development phase, additional resources should not be required for implementation. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)	- The resource needs are expected to double for TMDLs compared to current subbasin level TMDLs. - Toxics TMDLS have roughly cost between 50,000 to 1,000,000 to develop depending on the extent of listings within a basin. -According to the SAIC Report, additional technical assistance may be needed in order for the dischargers to meet TMDL waste load allocations. Requests for pursuing variances by facilities may increase, for example.
2. Addressing air sources in TMDLs: Clarifying EQC and DEQ's authorities to regulate air sources to meet TMDL goals in Division 42	-No significant increase in resource needs for the regional staff members are expected. -If air depositional load is determined to be significant through TMDL source analysis, resource needs for Air Quality Division may increase to work with facilities and coordinate with Water Quality Division.	-No significant increase in resource needs for the HQ and Lab staff members are expected. -If air depositional load is determined to be significant through TMDL source analysis, resource needs for Air Quality Division may increase for rulemaking and coordination with Water Quality Division.
TMDL Implementation	-Regional staff members are central to coordinate implementation efforts and monitoring efforts in their region. Since more work will be done during TMDL	-HQ and Lab provide technical and programmatic support to the region for TMDL implementation. -Additional resources maybe needed for HQ to

	development phase, additional resources should not be required for implementation. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)	provide modeling and analyses associated with TMDLs. (It should be noted that there currently is a shortage of staff resources to support implementation of TMDLs that are in place. The need for additional resources to implement TMDLs already exists.)
401 Certifications		- Section 401 of the federal Clean Water Act requires that any federal license or permit to conduct an activity that may result in a discharge to waters of the United States must first receive a water quality certification from the state in which the activity will occur. These discharges must meet any new water quality toxics criteria for human health. -DEQ does not anticipate additional FTE or resources needed as part of this rulemaking since new processes or approaches are not anticipated being needed and toxic pollutants are not routinely significant pollutants of concern for these activities.
Integrated Report		-Potential of additional toxics listings - Data evaluation tools and database systems used to prepare the Integrated Report will need to be revised. -For the 2010 Integrated Report, it required 2 FTE (1 programmer and 1 standards specialist) for 6 months (approximately \$40,000) to evaluate toxics data in LASAR using Table 20 criteria. A similar level of effort is likely needed to revise the data systems to incorporate new criteria. Additional effort will be needed to revise and update the assessment of water bodies done prior to date of EPA approval of new toxic substance criteria. -Water body analytical data in DEQ's LASAR data system may need to be synchronized/correlated to include metadata needed to apply new criteria (e.g. CAS numbers, total forms vs. individual species forms). This analysis is needed to correlate data collected in LASAR to Integrated Report analysis and listing status of that pollutant.
Land Quality		DEQ's cost to implement the new human health criteria into clean-up standards would be minimal. Work involves substituting lower risk numbers at sites where surface-water discharge is the pathway of concern.

Appendix A: List of Relevant Pollutants for Nonpoint Sources

	Pollutant	CAS number	Agriculture (Legacy)	Agriculture (Current Use)	Forestry (Historic or current)	Urban Stormwater	Air Deposition (widespread)	Naturally Occurring
1	Acenaphthene	83329				y		
2	Acrolein	107028				y	y	
3	Acrylonitrile	107131				y		
4	Aldrin	309002	y					
5	Anthracene	120127				y	y	
6	Antimony	7440360				y	y	y
7	Arsenic	7440382	y				y	y
8	Asbestos	1332214				y		
9	Benzene [represents range]	71432				y		
10	Benzene	71432				y		
11	Benzidine	92875				y		
12	Benzo(a)anthracene	56553				y	y	
13	Benzo(a)pyrene	50328				y	y	
14	Benzo(b)fluoranthene 3,4	205992				y	y	
15	Benzo(k)fluoranthene	207089				y	y	
16	BHC Alpha	319846	y					
17	BHC Beta	319857	y					
18	BHC Gamma (Lindane)	58899	y					
19	Bromoform	75252						
20	Butylbenzyl Phthalate	85687				y	y	
21	Carbon Tetrachloride	56235						
22	Chlordane	57749	y			y		

