Revisions to Washington's Surface Water Quality Standards: Human Health Criteria and Implementation Tools

(Washington Administrative Code 173-201A)

Public Hearings
April 2016

DEPARTMENT OF ECOLOGY
State of Washington

Presentation on Proposed Amendments to Rule

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What is this meeting about?

A presentation and formal hearing on amendments to Water Quality Standards for Surface Waters of Washington - Chapter 173-201A WAC.

Focus of the amendments:

- Development and adoption of NEW human health criteria for toxic chemicals; and
- Revisions to language for regulatory implementation tools

This is the second proposed rule on Human Health Criteria & Implementation Tools

The first proposed rule, posted in January 2015, included a higher risk level for carcinogens and was tied to proposed legislation on toxics reduction

Legislation was not passed, so the first proposed rule was discontinued

In October 2015, the Governor gave Ecology direction on a second proposed rule

That second proposal is what this presentation and public hearing are about

Three important events/actions have occurred since the first proposed rule

- **June 2015**. The Environmental Protection Agency (EPA) finalized new Clean Water Act 304(a) National Recommended Water Quality Criteria (NRWQC) for human health. Several of the inputs to the new 304(a) guidance values were changed from earlier versions. Ecology used new toxicity factors from these documents in drafting the second proposed rule.
- **August 21, 2015.** EPA published a final rule updating six key areas of the federal water quality standards regulation which helps implement the Clean Water Act, including new language on variances. Ecology aligned the proposed variance language with EPA's new regulation.
- **September 2015**. EPA proposed a new regulation (80 FR No. 177) that would promulgate new federal human health criteria applicable to Washington's waters.

This meeting is NOT about:

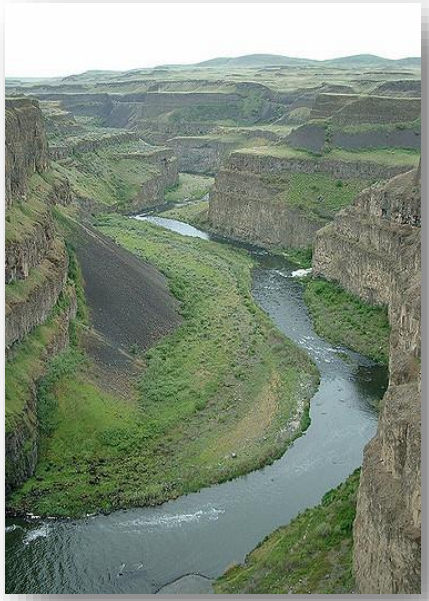
Adoption of updated aquatic life criteria for toxics

The Water Quality Assessment, sometimes called the “303(d) listing process,” which has its own separate public involvement process

EPA’s proposed regulation for Washington

What are Water Quality Standards?

Water quality standards are the foundation of state/tribal water quality-based pollution control programs under the Clean Water Act



Water quality standards are to protect public health or welfare, enhance the quality of the water and serve the purposes of the Clean Water Act

See 40 CFR 131.2

Why are we updating the Water Quality Standards?

Since 1992, Washington has had human health criteria applied through a federal rule issued by EPA.* The federal rule was not based on Washington state or Pacific Northwest regional data.

For several years there has been discussion about the current water quality standards not providing enough health protection for people who eat fish and shellfish in Washington.

The Clean Water Act requires that states adopt updated criteria when new information is available, including for toxics.

*1992 Federal rule : *The National Toxics Rule (NTR) (40CFR131.36).*

Why is Ecology updating variables in the criteria calculations?

The federal regulation contains some outdated science and does not address local Washington information and concerns.

For example:

- Local information showing that some groups eat a lot more fish than what is currently assumed for fish consumption.
- Data from Washington showing that the local average body weight has increased.

What have we heard from the public?

We heard there is a desire from many groups/people that the state adopt its own standards to protect for consumption of local fish and shellfish, using local information.

