

State of Oregon  
Department of Environmental Quality

Memorandum

**Date:** June 2, 2011  
**To:** Environmental Quality Commission  
**From:** Dick Pedersen, Director  
**Subject:** Agenda item C, Rule adoption: Revised water quality standards for human health and revised water quality standards implementation policies  
June 15-17, 2011, EQC meeting

**Why this is important**

The proposed rule addresses a significant gap in the level of human health protection provided by Oregon's existing water quality standards. This gap formed the basis of EPA's June 2010 disapproval of Oregon's human health criteria for toxic pollutants. In addition, these rules propose or revise three permitting implementation tools critical for addressing known and anticipated permitting issues and clarify how DEQ will interact with the Departments of Agriculture and Forestry to implement programs to control nonpoint sources of pollutants.

**DEQ recommendation and EQC motion**

The Oregon Department of Environmental Quality recommends that the commission amend Oregon's water quality standards revising the human health criteria for toxic pollutants and revising the water quality standards implementation policies as presented in attachments A1, A2 and A3. The proposed rules include:

- OAR 340-041-0033 and new Table 40: revised human health criteria for toxic pollutants;
- OAR 340-045-0105: new "intake credit" rule;
- OAR 340-041-0033(6): new "site-specific background pollutant criteria" rule;
- OAR 340-041-0059: revised variance rule;
- OAR 340-041-007 and -0061: revised rules 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; and
- OAR 340-042-0040 and -0080: revised rules clarifying how air or land sources are treated in the development of TMDLs and TMDL load allocations for forest and agriculture.

DEQ also recommends that the new and revised provisions contained in OAR 340-041-0033, OAR 340-041-0059, and Table 40 become applicable under state law only after EPA approves the revisions they consider water quality standards

and they become effective under the federal Clean Water Act. Language to this effect is included in the specified sections and in Table 40 as presented in attachments A2 and A3.

**Background and need for rulemaking**

The Clean Water Act establishes DEQ's responsibility to develop and adopt water quality standards in Oregon to protect human health. Water quality standards form the basis and guideposts for other programs DEQ administers under the Clean Water Act. DEQ must periodically review the water quality standards and keep them up-to-date with science and new information and ensure that all beneficial uses are protected. DEQ works to ensure the water quality standards protect the majority of Oregonians, including susceptible groups, when determining the appropriate level of protection reflected in the standards.

Numeric water quality criteria, which are typically expressed as maximum concentrations not to be exceeded, are a key component of water quality standards. Having waterbodies that meet water quality standards helps ensure that Oregonians can consume fish and shellfish and use state waters as drinking water supplies without adverse health effects.

Some waterbodies are currently contaminated by the pollutants addressed in this rulemaking. Some of these pollutants, such as methylmercury, have been studied extensively by the scientific community and have well-documented human health effects resulting from exposure through fish consumption. Implementing water quality standards through Clean Water Act programs prevents future pollution and provides mechanisms for addressing existing pollution. Water quality standards provide appropriate benchmarks for these purposes.

In 2004, EQC adopted EPA's recommended aquatic life and human health criteria for toxic pollutants. The human health criteria were based on a fish consumption rate of 17.5 grams per day, which represents national consumption data. EPA and tribal members objected to the criteria, stating that the criteria do not protect tribal members who eat much greater amounts of fish. In 2005, DEQ committed to revisiting the human health criteria for toxic pollutants and began a stakeholder process to reconsider the fish consumption rate.

In October 2008, DEQ presented the results of this process to the commission along with a joint recommendation from DEQ, the Confederated Tribes of the Umatilla Indian Reservation and EPA to use 175 grams per day fish consumption rate in revising the human health criteria. In turn, the commission directed DEQ to:

1. Revise Oregon's toxics criteria for human health based on a fish consumption rate of 175 grams per person per day

2. Propose rule language that will allow DEQ to implement the standards in National Pollutant Discharge Elimination System permits and other Clean Water Act programs in an environmentally meaningful and cost-effective manner
3. Propose rule language or develop other implementation strategies to reduce the adverse impacts of toxic substances in Oregon's waters that are the result of nonpoint source (not via a pipe) discharges or other sources not subject to section 402 of the Clean Water Act and
4. Develop proposed rule and implementation methods that carefully consider the costs and benefits of the fish consumption rate and the data and scientific analysis already compiled or that is developed as part of the rulemaking proceeding.

Following the October 2008 EQC meeting, DEQ has worked toward these directives with rulemaking advisory workgroups, public discussion and comment on rules, and through the department's consideration of the many comments received on the rulemaking. DEQ addressed the commission's direction in the following ways:

1. The proposed final rules include human health toxic pollutant criteria revisions based on 175 grams per day. As described in the "Stakeholder involvement" section of this report, DEQ spent a considerable amount of time discussing the choice of an appropriate fish consumption rate with interested members of the public and public health experts. These early discussions culminated in the joint recommendation to the commission and the commission's direction to propose rules based on 175 grams per day fish consumption rate. During the public comment period on these final proposed rule revisions, DEQ received many comments related to the fish consumption rate. Many of the comments received raised issues similar to the topics discussed during the public workshops and DEQ's interaction with the public health experts that comprised the Human Health Focus Group. As described in further detail in the "Key issues" section, these comments did not raise any issues that caused DEQ to conclude that a rate other than 175 grams per day is more appropriate to protect the majority of Oregonians.
2. The proposed rules specifically provide implementing provisions for NPDES permits that are capable of addressing permitting issues identified during the rule development process. DEQ spent considerable time working with stakeholders brainstorming many different ideas to address known and anticipated permitting issues. The proposed rules complement existing permitting approaches and tools, are capable of addressing identified permitting issues and are likely to be found legal by EPA under

Clean Water Act. DEQ evaluated specific effluent data and information provided by affected entities regarding the potential impact to NPDES permits associated with implementing the proposed rules. DEQ also supplemented that effluent data and information and performed its own analysis. DEQ staff will explain the findings of this analysis as part of the presentation to the commission.