23	Chlorinated benzenes							
	Pollutant	CAS number	Agriculture (Legacy)	Agriculture (Current Use)	Forestry (Historic or current)	Urban Stormwater	Air Deposition (widespread)	Naturally Occurring
24	Chlorobenzene	108907						
25	Chlorodibromomethane	124481						
26	Chloroethyl Ether bis 2	111444						
27	Chloroform	67663						
28	Chloroisopropyl Ether bis 2	108601						
29	Chloromethyl ether, bis	542881						
30	Chloroethyl Ether bis 2	91587						
31	Chlorophenol 2	95578	y					
32	Chlorophenoxy Herbicide (2,4,5,-TP)	93721	y		y	y		
33	Chlorophenoxy Herbicide (2,4-D)	94757		y	y	y		
34	Chrysene	218019				y	y	
35	Copper	7440508		y		y	y	y
36	Cyanide	57125						
37	DDD 4,4'	72548	y					
38	DDE 4,4'	72559	y					
39	DDT 4,4'	50293	y					
40	Di-2-ethylhexyl Phthalate					y	y	
41	Dibenzo(a,h)anthracene	53703				y	y	
42	Dibutylphthalate	84742				y	y	
43	Dichlorobenzene(m) 1,3	541731						
44	Dichlorobenzene(o) 1,2	95501						
45	Dichlorobenzene(p) 1,4	106467						
46	Dichlorobenzenes							
47	Dichlorobenzidine 3,3'	91941						
48	Dichlorobromomethane	124481						

49	Dichloroethane 1,2	107062						
50	Dichloroethylene 1,1	75354						
	Pollutant	CAS number	Agriculture (Legacy)	Agriculture (Current Use)	Forestry (Historic or current)	Urban Stormwater	Air Deposition (widespread)	Naturally Occurring
51	Dichloroethylene trans 1,2	156605						
52	Dichloroethylenes							
53	Dichlorophenol 2,4	120832						
54	Dichloropropane 1,2	78875						
55	Dichloropropene 1,3	542756						
56	Dieldrin	60571	y					
57	Diethyl Phthalate	84662						
58	Dimethyl Phthalate	131113						
59	Dimethylphenol 2,4	105679						
60	Di-n-butyl Phthalate	84742						
61	Dinitrophenol 2,4	51285						
62	Dinitrophenols	25550587						
63	Dinitrotoluene 2,4	121142						
64	Dioxin (2,3,7,8-TCDD)	1746016				y	y	
65	Diphenylhydrazine							
66	Diphenylhydrazine 1,2	122667						
67	Endosulfan			y				
68	Endosulfan Alpha	959988		y				
69	Endosulfan Beta	33213659		y				
70	Endosulfan Sulfate	1031078		y				
71	Endrin	72208	y					
72	Endrin Aldehyde	7421934	y					
73	Ethylbenzene	100414				y		
74	Ethylhexyl Phthalate bis 2	117817				y	y	

75	Fluoranthene	206440				y	y	
76	Fluorene	86737				y	y	
77	Heptachlor	76448	y					
	Pollutant	CAS number	Agriculture (Legacy)	Agriculture (Current Use)	Forestry (Historic or current)	Urban Stormwater	Air Deposition (widespread)	Naturally Occurring
78	Heptachlor Epoxide	1024573	y					
79	Hexachlorobenzene	118741	y					
80	Hexachlorobutadiene	87683						
81	Hexachlorocyclopentadiene	77474						
82	Hexachloroethane	67721	y					
83	Indeno(1,2,3-cd)pyrene	193395				y	y	
84	Isophorone	78591						
85	Manganese	7439965				y	y	y
86	Methoxychlor	72435	y					
87	Methyl Bromide	74839	y					
88	Methyl-4,6-dinitrophenol 2	534521						
89	Methylene Chloride	75092						
90	Methylmercury (mg/kg)	22967926				y	y	y
91	Nickel	7440020				y	y	y
92	Nitrates	14797558		y				
93	Nitrobenzene	98953						
94	Nitrosodibutylamine, N	924163						
95	Nitrosodimethylamine, N	62759						
96	Nitrosodi-n-propylamine, N	621647						
97	Nitrosodiphenylamine, N	86306						
98	Nitrosopyrrolidine, N	930552						
99	Pentachlorobenzene	608935						
100	Pentachlorophenol	87865				y		

