DEPARTMENT OF ECOLOGY
State of Washington

Concise Explanatory Statement
Chapter 173-201A WAC
Water Quality Standards for Surface Waters of the State of Washington

Summary of rulemaking and response to comments

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Publication and Contact Information

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Concise Explanatory Statement

Chapter 173-201A WAC
Water Quality Standards for Surface Waters of the State of Washington

Water Quality Program
Washington State Department of Ecology
Olympia, Washington

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Introduction

The purpose of a Concise Explanatory Statement is to:

- Meet the Administrative Procedure Act (APA) requirements for agencies to prepare a Concise Explanatory Statement (RCW 34.05.325).
- Provide reasons for adopting the rule.
- Describe any differences between the proposed rule and the adopted rule.
- Provide Ecology's response to public comments.

This Concise Explanatory Statement provides information on the Washington State Department of Ecology's rule adoption for:

Title:	Water Quality Standards for Surface Waters of the State of Washington
WAC Chapter(s):	173-201A
Adopted date:	January 23, 2019
Effective date:	February 23, 2019

To see more information related to this rulemaking or other Ecology rulemakings please visit our website: https://ecology.wa.gov/About-us/How-we-operate/Laws-rules-rulemaking.

Reasons for Adopting the Rule

In 2012, the Environmental Protection Agency (EPA) revised the national recommended recreational water quality criteria. The recommendations include the latest science, which quantifies the link between illness and fecal contamination in recreational waters. The recommended criteria are based on two bacterial indicators of fecal contamination, *E. coli,* and enterococci.

Washington's existing bacterial indicator for contact recreation, fecal coliform, was removed from EPA's recommendations in 1986. This method of determining compliance with water quality standards is outdated. The EPA instructed states that still rely on fecal coliform as an indicator to revise their recreational use criteria and align them with the current national recommendations.

This rulemaking was intended to improve the water quality standards by:

- Including new science to protect recreational uses of state waters.
- Establishing indicators that are better correlated with illness and can more accurately determine the presence of human-caused fecal pollution.
- Aligning Washington's recreational use categories with EPA recommendations.
- Providing improved location information to allow the public to better understand which water quality criteria apply in their local waters.

Chapter 173-201A WAC recreational use criteria are different from federal criteria. Chapter 90.48.035 RCW provides clear and direct authority to the Washington State Department of Ecology's (Ecology) to revise the water quality standards. Additionally, 40 CFR 131.20 requires states and tribes (with primacy for clean water actions) to periodically review and update the Water Quality Standards.

Differences between the Proposed Rule and Adopted Rule

RCW 34.05.325(6)(a)(ii) requires us to describe the differences between the text of the proposed rule as published in the *Washington State Register* and the text of the rule as adopted, other than editing changes, stating the reasons for the differences.

There are some differences between the proposed rule filed on July 17, 2018 and the rule adopted on January 23, 2019. We made these changes for all or some of the following reasons:

- In response to comments we received.
- To ensure clarity and consistency.
- To meet the intent of the authorizing statute.

The following content describes the changes and our reasons for making them.

New language is underlined, and deleted language is in strikethrough.

Example: New language

Example: ~~Deleted language~~

Change to WAC 173-201A-020

We clarified the definition of "*E. coli*" in response to public comments.

Proposed rule language

No edit proposed

Final rule language

"*E. coli*" ~~or "Escherichia coli" is an aerobic and facultative gram negative nonspore forming rod shaped bacterium that can grow at 44.5 degrees Celsius that is ortho-nitrophenyl-B-D-galactopyranoside (ONPG) positive and Methylumbelliferyl glucuronide (MUG) positive~~ is a bacterium in the family Enterobacteriaceae named Escherichia coli and is a common inhabitant of the intestinal tract of warm-blooded animals, and its presence in water samples is an indication of fecal pollution and the possible presence of enteric pathogens.

Change to WAC 173-201A-020

We removed the proposed definition of "Effluent" in response to public comments.

Proposed rule language

"Effluent" refers to the discharge of chemical, physical, biological, or other constituents from point sources into surface waters.

Final rule language

We removed the proposed definition.

Change to WAC 173-201A-200(2)(b)

We made edits to the proposed rule language in response to public comments.

Proposed rule language

Water contact recreation bacteria criteria. Table 200 (2)(b) lists the bacteria criteria to protect water contact recreation in fresh waters. These criteria are based on Escherichia coli (*E. coli*) and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance. The use of fecal coliform organism levels to determine compliance will expire December 31, 2020.

Final rule language

Water contact recreation bacteria criteria. Table 200 (2)(b) lists the bacteria criteria to protect water contact recreation in fresh waters. These criteria are based on Escherichia coli (*E. coli*) and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). The use of fecal coliform organism levels to determine compliance will expire December 31, 2020.

Change to WAC 173-201A-200(2)(b)(iv)

We made edits to the proposed rule language in response to public comments.