3. DEQ also evaluated sources of toxic pollutants beyond the traditional Clean Water Act NPDES-permitted sources and looked at potential nonpoint sources of toxic pollution, such as agricultural, forestry and urban runoff; air emissions; and contaminated industrial sites, to determine if changes should be made or were necessary for DEQ's approaches to preventing, identifying and cleaning up these pollution sources. To address these multiple sources of potential pollutants, DEQ is developing an agency wide toxics reduction strategy, which will prioritize toxics reduction work across the agency. DEQ also specifically examined its understanding of its role and responsibilities relative to other state agencies for implementing controls for the traditional water quality nonpoint sources, and evaluated its existing water quality standards and total maximum daily load rules that affect nonpoint sources. As a result, DEQ developed rule language to clarify DEQ's role in the control of water quality pollutants from nonpoint sources. These changes also make our rules more consistent with state statutes governing nonpoint sources of pollution.
4. DEQ evaluated the cost and benefits associated with the proposed rule as well as scientific data and information. DEQ used quantitative cost information where available, including an extensive cost evaluation developed through an EPA contract to Science Applications International Corporation and information provided by stakeholder advisory workgroup members during their review. Where quantitative information was not available, DEQ described the circumstances under which cost impacts may occur for sources and resource implications for DEQ staff. These considerations were part of the discussions DEQ first had with the Fiscal Impact and Implementation Advisory Committee in 2008 and continued with the rulemaking advisory committees from 2008 through 2010. The Fiscal Impact and Implementation Advisory Committee also identified qualitative benefits that may result from waterbodies achieving water quality standards based on a fish consumption rate of 175 grams per day that DEQ incorporated in its cost analysis.

During the rule development process, workgroup advisory members identified three pollutants, iron, arsenic and manganese, that frequently

occur at high levels in Oregon waters naturally and that present associated problems for permittees. DEQ assessed the available scientific data and information and concluded that less stringent criteria values for those pollutants were supportable. Based on the requests of stakeholders, DEQ expedited a rulemaking process to revise the human health criteria for these three pollutants. The commission adopted revisions for iron and manganese in December 2010 and for arsenic in April 2011.

In addition to addressing the commission's 2008 directives, these proposed rules are also needed to address EPA's June 1, 2010, action disapproving Oregon's 2004 human health toxics criteria. EPA disapproved the human health toxics criteria because the 17.5 grams per day fish consumption rate used to calculate the criteria does not sufficiently protect fish consumers in Oregon. Due to the disapproval, the majority of the human health criteria reverted to criteria from the 1980s, which were based on fish consumption of 6.5 grams per day. EPA specified as part of its June 2010 action that using a higher, more protective fish consumption rate of 175 grams per day in the calculation of the human health toxics criteria will address its disapproval. If DEQ does not promulgate revised standards in a timely manner addressing EPA's disapproval, EPA is required by federal law and regulations to conduct rulemaking to promulgate human health toxics criteria for Oregon.

**Effect of proposed rule**

DEQ is proposing revisions to its water quality standards regulation, as well as targeted changes to its NPDES permitting and TMDL regulations to address the new standards' implementation. The proposed rules, if adopted, will be implemented alongside existing regulations governing water quality standards and their implementation. The proposed rules affect:

- OAR 340-041-0033 and new Table 40: Revised human health criteria for toxic pollutants;
- OAR 340-041-007 and -0061: Revised rules explaining how the mechanisms for forestry and agricultural nonpoint sources work to meet water quality standards and the total maximum daily load, or TMDL, load allocations under the Forest Practices Act and Agriculture Water Quality Management Act; and
- OAR 340-042-0040 and -0080: Revised rules clarifying how air or land sources are treated in the development of TMDLs and TMDL load allocations for forest and agriculture.

The proposed human health toxics criteria revisions based on a fish consumption rate of 175 grams per day constitute the core of DEQ's proposed rules. The resultant water quality standards form the basis of NPDES permit limits and other regulatory tools used by DEQ to prevent or reduce water pollution.

In addition to the proposed criteria revisions, DEQ is proposing new and revised rules addressing the implementation of these revised human health criteria in NPDES permits. Those proposed rules affect:

- OAR 340-045-0105: A new rule for “intake credits” that will account for background pollutants present in a discharger’s intake water.
- OAR 340-041-0033(6): A new rule governing the development of “site-specific background pollutant criteria” that will allow a discharge to increase the concentration in the ambient waterbody by up to three percent, as long as mass is not increased and the ambient concentration does not exceed a  $10^{-4}$  risk level value.
- OAR 340-041-0059: Revisions to the rules for variances will continue to allow NPDES permitted facilities to seek a short-term exemption from meeting water quality standards-based limits for specific pollutants. The revisions will allow the process to be synchronized with the NPDES permit issuance process and require pollutant minimization plans to ensure progress continues toward meeting water quality standards.

These proposed rule revisions will be used in the development and issuance of NPDES permits. The proposed implementation tools will complement existing rule provisions to address challenges faced by permittees today in addition to issues that may be identified in the future through improved data collection or as the result of implementing the revised human health criteria. Two of the proposed implementation tools, intake credits and the revised variance provision, can be used to implement any water quality criteria, if the conditions specified in the rules are met.