101	Phenol*	108952						
102	Polychlorinated Biphenyls (PCBs)					y	y	
103	Pyrene	129000				y	y	
104	Selenium	7782492				y	y	y
	Pollutant	CAS number	Agriculture (Legacy)	Agriculture (Current Use)	Forestry (Historic or current)	Urban Stormwater	Air Deposition (widespread)	Naturally Occurring
105	Tetrachlorobenzene, 1,2,4,5-	95943						
106	Tetrachloroethane 1,1,2,2	79345						
107	Tetrachloroethylene	127184						
108	Thallium	7440280					y	
109	Toluene	108883						
110	Toxaphene	8001352	y					
111	Trichlorobenzene 1,2,4	120821						
112	Trichloroethane 1,1,2	79005						
113	Trichloroethylene	79016						
114	Trichlorophenol 2,4,6	88062						
115	Trichlorophenol, 2, 4, 5-	95954	y					
116	Vinyl Chloride	75014						
117	Zinc	7440666				y	y	y

Appendix B

TABLE 1: Comparison of Current and Proposed Human Health Toxics Criteria and Quantitation Limits

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Quantitation Limit (µg/L)	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
				Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
ACENAPTHENE	Y	N	1*	--	--	95	99
ACROLEIN	Y	N	5	320	780	0.88	0.93
ACRYLONITRILE	Y	Y	5	0.058	0.65	0.018	0.025
ALDRIN	Y	Y	0.01	0.000074	0.000079	0.0000050	0.0000050
ANTHRACENE	N	N	1*	--	--	2900	4000
ANTIMONY	Y	N	0.1	146	45,000	5.1	64
ARSENIC	Y	Y	0.5	2.1	2.1(freshwater) 1.0 (saltwater)	2.1	2.1(freshwater) 1.0 (saltwater)
ASBESTOS	Y	Y		7,000,000 fibers/L	--	7,000,000 fibers/L	--
BARIUM	N	N	0.1	1000	--	1000	--
BENZENE	N	Y	0.5	0.66	40	0.44	1.4
BENZIDINE	N	Y	10	0.00012	0.00053	0.000018	0.000020
BENZ(A) ANTHRACENE	N	Y	1*	--	--	0.0013	0.0018
BENZO(A)PYRENE	N	Y	1*	--	--	0.0013	0.0018
BENZO(B)FLUORANTHENE 3,4	N	Y	1*	--	--	0.0013	0.0018
BENZO(K)FLUORANTHENE	N	Y	1*	--	--	0.0013	0.0018
BROMOFORM	N	Y	0.5	--	--	3.3	14
BUTYLBENZYL PHTHALATE	N	N	1	--	--	190	190
CARBON TETRACHLORIDE	Y	Y	0.5	0.4	6.94	0.10	0.16
CHLORDANE	Y	Y	0.1	0.00046	0.00048	0.000081	0.000081
CHLORINATED BENZENES [CHLOROBENZENE]	Y	N	0.5	488	--	74	160
CHLORODIBROMOMETHANE	N	Y	0.5	--	--	0.31	1.3
CHLOROETHYL ETHER (BIS-2)	Y	Y	2	0.03	1.36	0.020	0.05
CHLOROFORM	Y	N	0.5	0.19	15.7	260	1100