We also heard concerns from the regulated community that new water quality standards might be very difficult to meet in the short term.

What are the goals of this rule-making?

Starting in 2011, we took a comprehensive look at how the standards in the federal regulation were developed and implemented with an aim of developing new standards and implementation tools that would meet our current needs.

Goals of this rule-making process include:

- Develop protective water quality standards so our fish, shellfish, and surface drinking waters remain clean and healthy to consume.
- Address realistic timeframes to allow dischargers to reduce pollutants and to still be in compliance while they are doing the work.
- Acknowledge that there are technology limitations and give recognition that non-permitted sources are a significant part of the problem with being able to meet the standards.

How did we get to this point in the process?

We conducted an extensive public process (including the first proposed rule) from 2011 to present with discussion about:

- The policy and science decisions
- The use of new science and local fish consumption information

We took a comprehensive look at the math used to calculate the new standards in order to protect Washingtonians.

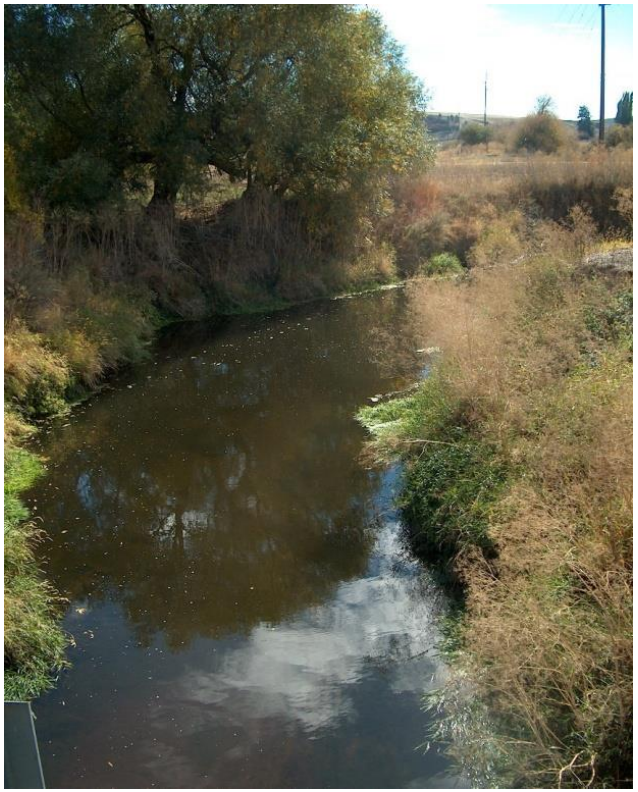
We used new science and regional or local inputs where possible (fish consumption and body weight).

We released a first proposed rule in January 2015 and a second proposed rule in February 2016.

Where are we now?

We are proposing:

- NEW human health criteria for 98 toxic chemicals in Washington's Surface Water Quality Standards.
- Revision to language for regulatory tools used to implement the standards.
  - Variances
  - Compliance schedules
  - Intake credits (new section)
  - Clarification language for Combined Sewer Overflow Treatment Plants



What are Human Health Criteria?

A human health criterion is the highest concentration of a pollutant in surface water that is not expected to pose a significant risk to human health

In this proposed rule we are considering **new criteria for toxic pollutants** that will protect the human uses of ingesting fish/shellfish and drinking untreated surface water

What materials are available for the public to review for this rule proposal?

- Proposed rule language
- Draft Environmental Impact Statement prepared under the state Environmental Policy Act (SEPA)
- Preliminary cost-benefit and least burdensome analysis
- Draft implementation plan
- Draft citation list
- Supporting documents:
  - Overview of the key decisions in rule amendments for human health criteria and implementation tools
  - Comparison of first and second proposal rule language
  - Other documents spanning 2011 to present

Note: documents have been revised to reflect the second proposed rule

Proposed Human Health Criteria

For 98 toxic pollutants, new criteria to address ingestion of **fish/shellfish and untreated drinking water**:

- Apply to most fresh waters in Washington.
- Called “freshwater HHC” throughout this presentation.