DEQ also proposes targeted revisions to the water quality standards and total maximum daily load regulations, as seen in attachment A2, to explain how the mechanisms for forestry and agricultural nonpoint sources work to meet water quality standards and the TMDL load allocations under the Forest Practices Act and Agriculture Water Quality Management Act. DEQ expects that, when fully implemented and meeting the intent and the environmental conditions set out in the Forest Practices Act and the Agricultural Water Quality Management Act, these statutes and rules should be sufficient to meet the existing and new water quality standards. The Oregon Departments of Agriculture and Forestry remain the implementing agencies under the proposed rule revisions. The rule revisions do not create a different set of responsibilities or oversight not currently authorized in state statutes.

In addition, DEQ proposes to adopt accompanying changes to the total maximum daily load regulations to clarify DEQ’s authority to identify and assign individual load allocations to significant air and land sources in TMDLs.

Rule adoption: Revised water quality standards for human health and revised water quality standards implementation policies

June 15-17, 2011, EQC meeting

Page 7 of 23

**Commission authority**

The commission has authority to take this action under ORS 468.020, 468B.010, 468B.020, 468B.035, 468B.048, 468B.050, and 468B.110.

**Stakeholder involvement**

In 2006, DEQ initiated work to relook at fish consumption information and any necessary rule revisions. From that time, DEQ's effort to evaluate fish consumption information and to develop rules has involved many partners, interested stakeholders, and experts. Early in the process, DEQ formed a three governments partnership with EPA and the Confederated Tribes of the Umatilla Indian Reservation. During the first phase of this effort, the three governments co-hosted seven workshops around the state with the objectives of sharing information and discussing stakeholders' views regarding an appropriate fish consumption rate. One hundred ninety-five people attended the workshops representing 64 different organizations or groups. Simultaneously, DEQ convened a public health expert advisory workgroup, the Human Health Focus Group, and charged it with providing input on key questions that would enable DEQ to evaluate the available and relevant fish consumption data and information. DEQ also convened a Fiscal Impact and Implementation Advisory Committee and requested that the group provide input on the potential fiscal and economic impacts associated with revising the criteria based on a greater fish consumption rate and evaluate potential implementation approaches DEQ could consider when implementing any revised criteria.

The workshops and input gathered through that process culminated in a joint three-government recommendation to the commission in October 2008. The commission subsequently directed DEQ to use 175 grams per day as the fish consumption rate in the calculation of the proposed human health criteria for toxic pollutants.

In December 2008, DEQ convened a stakeholder advisory Rulemaking Workgroup, 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. The members of this workgroup are listed in attachment C. DEQ charged the group with assisting DEQ in exploring innovative NPDES implementation options, providing input on rule language development and identifying issues beyond the scope of the rulemaking.

Based on discussions that occurred during that year and the interest of the group in discussing pollutant sources that do not receive an NPDES permit to fulfill the commission's direction, DEQ expanded the workgroup to add five stakeholder advisory members representing nonpoint source interests, including the forestry and agricultural industry, and charged the workgroup with considering potential rule revisions related to nonpoint sources. The Oregon Departments of Agriculture

and Forestry also participated in workgroup discussions. DEQ termed this advisory stakeholder workgroup the Non-NPDES Workgroup, and its members are listed in attachment C.

The stakeholder advisory workgroups met approximately once a month. Through these discussions, DEQ developed a series of issue papers containing DEQ's recommended approach to addressing identified issues, DEQ's accompanying analysis, including any issues the stakeholders identified as significant, was drafted into several issue papers. DEQ published these issue papers on its website as supporting information for the proposed rulemaking, and the papers are available upon request as supplemental attachments 1 through 3. The facilitator for both rulemaking workgroups developed a summary of this process, and that report is available upon request as supplemental attachment 4.

**Public comment**

DEQ held a public comment period Dec. 21, 2010, to March 21, 2011, and included public hearings in Bend, Eugene, Medford, Coos Bay, Ontario, Pendleton, Portland and Salem. DEQ held an additional public hearing in Portland as part of the commission's February 2011 regular meeting. Summaries of these hearings are provided in the Presiding Officer's Reports on Public Hearings, attachment D. In response to requests from stakeholders and legislators, DEQ received comment from approximately 1,075 individuals and organizations representing a variety of perspectives. Key issues arising from these comments, and issues identified during the rulemaking process, are summarized in the "Key issues" section below. DEQ's response to comments document is provided as attachment B.

**Key issues**

- 1. DEQ's selection of a fish consumption rate used in the proposed criteria**  
DEQ discussed the selection of the fish consumption rate throughout this process, beginning in 2006 with seven public workshops. Many commenters addressed the selected fish consumption rate. Some comments specifically asserted that the fish consumption studies evaluated through this process are flawed for one or more reasons. These commenters stated that the studies are outdated, the rate is not reflective of the amount of fish Oregonians consume from Oregon waters, the rate should not include salmon, the rate results in unreasonable criteria values or a rate this high is unreasonable in light of a lack of evidence of health effects from pollutants in fish.

DEQ also received many comments supporting DEQ's selection of 175 grams per day, citing DEQ's use of peer-reviewed studies, noting that it represents a significant improvement from the current fish consumption rate embodied in the existing human health criteria, and that it appropriately protects the majority of Oregonians who consume fish, including susceptible groups.



DEQ considered the input through its public workshops and reviewed the comments it received as summarized below and as provided in more detail in the attachment B.