Proposed rule language

~~Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis by the department.~~

Final rule language

Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis ~~by the department~~ as described in WAC 173-201A-430.

Change to WAC 173-201A-210(3)(b)

We made edits to the proposed rule language in response to public comments.

Proposed rule language

Water contact recreation bacteria criteria. Table 210 (3)(b) lists the bacteria criteria to protect water contact recreation in marine waters. These criteria are based on enterococci and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance. The use of fecal coliform levels to determine compliance will expire December 31, 2020.

Final rule language

Water contact recreation bacteria criteria. Table 210 (3)(b) lists the bacteria criteria to protect water contact recreation in marine waters. These criteria are based on enterococci and fecal coliform organism levels, and expressed as colony forming units (CFU) or most probable number (MPN). The use of fecal coliform levels to determine compliance will expire December 31, 2020.

Change to WAC 173-201A-210(3)(b)(i)(A)

We made edits to the proposed rule language in response to public comments.

Proposed rule language

Effluent bacteria samples: When averaging effluent bacteria sample values for comparison to the geometric mean criteria, or for determining compliance with effluent requirements, the averaging period shall be thirty days or less.

Final rule language

Effluent bacteria samples: When averaging effluent bacteria sample values for comparison to the geometric mean criteria, or for determining permit compliance, the averaging period shall be thirty days or less.

Change to WAC 173-201A-210(3)(b)(iv)

We made edits to the proposed rule language in response to public comments.

Proposed rule language

~~Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis by the department.~~

Final rule language

Where information suggests that sample results are due primarily to sources other than warm-blooded animals (e.g., wood waste), alternative indicator criteria may be established on a site-specific basis ~~by the department~~ as described in WAC 173-201A-430.

Change to WAC 173-201A-602

We modified the format of Table 602 to appear as a portrait-orientated table instead of images. Each area, or WRIA, in Table 602 appears as a stand-alone table, with any notes as text below the table. The hyphens following the waterbody name were bolded, and the first letter of the following word capitalized, per Code Reviser standards. The intent of these changes is to make Table 602 easier to read, and to make any necessary edits in future rulemakings.

Change to WAC 173-201A-602 (WRIA 10 Puyallup-White)

Based on a comment received from the Puyallup Tribe, we modified the text in table 602 to include a note.

Proposed rule language

Note: This WRIA contains waters requiring supplemental spawning and incubation protection for salmonid species. See WAC 173-201A-200 (1)(c)(iv).

Final rule language

Notes for WRIA 10:

1. The Puyallup Tribe regulates water quality from the mouth of the Puyallup River to the up-river boundary of the 1873 Survey Area of the Puyallup Reservation.

2. This WRIA contains waters requiring supplemental spawning and incubation protection for salmonid species per WAC 173-201A-200 (1)(c)(iv). See ecology publication 06-10-038 for further information.

Change to WAC 173-201A-602 (WRIA 10 Puyallup-White)

Based on a comment received from the Puyallup Tribe, we modified the text in Table 602 to include a note.

Proposed rule language

Puyallup River: upstream from the mouth (latitude 47.2685, longitude -122.4269) to river mile 1.0 (latitude 47.2562, longitude -122.4173).

Final rule language

Puyallup River: Upstream from the mouth (latitude 47.2685, longitude -122.4269) to river mile 1.0 (latitude 47.2562, longitude -122.4173).[1]

Change to WAC 173-201A-602 (WRIA 10 Puyallup-White)

Based on a comment received from the Puyallup Tribe, we modified the text in table 602 to include a note.

Proposed rule language

Puyallup River: upstream from river mile 1.0 (latitude 47.2562, longitude -122.4173) to the confluence with White River (latitude 47.1999, longitude -122.2591).

Final rule language

Puyallup River: Upstream from river mile 1.0 (latitude 47.2562, longitude -122.4173) to the confluence with White River (latitude 47.1999, longitude -122.2591).[1]

List of Commenters and Response to Comments

Below is a table of names and affiliations for everyone who submitted a comment on the rule proposal, and appear in the order received.

Affiliation	Commenter Name
Puyallup Tribe	Naylor, Char
Craig Young	Young, Craig
Don Russell	Russell, Don
IDEXX	Frymire, Jody
Region 10, US EPA	Guzzo, Lindsay
Interagency Project Team	Pond, Elsa
Roza-Sunnyside Board of Joint Control	Brouillard, Elaine
King County Department of Natural Resources and Parks	True, Christie
Northwest Pulp & Paper Association	McCabe, Christian
Washington Environmental Council	Attemann, Rein
State of Washington Department of Health	Laxson, Joe
Snohomish County Surface Water Management	Britsch, Steve
Washington State Department of Agriculture	Sullivan, Chery
Thurston County Public Health and Social Services	Iverson, Erik

Comments and Responses

The following comments are verbatim excerpts from individual comments, followed by our response to each comment. To see the full length comments we received visit http://ws.ecology.commentinput.com/?id=sx2WK.