For 96 toxic pollutants, new criteria to address ingestion of **fish/shellfish only:**

- Apply to marine/estuarine and 6 freshwater areas.
- Called “marine HHC” throughout this presentation.

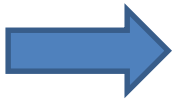
A human health criterion (HHC) is the highest concentration of a pollutant in surface water that is not expected to pose a significant risk to human health.

Note: There are 2 new chemicals in the second proposal because EPA developed new criteria for these chemicals in mid-2015.

Arriving at the Proposed Human Health Criteria

Proposed human health criteria (HHC) were calculated by putting information for each chemical through both the freshwater and marine HHC equations.

Example of HHC Equation for fresh water carcinogen



$$\frac{RL \times BW}{CSF \times [(FCR \times BCF) + DI]}$$

The overlay of "no criterion will become higher than the NTR" was not retained in the second proposed rule (except for PCBs). Several criteria have gone up in value, largely because of new science on toxicity from EPA (pollutants not as toxic as previously thought).

Note: The proposed criteria for copper, asbestos (freshwater), and arsenic (marine and freshwater) were not calculated using the HHC equations. They are based on the Safe Drinking Water Act regulatory levels.

How do the proposed criteria compare with the 1992 federal rule?

There are 98 freshwater HHC and 96 marine HHC being proposed (194 total).

- 124 of the proposed HHC criteria are lower concentrations than the NTR.
- 35 of the proposed HHC criteria are higher concentrations than the NTR (includes arsenic).
- 35 of the proposed HHC criteria are new criteria or are equal in concentration to NTR values (includes PCBs).

Arsenic – criteria with numeric and narrative parts

The proposed **numeric** human health criteria for arsenic are 10 µg/L (ppb), a higher concentration than the NTR*, and apply to fresh and marine waters.

- We are proposing to use a concentration developed by EPA to regulate the quality of drinking water. Several other states have adopted this same concentration for arsenic, and it has received approval by EPA as a HHC.
- This proposal includes specific **narrative** pollutant reduction requirements for dischargers as part of the criteria.
- This change acknowledges naturally-occurring high concentrations of arsenic.

* These criteria will drive more pollutant reduction efforts than the current NTR values.

Why are we revising implementation tools?

It might take a long time to achieve standards for some pollutants. Long term tools are needed.

- We need a pathway for dischargers to come into compliance with their permit limits while they are reducing pollution. This applies to both toxics and to conventional pollutants such as temperature and dissolved oxygen
- There are challenges with limited technology to measure toxic pollutants in surface waters and to remove them from discharges.
- Non-permitted sources are a significant part of the problem in achieving standards and should be included in solutions where possible.

Three Proposed Implementation Tools

3 Tools: Compliance Schedules, Variances, Intake Credits

What important factors were considered as the tools were developed?

Accountability:

- Facilities are required to address their contribution of pollutants.
- Timelines and measurable requirements are part of permits.

Enforceability:

- Requirements will be in permits so they are clearly enforceable.

Public Process:

- There is a public review process through rule-making or permit issuance to use the tools. This means there is the ability to appeal use of these tools.

Proposed Implementation Tool #1: Compliance Schedules

Existing tool, modified language

Definition: A compliance schedule is a regulatory tool used in a permit, order, or directive to achieve compliance with applicable effluent standards and limitations, water quality standards, or other legally applicable requirements

Current and continuing requirements in the water quality standards:

- Apply only to existing discharges.
- Require final limits based on water quality to meet the standards.
- Requires the **shortest timeframe on a case-specific basis**.

New Proposed Language:

Allows compliance schedules to extend beyond the maximum of 10 years in the current water quality standards.

Second proposed rule language same as first proposal

Proposed Implementation Tool #2: Variances

Existing tool, modified language

Definition: A variance is a temporary waiver of existing water quality standards.