***DEQ's consideration of fish consumption studies***

With regard to the fish consumption studies evaluated, the Human Health Focus Group identified five relevant studies considered to be scientifically defensible in developing a fish consumption rate for Oregon. In considering which studies were relevant, the Human Health Focus Group evaluated aspects of the study such as relevance of the population surveyed, species of fish consumed, reliability of the data and scientific aspects of the study, such as whether the study had been peer reviewed. The five studies considered relevant to Oregon were published between 1994 and 2006. The oldest of these, the Columbia River Intertribal Fish Commission, or CRITFC, fish consumption survey, published in 1994, remains relevant and reliable because it includes fish consumption data from two tribes that reside in Oregon - the Warm Springs Indian Reservation and the Confederated Tribes of the Umatilla Indian Reservation. Although the survey was conducted in 1991 and 1992, it is still considered relevant for developing fish consumption rates in Oregon because it represents consumers who regularly eat fish and shellfish and are, thus, more highly exposed to toxic pollutants than consumers who eat less. DEQ is not aware of any reason to conclude that the consumption patterns of the population surveyed have changed since that time. DEQ did not rely solely on the CRITFC study; rather, it also considered the other four surveys, which indicated fish consumption rates in the same range at the 90<sup>th</sup> to 95<sup>th</sup> percentiles of the individuals surveyed.

***DEQ's consideration of including salmon in the fish consumption rate***

DEQ also carefully considered whether salmon should be incorporated as part of the fish consumption rate. This process including evaluating and discussing with the public and the Human Health Focus Group a number of approaches prior to arriving at the fish consumption rate approach used in the proposed rulemaking. Some approaches included salmon in the consumption rate, and others did not include salmon and accounted for people's exposure to pollutants in salmon through other means. DEQ and the Human Health Focus Group recommended that salmon be included in the fish consumption rate for several reasons, noting that salmon is a large portion of the locally caught fish diet, the cultural significance of salmon, particularly for the tribes, the fact that salmon spend a portion of their lifecycle in Oregon fresh and coastal waters and the uncertainty about how much toxic pollutant accumulation occurs in salmon in fresh waters versus estuarine or marine waters.

This approach is similar to states and tribes that use fish consumption rates

that are higher than EPA's 17.5 grams per day value, including Maine, New York, the Warm Springs Tribe, and the Confederated Tribes of the Umatilla Indian Reservation. These states have also included marine species to provide protection for a high percent of the population, to reflect consumption of species eaten by the general population and to be consistent with the species included in fish advisories.

***DEQ's consideration of known health effects associated with eating fish***

With regard to the concerns raised regarding whether the consumption of fish results in adverse health effects, the proposed human health criteria incorporate information regarding the toxicological effects of the pollutants. This information has been extensively reviewed by EPA. Further, information exists that documents direct health effects from eating fish contaminated with pollutants, such as mercury. The water quality standards serve as both a guidepost for implementing actions to prevent these effects and a benchmark for pollutant reduction actions when data indicates pollution exceeds these levels.

**2. Adequacy of new and revised NPDES permit implementation tools**

Stakeholders and commenters raised concerns during advisory committee discussions and through comments regarding the sufficiency of the proposed permit implementation tools. Stakeholders and commenters stated that the proposed tools are not sufficient to address known and anticipated permitting issues and did not meet the commission's directive to consider implementation of the revised human health criteria in NPDES permits. DEQ also received stakeholder input and comment that the proposed tools do not include sufficient detail about how they would be used, and, in the case of the proposed background pollutant allowance and intake credit rules, commenters raised concerns regarding their use for municipalities. Some commenters believe that the implementation tools or identified aspects of tools are not legal, specifically the background pollutant allowance and aspects of the variance rule. DEQ received some comments acknowledging the need for tools and expressing support for the proposed tools, noting that they strike a balance between achieving improved water quality and addressing potential permitting problems.

***Sufficient permitting tools***

DEQ assessed input regarding the sufficiency of potential permitting tools throughout the stakeholder advisory process, considering over a dozen approaches during this process. DEQ also evaluated similar concerns expressed by many commenters. During the development of the proposed rules, DEQ spent considerable time with the stakeholder advisory workgroup working to identify potential permitting problems and appropriate

implementation tools that could be used to address those issues. In particular, DEQ focused on situations that are occurring or are reasonably likely to occur in the near term. In evaluating which implementation tools should be included in the proposed rules, DEQ considered whether the implementation tool would be capable of addressing the identified permitting challenges and whether EPA will likely conclude that the tool is legal under the Clean Water Act.

Some commenters provided additional data to illustrate their concerns regarding the adequacy of the proposed permitting tools. DEQ further evaluated this data in addition to other DEQ data and information to better characterize potential permitting issues that will be encountered. DEQ will present this assessment as part of EQC agenda item.

The implementation tools included in the final proposed rulemaking, along with the existing permit implementation tools, are capable of addressing anticipated permitting challenges. DEQ will continue to assess permitting needs as it implements the revised water quality standards in NPDES permits and will amend the implementation tools if needed. DEQ will develop additional tools, such as a multiple discharger variance, where it identifies such a need.

#### ***Legality of permitting tools***

DEQ received comments questioning whether aspects of the proposed background pollutant allowance provision were legal under the Clean Water Act. EPA provided comment stating that the proposed background pollutant allowance “contemplates establishing site-specific human health criteria.” As such, EPA raised concerns regarding the requirements included in the proposed provision, requested DEQ revise the provision, and offered two alternative approaches. EPA also noted several items DEQ needs to address in order for EPA to approve any such provision, including greater specificity in how DEQ will develop any such site-specific criteria and a demonstration of how the provision ensures human health protection. In response, DEQ significantly revised the proposed background pollutant allowance following one of EPA’s options to develop a performance-based water quality standards procedure. This approach, which has been described in EPA guidance, results in detailed procedures governing the development of a site-specific criterion. If the commission adopts the proposed standard, and EPA subsequently approves it, individual development and application of site-specific criteria will not need additional rulemaking by DEQ or subsequent approval by EPA due to the detailed procedures contained in the proposed water quality standard. The revisions also address comments DEQ received to clarify that the provision results in a site-specific human health criterion that will be used solely for the purpose of developing limits for the affected NPDES permittee.

These revisions also address other commenters' concerns regarding the legality of the proposed provision.