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Quantitation Limit (µg/L)	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
				Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
CHLOROISOPROPYL ETHER (BIS-2)	Y	N	2	34.7	4360	1200	6500
CHLOROMETHYL ETHER (BIS)	N	Y	Contact DEQ Lab	0.00000376	0.00184	0.000024	0.000029
CHLORONAPHTHALENE 2	N	N	1	--	--	150	160
CHLOROPHENOL 2	Y	N	1	--	--	14	15
CHLOROPHENOXY HERBICIDES (2,4,5,-TP)	N	N	1	10	--	10	--
CHLOROPHENOXY HERBICIDES (2,4-D)	N	N	1	100	--	100	--
CHRYSENE	N	Y	1*	--	--	0.0013	0.0018
COPPER	Y	N	10	1300	--	1300	--
CYANIDE	Y	N	5	200	--	130	130
DDT [DDT 4,4']	Y	Y	0.01	0.000024	0.000024	0.000022	0.000022
DDD 4, 4'	Y	Y	0.01	--	--	0.000031	0.000031
DDE 4, 4'	Y	Y	0.01	--	--	0.000022	0.000022
DIBENZO(A,H)ANTHRACENE	N	Y	1*	--	--	0.0013	0.0018
DIBUTYLPHTHALATE [DI-N-BUTYL PHTHALATE]	Y	N	1	35,000	154,000	400	450
DICHLOROBENZENES [DICHLOROBENZENE(O)1,2]	Y	N	0.5	400	2,600	110	130
DICHLOROBENZENE(P) 1,4	N	N	0.5	--	--	16	19
DICHLOROBENZIDINE [DICHLOROBENZIDINE 3,3']	Y	Y	1	0.01	0.020	0.0027	0.0028
DICHLOROBROMOMETHANE	N	Y	0.5	--	--	0.42	1.7
DICHLOROETHANE 1,2	Y	Y	0.5	0.94	243	0.35	3.7
DICHLOROETHYLENES [DICHLOROETHYLENE 1,1]	Y	N	0.5	0.033	1.85	230	710
DICHLOROETHYLENE TRANS 1,2	N	N	0.5	--	--	120	1000
DICHLOROPHENOL 2,4	N	N	1	3,090	--	23	29
DICHLOROPROPANE [DICHLOROPROPANE 1,2]	Y	Y	0.5	--	--	0.38	1.5

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Quantitation Limit (µg/L)	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
				Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
DICHLOROPROPENE [DICHLOROPROPENE 1,3]	Y	Y	0.5	87	14,100	0.30	2.1
DIELDRIN	Y	Y	0.01	0.000071	0.000076	0.0000053	0.0000054
DIETHYLPHTHALATE	Y	N	1	350,000	1,800,000	3800	4400
DIMETHYL PHENOL 2,4	Y	N	2	--	--	76	85
DIMETHYL PHTHALATE	Y	N	1	313,000	2,900,000	84,000	110,000
DINITROPHENOL 2,4	Y	N	5	--	--	62	530
DINITROPHENOLS	Y	N	Contact DEQ Lab	--	--	62	530
DINITROTOLUENE 2,4	N	Y	1	0.11	9.1	0.084	0.34
DINITROTOLUENE	Y	N		70	14,300	No criteria	No criteria
DINITRO-O-CRESOL 2,4	Y	N		13.4	765	No criteria	No criteria
DIOXIN (2,3,7,8-TCDD)	Y	Y	0.000005	0.000000013	0.000000014	0.00000000051	0.00000000051
DIPHENYLHYDRAZINE	Y	N		0.042	0.56	No criteria	No criteria
DIPHENYLHYDRAZINE 1,2	Y	Y	5	--	--	0.014	0.02
DI-2-ETHYLHEXYL PHTHALATE [BIS-2- ETHYLHEXYL PHTHALATE]	Y	Y	1	15,000	50,000	0.20	0.22
ENDOSULFAN	Y	N		74	159	No criteria	No criteria
ENDOSULFAN ALPHA	Y	N	0.01	--	--	8.5	8.9
ENDOSULFAN BETA	Y	N	0.01	--	--	8.5	8.9
ENDOSULFAN SULFATE	Y	N	0.01	--	--	8.5	8.9
ENDRIN	Y	N	0.01	1	--	0.024	0.024
ENDRIN ALDEHYDE	Y	N	0.01	--	--	0.03	0.03
ETHYLBENZENE	Y	N	0.5	1,400	3,280	160	210
FLUORANTHENE	Y	N	2*	42	54	14	14
FLUORENE	Y	N	1*	--	--	390	530
HALOMETHANES	Y	Y		0.19	15.7	No criteria	No criteria
HEPTACHLOR	Y	Y	0.01	0.00028	0.00029	0.0000079	0.0000079
HEPTACHLOR EPOXIDE	Y	Y	0.01	--	--	0.0000039	0.0000039
HEXACHLOROETHANE	N	Y	2	1.9	8.74	0.29	0.33
HEXACHLOROBENZENE	Y	Y	1	0.00072	0.00074	0.000029	0.000029
HEXACHLOROBUTADIENE	Y	Y	2	0.45	50	0.36	1.8