Current Requirements in the WQS:

- Variances can be granted for up to 5 years, and may be renewed.
- **Requires a WQS rule-making and USEPA CWA review and approval** (including ESA consultation if applicable).

New Proposed Language:

The timeframe of a variance will not be limited at 5 years—instead it will be geared to the specific situation for each variance.

Second proposed rule language modified to align with new EPA regulations. Slightly different from first proposal.

Proposed Implementation Tool #2: Variances (continued)

Existing tool, modified language

The proposed language does not grant variances. Future variances must be adopted into rule and approved by EPA.

The proposed language **defines requirements of a variance**:

- Public process;
- Time period when variance is in effect;
- Interim numeric and narrative requirements;
- Application requirements;
- Required interim public reviews; and
- Conditions under which a variance would be shortened or terminated.

Second proposed rule language modified to align with new EPA regulations. Slightly different from first proposal.

Proposed Implementation Tool #3: Intake Credits

New tool, new language

An intake credit is a procedure for establishing effluent limits in waste discharge permits issued pursuant to the National Pollutant Discharge Elimination System (NPDES) that takes into account the amount of a pollutant that is present in public waters, at the time water is removed from the body of water by the discharger or other facility supplying the discharger with intake water.

New proposed intake credit language:

Applies to water quality-based effluent limits;

Accounts for pollutants already present in intake water;

"No net addition" of the pollutant: Used only when discharger does not add mass or increase the concentration of the pollutant; and

Proposed language similar to language adopted and approved for the Great Lakes and in Oregon.

Second proposed rule language clarified in response to comments on the first proposal.

Proposed Language: Combined Sewer Overflow (CSOs) Treatment Plants

New clarifying language

- A CSO is the discharge from a combined sewer collection system (both wastewater and storm water runoff) at a point prior to the publicly owned treatment plant.

Background information:

- In a combined sewer system the collection pipes receive both wastewater and storm water runoff, where it flows to a publicly-owned treatment works.
- Many cities and counties constructed combined sewer systems - these were among the earliest sewer systems constructed in the United States.
- During wet weather events the combined volume of wastewater and storm water runoff entering the collection system often exceeds the capacity of the piping.
- In those cases, most combined systems are designed to discharge these excess flows directly to surface waters, such as rivers, streams, estuaries, and coastal waters. Such events are called CSOs.
- Some public entities construct CSO treatment plants to treat this excess flow prior to entering ambient waters.

Language on CSO Treatment Plants is new and was not in the first proposed rule

Proposed Language: Combined Sewer Overflow (CSOs) Treatment Plants (continued)

New proposed language on implementation:

"The influent to these facilities is highly variable in frequency, volume, duration, and pollutant concentration. The primary means to be used for requiring compliance with the HHC shall be through the application of narrative limitations, which includes but is not limited to, best management practices required in waste discharge permits, rules, orders and directives issued by the department."

Ecology proposes to define "combined sewer overflow (CSO) treatment plant" as a facility that provides at-site treatment as provided for in chapter 173-245 WAC.

The episodic and short-term nature of CSO discharges make it infeasible to calculate effluent limits that are based on criteria with durations of exposure up to 70 years.

The federal regulations (40CFR122.44(k)) allow use of best management practices (BMP)-based limits in NPDES permits if it is infeasible to calculate numeric limits. This is already part of Ecology's Permit Writer's Guidance.

Language on CSO Treatment Plants is new and was not in the first proposed rule

Next Steps

Public hearings April 5 (Seattle), April 6 (Spokane), and April 7 (webinars)

Public comment period open through April 22, 2016

We consider all formal comments and finalize the rule

We prepare a responsiveness summary for all of the formal comments that are submitted

Intended date to adopt this rule is August 1, 2016

To get more information about this rule go to:
www.ecy.wa.gov/programs/wq/ruledev/wac173201A/1203inv.html