DEQ also received comments requesting that DEQ expand the proposed background pollutant allowance provision to include additional sources of intake water and remove the prohibition on dischargers from increasing pollutant mass discharged to the receiving waterbody. In order to adequately address EPA's comments, DEQ did not further expand the applicability of the provision.

### **3. Detail and implementation of DEQ's revised variance procedures**

The final proposed variance provision may apply in a variety of permitting situations where it is not feasible for a permittee with an individual NPDES permit to meet its calculated limits. While the impetus for revising the existing provision is to address situations that are likely to arise due to the revised human health criteria, the existing provision can be used for any criteria, including the aquatic life criteria. In the course of the discussions during the development of the proposed rule, stakeholders raised questions and concerns regarding the level of detail that should be contained in the rule, the applicability of the revisions to aquatic life criteria, the legality of certain aspects of the rule and whether the revisions should also include a multiple discharger variance. Commenters raised similar concerns. DEQ's consideration of these issues is described below.

#### ***Level of detail contained in proposed rule***

In the course of developing revisions to the variance rule, stakeholders had many questions regarding the details of its implementation. Commenters raised these same questions. Variances will vary among individual facilities because of pollutant-specific considerations and the level of analysis and associated requirements for those facilities. Because a one size fits all approach is unlikely, DEQ sought to include sufficient specificity in the rule to govern how the process would be implemented. DEQ has concurrently developed a draft Internal Management Directive to provide further information regarding how DEQ will approach the rule's implementation. DEQ released an outline of the Internal Management Directive with the proposed rule revisions and published a draft Internal Management Directive to describe DEQ's intended approach to implementing variances. That document is available upon request as supplemental attachment 6. In addition, to respond to questions and concerns raised during the stakeholder advisory committee process, particularly the concerns about the lack of experience by both permittees and DEQ in implementing such a provision, DEQ held a workshop with DEQ and EPA Region 10 staff, Arizona, Wisconsin, and EPA Regions 5, 6, and 9 to share their experiences implementing variances. DEQ

subsequently held a stakeholder seminar with Wisconsin and EPA Region 5 to share and learn from those experiences.

DEQ reviewed the comments it received on this topic and clarified elements of the rule to better define the roles of DEQ and permittees in implementing the provision. Further, DEQ will complete the Internal Management Directive if the commission adopts this proposed rule and EPA approves the revised standards. DEQ will also develop related materials to facilitate the rule's implementation.

#### *Applicability of variances*

As noted above, DEQ's impetus to pursue revisions to its variance provision was due to concern about new or exacerbated permitting problems that may arise in implementing the revised human health criteria. The current variance provision may be used for either the human health or the aquatic life criteria where the specified conditions are met. During the rule development process, some stakeholders requested that DEQ limit its proposed variance provisions to the human health criteria, citing concerns regarding whether the revisions would sufficiently protect aquatic life endpoints. The proposed revisions allow variances to more closely align with the NPDES permit issuance process and add a requirement to develop and implement a pollutant reduction plan to ensure further progress toward achieving the water quality standards. DEQ does not view these revisions as diminishing water quality protections for aquatic life, and, particularly with regard to the new requirement to develop and implement a pollutant reduction plan, will provide for additional water quality improvements. For any variance addressing an aquatic life criterion, EPA must consult under the Endangered Species Act prior to approving the variance in order to ensure that the action does not jeopardize the existence of federally listed species or result in the adverse modification of designated critical habitat of such species. Based on these considerations, DEQ did not revise the variance rule to alter its applicability to the aquatic life criteria.

#### *Legality of certain aspects of the variance rule*

Some commenters raised concerns regarding the legality of certain provisions contained in the revised variance rule. Those issues included allowing the variance duration to coincide with the permit term, allowing new sources to receive a variance, adequacy of the proposed rule and supporting documentation to show how existing use protections will be provided, lack of an explicit requirement to comply with DEQ's antidegradation policy and adequacy of the proposed rule in addressing nonpoint sources.

Many of these same concerns were raised during the stakeholder advisory committee process. DEQ worked closely with EPA to understand where the

federal law establishes clear requirements on these issues and the boundaries of the state's discretion in developing the proposed rule revisions. During the comment period, DEQ received comments from EPA stating that it generally supports the proposed rule.

DEQ's responses to the comments raised are summarized here and are further described in attachment B. With regard to the concerns regarding the length of variance terms, the final proposed rule continues to specify that DEQ will grant variances for the amount of time needed, not to extend beyond the term of the permit. For new sources that wish to receive a variance, DEQ's final proposed rule allows new sources to receive a variance under very limited circumstances and does not supersede any other restrictions or requirement that govern, as a threshold matter, whether a new source is allowed to discharge to a waterbody. Similarly, the final proposed variance rule does not remove the requirement for a permittee to conduct an antidegradation analysis where it is otherwise required to do so by DEQ's existing regulation. DEQ's final proposed rule addressing the protection of existing uses continues to reflect the federal rule, which requires the existing use to continue to be protected when a designated use is contemplated for removal. In applying such a requirement for a variance, DEQ clarified that an existing use cannot be impaired because of granting a variance. Similarly, DEQ's final proposed rule addresses the federal requirements regarding nonpoint sources, which requires consideration of whether implementing nonpoint source best management practices can achieve the water quality standards in question prior to removing a designated use. To implement this requirement in conjunction with granting variances, the final proposed rule requires the analysis to focus on the nonpoint sources under the control of the discharger.

With regard to the specific concerns raised by stakeholders and subsequent commenters, DEQ concludes the proposed rule revisions meet the legal requirements as understood by DEQ.