Compound Name or Class [Table 40 Name, if different] *Criteria denoted in red indicate proposed additions to the human health criteria*	Priority Pollutant	Carcinogen	Quantitation Limit (µg/L)	Concentration in Units Per Liter for Protection of Human Health CURRENT		Concentration in Units Per Liter for Protection of Human Health PROPOSED TABLE 40	
				Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
HEXACHLOROCYCLOHEXAN E-ALPHA [BHC ALPHA]	Y	Y	0.01	0.0092	0.031	0.00045	0.00049
HEXACHLOROCYCLOHEXAN E-BETA [BHC BETA]	Y	Y	0.01	0.0163	0.0547	0.0016	0.0017
HEXACHLOROCYCLOHEXAN E-GAMA [BHC GAMMA (LINDANE)]	Y	N	0.01	0.0186	0.0625	0.17	0.18
HEXACHLOROCYCLOHEXAN E-TECHNICAL	Y	Y		0.0123	0.0414	0.0014	0.0015
HEXACHLOROCYCLOPENTA DIENE	Y	N	2	206	--	30	110
INDENO(1,2,3-CD)PYRENE	Y	Y	1*	--	--	0.0013	0.0018
ISOPHORONE	Y	Y	10	5,200	520,000	27	96
MANGANESE	N	N	2	--	100	--	100
METHOXYCHLOR	N	N	0.01	100	--	100	--
METHYL BROMIDE	Y	N	0.5	--	--	37	150
METHYL-4,6-DINITROPHENOL 2	Y	N	2	--	--	9.2	28
METHYLENE CHLORIDE	Y	Y	0.5	--	--	4.3	59
METHYLMERCURY (MG/KG)	Y	N	0.00005	--	--	--	0.040
MONOCHLOROBENZENE	Y	N		488	--	No criteria	No criteria
NICKEL	Y	N	10	13.4	100	140	170
NITRATES	N	N	100	10,000	--	10,000	--
NITROBENZENE	Y	N	1	19,800	--	14	69
NITROSAMINES	Y	Y		0.0008	1.24	0.00079	0.046
NITROSODIBUTYLAMINE N	Y	Y	10	0.0064	0.587	0.0050	0.02
NITROSODIETHYLAMINE N	Y	Y		0.0008	1.24	0.00079	0.046
NITROSODIMETHYLAMINE N	Y	Y	1	0.0014	16	0.00068	0.30
NITROSODI-N-PROPYLAMINE, N	Y	Y	2	--	--	0.0046	0.051
NITROSODIPHENYLAMINE N	Y	Y	1	4.9	16.1	0.55	0.60
NITROSOPYRROLIDINE N	Y	Y	10	0.016	91.9	0.016	3.4
PCBS	Y	Y	0.5	0.000079	0.000079	0.0000064	0.0000064