#### ***Multiple discharger variances***

Some states have developed multiple discharger variances where a common pollutant issue arose for a specified point source sector. States have found such an implementation tool useful since, if adopted as a rule by EQC and approved by EPA, individual facilities seeking a variance for a pollutant and facility type addressed by the multiple discharger variance do not require individual approvals by DEQ and EPA to receive the variance. This fact distinguishes it from the variance authorization procedures proposed in this rulemaking. However, in order for DEQ to use the multiple discharger variance approach, sector- and pollutant-specific analyses must be conducted in conjunction with the adoption of a specific rule. DEQ discussed with the stakeholder advisory

workgroup whether available information points to a situation that multiple discharger variances as an additional rule provision. No such information was identified as part of that process. Through public comment, DEQ received several requests to reconsider including a multiple discharger variance, but no specific information was provided to or developed by DEQ. As a result, DEQ did not include a multiple discharger variance in the final proposed rules; however, DEQ will pursue such a rule in the future should information become available to support such an action.

4. **DEQ's intent and authority related to proposed water quality standards and total maximum daily load revisions addressing nonpoint sources**

Many commenters raised concerns that the proposed changes to OAR 340-041 and -042 overreach DEQ's statutory authority under the Agriculture Water Quality Management Act and the Forest Practices Act and expand DEQ's authority over nonpoint sources. Other comments raised concerns that DEQ's proposed revisions did not go far enough for control of nonpoint sources to meet the intent of the Clean Water Act.

*Authority and scope regarding proposed revisions*

DEQ's proposed water quality standards rule revisions clarify that forest management activities need to meet water quality standards. These proposed revisions apply to all forest management activities statewide. Other proposed revisions clarify DEQ's authority for nonpoint source regulation and to describe how water quality standards are generally implemented on agricultural and forestlands. Comments from workgroup members and from the public questioned DEQ's authority to regulate nonpoint sources affecting water quality. Other commenters thought that the regulatory tone of the proposed revisions would discourage voluntary actions by landowners. DEQ received some comments stating that what was already in statute is not sufficient to meet the commission's directive to DEQ for reducing pollutants from nonpoint sources. Others stated that the proposed language is an improvement over existing language. Some work group members were concerned that the use of the word "discharges" to refer to nonpoint sources was misleading and inappropriate. In addition to those comments, DEQ also received comment suggesting DEQ take the lead on enforcement on agricultural lands instead of the Oregon Department of Agriculture.

DEQ proposed two sets of revisions to the TMDL rules. The first revisions clarify that air and land pollution sources can be included in TMDL load allocations. Comments received from work group members and during public comment expressed the importance of being able to address air pollution sources in TMDLs. Other commenters did not think the rules were strong enough to result in reductions of pollutants from air sources. Some comments

were received that the inclusion of air sources in the TMDL may result in additional expense to the air sources for modeling.

The second revisions clarify that forestry and agricultural nonpoint sources need to meet TMDL load allocations. Comments from workgroup members and the public questioned DEQ's authority to assign load allocations to nonpoint sources. Other commenters questioned DEQ's authority to require specific practices or measures for forestry and agriculture. Other comments received raised concern about the use of "may" instead of "will" and requested that DEQ revise the rules to require sources to address nonpoint pollution sources. Other comments stated that the rule revisions should be a stronger reflection of the requirements for TMDLs as identified in the settlement of the Coastal Zone Act Reauthorization Amendments, or CZARA, litigation. Others raised concerns that the TMDLs will be implemented through existing state statute, which will not result in reductions of pollutants. Additional comments noted that DEQ's only recourse for action if sources do not address pollution is to petition the Board of Forestry or the Board of Agriculture.

DEQ considered the input and concluded that the proposed rule language is consistent with existing state statutes, and the changes are useful in clarifying DEQ's role and responsibilities when working with nonpoint sources of pollutants.

**5. Economic impacts associated with the proposed rulemaking; DEQ's evaluation of the proposed rule's cost**

Stakeholders and interested parties raised concerns regarding the potential economic impact associated with this rulemaking. In 2008, DEQ formed the Fiscal Impact and Implementation Advisory Committee to begin discussing these concerns and to inform early discussions regarding the selection of a fish consumption rate. DEQ also charged the group with identifying potential implementation approaches for NPDES-permitted sources. DEQ continued related discussions with the rulemaking advisory committee members as rule options were identified, analyzed and discussed. These discussions and analyses informed DEQ's proposed rule and were incorporated into the Statement of Need and Fiscal and Economic Impact, as seen in attachment F.

DEQ received many comments regarding the potential economic impact associated with the proposed rulemaking. Specifically, people expressed general concerns regarding DEQ's assessment of potential costs described in the Statement of Need and Fiscal and Economic Impact, attachment F, and other more specific concerns. Those concerns regarded the economic impact resulting from implementing criteria based on 175 grams per day fish consumption rate, costs associated with treatment technologies to achieve the



requirements based on the proposed standards, costs associated with applying for and implementing the revised variance rules and the economic impact to agricultural landowners. DEQ considered the input received through its public workshops early in this process, during the development of the proposed rules and in its analysis of the potential costs. DEQ also reviewed the comments it received, which are summarized below and provided in more detail in attachment B.

#### ***Impact of rules on Oregon's economy***

Stakeholders and commenters raised concerns regarding the impact the proposed rules could have on Oregon's economy. Members of the business community stated that they would have to install treatment technologies that will be very expensive or that will cause businesses to close. DEQ does not intend for 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. DEQ developed a draft Internal Management Directive for variances to accompany this final proposed rulemaking to describe DEQ's intended approach to implementing variances. DEQ will finalize this Internal Management Directive along with others to describe how DEQ will implement these approaches to achieve these objectives.

Others commenters expressed concern for Oregon's economy based on a perception that the proposed rules create a new authority for DEQ to regulate nonpoint sources. No commenter provided additional information specifying how he or she reached the conclusion that the proposed revisions would result in the economic impact they asserted would occur. As a result, DEQ does not agree that the revisions related to nonpoint sources will result in this kind of impact on the economy. DEQ's materials accompanying the proposed rules, and its presentations at public hearings, have stated that, when fully implemented and meeting the intent of the Forest Practices Act and the Agricultural Water Quality Management Act and the environmental conditions set out in Forest Practices Act Rules and Agricultural Water Quality Management Plans and Area Rules, that these statutes and rules should be sufficient to meet the new water quality standards and would not result in additional expense to nonpoint sources. As such, DEQ concludes that its Statement of Need and Fiscal and Economic Impact is accurate.

#### ***Level and accuracy of DEQ's analysis of potential costs***

DEQ consulted with the stakeholder advisory groups on its draft of the Statement of Need and Fiscal and Economic Impact, which included

quantitative cost information developed by the Science Applications International Corporation. Where quantitative information was not available, DEQ described the circumstances in which it anticipated costs could be incurred. DEQ solicited and included additional information stakeholders provided into its analysis. Some commenters questioned the accuracy of the information contained in DEQ's analysis, but few provided specific information detailing alternative analyses. Where commenters included cost information relevant to the proposed rules, DEQ evaluated the information and found that it was similar to the estimates included in the Statement of Need and Fiscal and Economic Impact. In response to requests for DEQ to develop additional quantitative cost analyses, DEQ concluded that additional analyses are not needed; moreover, commenters did not provide additional information indicating specifically where DEQ erred or was incomplete in its analysis. The estimates contained in the Statement of Need and Fiscal and Economic Impact are uncertain, as potential costs associated with the implementation of these standards will vary on a facility-by-facility basis and specific estimates are very difficult without knowing each and every situation. DEQ's approach to evaluating potential costs represents a thorough and reasonable approach.

***Human health criteria based on 175 grams per day are not achievable; treatment technologies, if available, are too expensive***

Throughout this process, DEQ has discussed the viability of achieving human health criteria based on 175 grams per day fish consumption rate with the public and stakeholders. Most of the 113 pollutants included in the proposed rule have not previously been found at detectable levels in effluent, and DEQ does not expect that to change for the majority of pollutants addressed in this rulemaking. DEQ acknowledges that, for some pollutants, the revised human health criteria may result in new or lower effluent limits for NPDES-permitted sources and it spent significant time with the stakeholder advisory group discussing implementation approaches that could address this circumstance. DEQ's analysis in the Statement of Need and Fiscal and Economic Impact acknowledge that some costs that would otherwise be incurred to meet requirements based on the revised human health criteria may be mitigated by the use of these implementation tools.

***DEQ's estimates regarding the costs to obtain and implement variances***

DEQ's estimates regarding the cost to obtain and implement variances were based in part, on quantitative information developed in the report by the Science Applications International Corporation. In addition, DEQ estimated the resources needed within the department to evaluate and approve variances. Some stakeholders raised questions regarding DEQ's estimates during the development of the Statement of Need and Fiscal and Economic Impact and several commenters question DEQ's assessment of costs. The level of data,

information and analysis involved in the development and approval of variances are likely to vary by facility and pollutant. DEQ also expects that the time and resources needed to develop and approve variances will decrease as the department and permittees become more experienced. As a result, DEQ cannot practicably provide a precise cost estimate. A few commenters provided cost estimates for obtaining a variance while some commenters stated the same estimated costs without an accompanying cite or information that would have enabled DEQ to understand how the costs were calculated. Therefore, DEQ was unable to verify whether the dollar figures represented a better estimate of costs than what it included in the Statement of Need and Fiscal and Economic Impact. Another commenter provided an executive summary of a cost analysis related to developing a pollutant reduction plan for four pollutants: arsenic, cadmium, methylmercury, and PCBs. DEQ does not expect NPDES-permitted sources to need variances for the first three pollutants.<sup>1</sup> In addition, the summary noted that the estimates represented an “order of magnitude” estimate. As a result, without some of the underlying data and analyses, DEQ is unable ascertain the extent to which these estimates are significantly different from the information developed in conjunction with the proposed rule.

***DEQ’s analysis of the proposed rule’s effect on landowners***

Some commenters stated that the new rules would ruin business. DEQ expects that, when fully implemented and meeting the intent of the Forest Practices Act and the Agricultural Water Quality Management Act and the environmental conditions set out in Forest Practices Act Rules and Agricultural Water Quality Management Plans and Area Rules, these statutes and rules should be sufficient to meet the new water quality standards and that the new rules would not result in additional expense to landowners.

**6. Environmental effect of the proposed rules**

Commenters have further questioned whether the proposed rules will result in a measurable or demonstrated environmental effect. Some commenters asserted that DEQ did not adequately describe the environmental issue the rule is intended to address; others asserted that DEQ’s proposed rules were insufficient to address the broad ranges of sources of toxic pollutants. Some commenters requested that DEQ develop pollutant-specific watershed-based strategies to accomplish this latter objective.

---

<sup>1</sup> The commission adopted revisions to the human health arsenic criteria in April 2011, resulting in a significantly less stringent value. EPA approved DEQ’s removal of the human health criteria for cadmium in June 2010. Aquatic life criteria for cadmium remain, but the analysis provided by the commenter did not specify whether the cost estimate was based on the cadmium aquatic life criteria. DEQ states in the Summary and Response to Comments that it intends to use EPA’s *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*, which should not result in the need for variances for that pollutant.