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				Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)	Water and Fish Ingestion (µg/L)	Fish Consumption Only (µg/L)
PENTACHLOROBENZENE	N	N	10/Contact DEQ Lab	74	85	0.15	0.15
PENTACHLOROPHENOL	Y	Y	2	1,010	--	0.15	0.30
PHENOL	Y	N	1	3,500	--	9,400	86,000
POLYNUCLEAR AROMATIC HYDROCARBONS	Y	Y		0.0028	0.0311	No criteria	No criteria
PYRENE	Y	N	1	--	--	290	400
SELENIUM	Y	N	2	10	--	120	420
TETRACHLOROBENZENE 1,2,4,5	Y	N	1	38	48	0.11	0.11
TETRACHLOROETHANE 1,1,2,2	Y	Y	0.5	0.17	10.7	0.12	0.40
TETRACHLOROETHYLENE	Y	Y	0.5	0.8	8.85	0.24	0.33
THALLIUM	Y	N	0.1	13	48	0.043	0.047
TOLUENE	Y	N	0.5	14,300	424,000	720	1500
TOXAPHENE	Y	Y	0.5	0.00071	0.00073	0.000028	0.000028
TRICHLOROBENZENE 1,2,4	Y	N	0.5	--	--	6.4	7.0
TRICHLOROETHANE 1,1,2	Y	Y	0.5	0.6	41.8	0.44	1.6
TRICHLOROETHYLENE	Y	Y	0.5	2.7	80.7	1.4	3.0
TRICHLOROPHENOL 2,4,5	N	N	2/Contact DEQ Lab	2,600	--	330	360
TRICHLOROPHENOL 2,4,6	Y	Y	1	1.2	3.6	0.23	0.24
VINYL CHLORIDE	Y	Y	0.5	2	525	0.02	0.24
ZINC	Y	N	5	--	--	2100	2600

* If lab cannot meet using full scan (625), please contact DEQ Lab

Appendix C

TABLE 1: Waterbodies* Listed for Toxics on the 2004/2006 Integrated Report⁴

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
COAST FORK WILLAMETTE	Coast Fork Willamette River	Iron, Mercury
COAST FORK WILLAMETTE	Coast Fork Willamette River / Cottage Grove Reservoir	Mercury
COAST FORK WILLAMETTE	Dennis Creek	Mercury
COAST FORK WILLAMETTE	Row River / Dorena Lake	Mercury
COOS	Elk Creek	Iron
COOS	Isthmus Slough	Manganese
COQUILLE	Fishtrap Creek	Iron
CROSSES SUBBASINS	Columbia River	Arsenic, DDE, PCB, PAH
CROSSES SUBBASINS	Klamath River	Ammonia
CROSSES SUBBASINS	Malheur River	DDT, Dieldrin
CROSSES SUBBASINS	Owyhee River	Arsenic, DDT, Dieldrin, Mercury
CROSSES SUBBASINS	Snake River	Mercury
CROSSES SUBBASINS	Willamette River	Aldrin, Arsenic, DDT, DDE, Dieldrin, Iron, Manganese, Mercury, PCB, Pentachlorophenol, PAH,
CROSSES SUBBASINS / LOWER OWYHEE	Owyhee River / Owyhee, Lake	Mercury
DONNER UND BLITZEN	Bridge Creek	Iron, Manganese, Beryllium
DONNER UND BLITZEN	Little Blitzen River	Beryllium
GOOSE LAKE	East Branch Thomas Creek	Iron
GOOSE LAKE	Thomas Creek	Iron
JORDAN	Jack Creek / Antelope Reservoir	Mercury
JORDAN	Jordan Creek	Arsenic, Mercury
LOST	Klamath Strait	Ammonia
LOST	Lost River	Ammonia

⁴ For information on the 2004/2006 Integrated Report, please visit:
<http://www.deq.state.or.us/wg/assessment/rpt0406.htm>