***Environmental objective achieved by proposed rules***

Some commenters suggested that DEQ failed to identify the environmental problem these proposed standards will address. DEQ explained in the materials accompanying the proposed rules that water quality standards serve multiple purposes, including serving as the baseline for implementing Clean Water Act programs that prevent pollution from occurring at undesirable levels. They also serve as benchmarks for implementing restorative actions, including the development and implementation of total maximum daily loads when pollution exceeds these levels. DEQ explained in response to these comments that it does not believe that standards should only be established in reaction to excessive pollutant levels, and that establishing appropriate standards serves an important role in actions that prevent pollution. Preventing pollution from occurring is ultimately more cost-effective than attempting to clean up pollution from Oregon's water bodies.

Other commenters expressed concern with the extent to which the proposed rules would be sufficient to address known environmental problems and asserted that the proposed rules do not reach broadly enough to reduce levels of pollution. Throughout the development of the proposed rules, DEQ discussed with members of the stakeholder advisory group many different regulatory and non-regulatory options. DEQ proposed revised criteria and implementation approaches that it concluded would address the known environmental issues, would build upon existing regulatory and non-regulatory programs, and EPA could find legal under the Clean Water Act. DEQ further evaluated comments received on this point, and concluded that additional regulatory provision are not appropriate to include at this time.

DEQ has a number of actions and activities underway that will continue its efforts to further prevent and reduce toxic pollutants' release into Oregon's waters, which includes 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 and will present that information to the commission. 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 toxics water quality standards. DEQ plans to present the final draft strategy to the Environmental Quality Commission for 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 coordinate with other state agencies on the implementation of any final strategy actions focused on such toxic chemicals.

***Implementation strategy for pollutant categories***

Some commenters requested that DEQ develop an implementation strategy to address categories of toxic pollutants and all pollutant sources within a watershed. DEQ analyzed its own data and the data provided by stakeholders to develop a plan for dealing with the various pollutants using existing approaches and tools in addition to the proposed rules. DEQ will present the results of this analysis as part of the EQC agenda item. DEQ is developing an approach that will describe the steps it will take to determine point source actions for particular pollutants. These strategies will complement DEQ's many activities that 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.

**Next steps**

If adopted by the commission, DEQ will file the rule amendments with the Secretary of State and submit them to EPA for approval.

DEQ proposes that the revisions to the human health criteria and the implementing provisions contained in OAR 340-041, OAR 340-042, and OAR 340-045 become applicable under state law only after the revisions considered to be water quality standards are approved by EPA and become effective under the federal Clean Water Act. DEQ has included language in OAR 340-041 and Table 40 to this effect. Once EPA approves the water quality standards, DEQ will post updated Tables 20, 33A, 33B and Table 40 on DEQ's website where they will be available to the public and affected permittees. Any needed changes to effluent limits in NPDES permits, Oregon's list of impaired waters, and any other Clean Water Act implementation of the revised rules will be evaluated on their current schedules. In addition, water quality program staff will notify all DEQ staff and managers that implement water quality standards of the rule changes.

DEQ will also notify the members of DEQ's stakeholder advisory committees, points of contact from the Departments of Agriculture and Forestry, individuals who commented on the rulemaking, and points of contact at EPA Region 10 of the rule adoption, as well as DEQ's planned implementation of the rule and next steps as described below.

A draft Internal Management Directive for variances based upon the proposed rule and a draft Internal Management Directive for total maximum daily loads have been made available in conjunction with this staff report. If the commission adopts these rules, DEQ will develop final Internal Management Directives addressing variances, intake credits, site-specific background pollutant criteria and total

maximum daily loads based on the final adopted rules. DEQ water quality staff will conduct internal training for program staff responsible for implementing the various rules.

In addition, if the commission adopts the final proposed rules for variances, DEQ will subsequently solicit interest from municipal and industrial NPDES permittees to develop pilot variances. If there is interest, DEQ will pursue development of variances for those permittees within 18 months following the commission's adoption of final rules. If there is no interest in pursuing a variance in the near term, DEQ will develop templates for variances to be used for municipal and industrial sources within the same timeframe. Following that effort, DEQ will determine whether a multiple discharger variance is needed for a particular sector or sectors and pollutants. If DEQ determines that there is such a need, rulemaking to adopt a multiple discharger variance would begin. DEQ expects that such an effort will take approximately two years. These actions and associated timeframes are summarized in supplemental attachment 10, which is available upon request.

**Attachments**

- A. Proposed rule revisions
  - 1. Summary of rule revisions
  - 2. Proposed rule revisions - redlined version
  - 3. Proposed revisions to Tables 20, 33A, 33B, and new Table 40
- B. Response to comments
- C. Advisory committee memberships
- D. Presiding Officer's Reports on Public Hearings
- E. Relationship to Federal Requirements questions
- F. Statement of Need and Fiscal and Economic Impact
- G. Land Use Evaluation Statement

**Supplemental attachments available upon request**

- 1. Issue Paper: Human Health Toxics Criteria
- 2. Issue Paper: Implementing Water Quality Standards for Toxic Pollutants in NPDES Permits
- 3. Issue Paper: Revisions to the Water Quality Standards and TMDL Rules (Divisions 41 and 42)
- 4. Facilitator's report and meetings in review document
- 5. Public comments received and index of commenters
- 6. Draft Internal Management Directive: Implementing Water Quality Standards Variances for NPDES Permittees
- 7. Draft Internal Management Directive: Total Maximum Daily Loads
- 8. Memos regarding development of MOA between DEQ and the Department of Agriculture and MOU between DEQ and the Department of Forestry
- 9. Rule Implementation Plan checklist
- 10. Timeline for follow-up actions

Rule adoption: Revised water quality standards for human health and revised water quality standards  
implementation policies  
June 15-17, 2011, EQC meeting  
Page 23 of 23

Approved:

Division: Neil Mullane

Report prepared by: Jennifer Wigal  
Phone: 503-229-5323