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
Lower Columbia	Unnamed Creek	Chromium (hex)
Lower Columbia	Unnamed Creek	Copper
Lower Columbia	Unnamed Creek	Iron
Lower Columbia	Unnamed Creek	Manganese
Lower Columbia	Unnamed Creek	Zinc
LOWER OWYHEE	Overstreet Drain	Copper, Iron, Lead, Manganese
LOWER WILLAMETTE	Arata Creek / Blue Lake	Ammonia, Manganese
LOWER WILLAMETTE	Columbia Slough	Iron, Manganese
LOWER WILLAMETTE	Johnson Creek	DDT, Dieldrin, PCB, PAH
LOWER WILLAMETTE	South Columbia Slough	Iron, Manganese
MCKENZIE	Blue River	Manganese
MCKENZIE	Mohawk River	Iron
MIDDLE COLUMBIA-HOOD	Dog River	Beryllium, Iron
MIDDLE COLUMBIA-HOOD	East Fork Hood River	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Evans Creek	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Hood River	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Indian Creek	Chlorpyrifos
MIDDLE COLUMBIA-HOOD	Lenz Creek	Arsenic (tri), Beryllium, Chlorpyrifos, Iron, Manganese
MIDDLE COLUMBIA-HOOD	Middle Fork Hood River	Beryllium, Iron
MIDDLE COLUMBIA-HOOD	Mitchell Creek	Zinc
MIDDLE COLUMBIA-HOOD	Neal Creek	Arsenic (tri), Beryllium, Chlorpyrifos, Guthion, Iron, Manganese
MIDDLE COLUMBIA-HOOD	West Fork Hood River	Beryllium
MIDDLE WILLAMETTE	Champoeg Creek	Dieldrin
MIDDLE WILLAMETTE	Pringle Creek	Copper, Dieldrin, Lead, Zinc
MIDDLE WILLAMETTE	Pringle Creek Trib	Heptachlor
MOLALLA-PUDDING	Pudding River	DDT, Iron, Manganese
MOLALLA-PUDDING	Zollner Creek	Arsenic, Chlordane, Dieldrin, Iron, Manganese, Nitrates
NECANICUM	Ecola Creek	Iron
NORTH UMPQUA	Cooper Creek / Cooper Creek Reservoir	Iron, Mercury

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
NORTH UMPQUA	North Umpqua River	Arsenic
NORTH UMPQUA	Platt I Reservoir	Mercury
NORTH UMPQUA	Sutherlin Creek	Arsenic, Beryllium, Copper, Iron, Lead, Manganese
NORTH UMPQUA	Unnamed creek	Arsenic
NORTH UMPQUA	Unnamed creek	Iron
NORTH UMPQUA	Unnamed creek	Lead
SOUTH UMPQUA	Galesville Reservoir	Mercury
SOUTH UMPQUA	Middle Creek	Arsenic, Cadmium, Copper, Manganese, Nickel, Zinc
SOUTH UMPQUA	Olalla Creek	Iron
SOUTH UMPQUA	South Fork Middle Creek	Cadmium, Copper, Manganese, Zinc
SOUTH UMPQUA	South Umpqua River	Arsenic, Cadmium
TUALATIN	Beaverton Creek	Iron, Manganese
TUALATIN	Fanno Creek	Dieldrin
Tualatin	Koll Wetland	Chromium (hex), Copper, Lead, Silver, Zinc
TUALATIN	Tualatin River	Iron, Manganese
UMATILLA	Athena Spring	Nitrates
UMATILLA	Birch Creek	Iron
UMATILLA	Butter Creek	Iron
UMATILLA	McKay Creek	Iron
UMATILLA	Umatilla River	Iron, Manganese
UMATILLA	Wildhorse Creek	Iron, Manganese
UMPQUA	Calapooya Creek	Iron
UMPQUA	Cook Creek	Beryllium, Copper, Iron, Lead, Manganese
UPPER WILLAMETTE	A-3 Drain	Arsenic, Dichloroethylenes, Tetrachloroethylene
UPPER WILLAMETTE	Amazon Creek	Arsenic, Copper, Dichloroethylenes, Lead, tetrachloroethylene, Trichloroethylene
UPPER WILLAMETTE	Amazon Creek Diversion Channel	Arsenic (tri), Copper, Lead, Mercury
UPPER WILLAMETTE	Amazon Diversion Canal/A3 Drain	Mercury
UPPER WILLAMETTE	Calapooia River	Iron, Manganese

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
UPPER WILLAMETTE	Long Tom River	Iron, Manganese
UPPER WILLAMETTE	Marys River	Iron, Manganese
UPPER WILLAMETTE	Willow Creek	Arsenic
WALLA WALLA	Pine Creek	Iron
WARNER LAKES	Fifteenmile Creek	Silver
WARNER LAKES	Twelvemile Creek	Arsenic (tri), Silver
WARNER LAKES	Twentymile Creek	Arsenic, Silver
WILSON-TRASK-NESTUCCA	Mill Creek	Iron
YAMHILL	Cedar Creek	Iron
YAMHILL	North Yamhill River	Iron, Manganese
YAMHILL	Salt Creek	Manganese
YAMHILL	South Yamhill River	Iron
YAMHILL	West Fork Palmer Creek	Chlorpyrifos
YAMHILL	Yamhill River	Iron, Manganese

* Toxics listings for any one waterbody may only represent a certain portion of that waterbody as being water quality limited.

TABLE 2: Pollutants of Concern from 2004/2006 Integrated Report

Pollutants of Potential Concern	
Acenaphthene	Endrin
Aldrin	Fluoranthene
Alkalinity	Guthion
Alpha-BHC	Heptachlor
Ammonia	Iron
Antimony	Isophorone
Arsenic	Lead
Arsenic (tri)	Malathion
Benzo(a)anthracene	Manganese
Benzo(A)anthracene	Mercury
Benzo(A)pyrene	Naphthalene
Benzo(g,h,i)perylene	Nickel
Beryllium	Nitrates
BHC	p,p` DDD
Cadmium	Parathion
Chlordane	PCB
Chlorophenoxy Herbicides (2,4-D)	Pentachlorophenol
Chlorpyrifos	phenanthrene
Chromium (hex)	Phenol
Chrysene	Phthalate Esters
Copper	Polynuclear Aromatic Hydrocarbons
Cyanide	pyrene
DDD	Radionuclides
DDT	Silver
DDT Metabolite (DDE)	Tetrachloroethylene
Dichloroethylenes	Thallium
Dieldrin	Toxaphene
Dioxin (2,3,7,8-TCDD)	Tributyltin
Dioxins/Furans	Trichloroethylene
	Zinc

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
Land Use Evaluation Statement

Rulemaking Proposal
For

**Revised Water Quality Standards for Human Health Toxic Pollutants and Revised
Water Quality Standards Implementation Policies**

1. Explain the purpose of the proposed rules.

DEQ's currently effective human health toxics criteria are based on a fish consumption rate that does not provide adequate protection for the amount of fish and shellfish consumed by Oregonians. On June 1, 2010, EPA disapproved human health toxics criteria, which were submitted for approval in 2004 and were based on a fish consumption rate of 17.5 grams per day. EPA disapproved the human health toxics criteria because the fish consumption rate was not considered protective of many Oregonians. DEQ is addressing EPA's disapproval by proposing to use a higher fish consumption rate of 175 grams per day to calculate more protective human health toxics criteria. If DEQ does not promulgate revised criteria, EPA must conduct rulemaking to promulgate human health toxics criteria for Oregon.

This rulemaking also proposes new rule language and revisions to existing rule language for various NPDES implementation tools developed to assist dischargers in complying with revised standards. Further, revisions to the water quality standards and Total Maximum Daily Load, or TMDL, rules are proposed to make DEQ's rules consistent with state statutes affecting nonpoint sources of pollution and for DEQ to assign load allocations to significant land and air sources in TMDLs.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination Program?

Yes X No _____

a. If yes, identify existing program/rule/activity:

This rulemaking as it relates to TMDLs and water quality standards could result in the need for local governments to review and revise land use plans and regulations implementing Goal 6. DEQ will

coordinate with local governments to ensure compatibility with TMDLs as provided in Part IV of DEQ's State Agency Coordination agreement.

- b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?**

Yes X No _____ (if no, explain):

- c. If no, apply the following criteria to the proposed rules.**

In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

Revisions to the water quality standards and Total Maximum Daily Load, or TMDL, rules could affect land uses; however, these proposed changes are adequately covered by the existing statewide goals. DEQ will coordinate with local governments to ensure compatibility with TMDLs as provided in Part IV of DEQ's State Agency Coordination agreement.

While the water quality standards program in general could affect land uses, the proposed rule amendments do not. This rule amendment revises the criteria values DEQ will use to regulate water quality but the beneficial uses of the states' waters will not be changed and the water quality standards will continue to protect those uses.

- 3. If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures DEQ will use to ensure compliance and compatibility.**

Not applicable