Comment from Puyallup Tribe

Comment from Puyallup Tribe

Table 602, p.91 - The Puyallup Tribe regulates water quality from River Mile 1 to about River Mile 8.3. Section 602 is in error designating uses within this reach.

Ecology Response to Puyallup Tribe

Thank you for your comment. The current EPA-approved Table 602 contains a use designations for the Puyallup River from the mouth of the Puyallup River to the confluence with the White River. We added a clarifying note in Table 602 clarifying water quality regulatory authority for the lower Puyallup River. This provides an improved delineation between the State and the Puyallup Tribe's water quality standards.

The note states "[t]he Puyallup Tribe regulates water quality from the mouth of the Puyallup River to the up-river boundary of the 1873 Survey Area of the Puyallup Reservation."

Additionally, Chapter 173-201A-600(2) states that the "water quality standards for surface waters for the state of Washington do not apply to segments of waters that are on Indian reservations, except for surface waters overlying fee lands on the Puyallup reservation consistent with the Puyallup Tribe Land Claims Settlement of 1989."

Comment from Craig Young

Comment from Craig Young

I'm concerned that the increase of Industrial Shellfish harvesting and addition of geoduck harvesting will further impact BOTH the fresh water and marine water that exists in the natural estuary that is Burley Lagoon in Pierce County. The manmade debris (plastics etc) make recreational use on this lagoon already dangerous and to think that 40,000 plastic tubes per acre will be present if geoduck harvesting is permitted will essentially halt recreational use. In addition, the process of managing and harvesting these species is altering the presence of waterfowl and predatory birds not to mention the already reduced salmon runs over the last 3 years.

Ecology Response to Comment from Craig Young

Thank you for your involvement in this rulemaking. This comment is beyond the scope of the recreational use criteria rulemaking.

Comment from Don Russell

Comment from Don Russell

As you contemplate amendments to Chapter 173-201A WAC bear in mind that Ecology's current water quality standards for the protection of aquatic life are woefully inadequate to protect (and restore) the beneficial use by salmon of the sediment and nutrient polluted streams flowing to Puget Sound.

That such is the case is apply demonstrated by the failure of the Clarks Creek Dissolved Oxygen and Sediment Total Maximum Daily Load Water Quality Improvement Report and Implementation Plan to properly identify and address the sediment and nutrient pollution of Clarks Creek. I have attached two papers that specifically identify why this is so.

It is unfortunate that you have narrowly focused your efforts on the protection of contact recreational use of surface waters and neglected the necessary water quality standards that will assure the safe beneficial use of State owned surface water (and discharging groundwater as base flow) by endangered and threated salmon species.

Ecology Response to Comment from Don Russell

Thank you for your involvement in this rulemaking. This comment is beyond the scope of the recreational use criteria rulemaking.

Comments from IDEXX

Comment 1 from IDEXX

IDEXX supports the proposed changes to the bacteria criteria for fresh and marine waters, changing from fecal coliforms to either *E. coli* or enterococci; as *E. coli* and enterococci are more protective indicators of human fecal contamination versus fecal coliform [1,2,3,4,5].

Ecology Response to Comment 1 from IDEXX

Thank you for your comment. We acknowledge your comment.

Comment 2 from IDEXX

Additionally, IDEXX suggests editing the current definition for "*E. coli*."

Current language: "*E. coli*" or "Escherichia coli" is an aerobic and facultative anaerobic gram negative nonspore forming rod shaped bacterium that can grow at 44.5 degrees Celsius that is ortho-nitrophenyl-B-D-galactopyranoside (ONPG) positive and Methylumbelliferyl glucuronide (MUG) positive.

Suggested language: "*E. coli*" or "Escherichia coli" means an aerobic and facultative anaerobic gram negative, nonspore forming, rod shaped bacterium that is ortho-nitrophenyl-B-D-galactopyranoside (ONPG) positive and Methylumbelliferyl glucuronide (MUG) positive.

Rational for edit: While thermotolerant *E. coli* can grow at 44.5 °C, typical *E. coli* grow at 35 °C. By listing a temperature in the definition, it suggests only analytical methods that use the defined temperature would be valid. The US EPA lists approved *E. coli* test methods at 40 CFR Part 136.3; some of the methods listed, like EPA Method 1604, detect *E. coli* at 35 °C [6,7]. To only reference *E. coli* that can grow in 44.5 °C is not inclusive to the other EPA approved methods.

Ecology Response to Comment 2 from IDEXX

Thank you for your comment. The current definition of E. coli has been in the surface water quality standards since 2003 and is one of several valid definitions and does not preclude the use of a particular analytical method. We understand that confusion may occur when interpreting the current definition. To eliminate any ambiguity, the definition of E. coli will be broadened to: "E. coli is a bacterium in the family Enterobacteriacae named Escherichia coli and is a common inhabitant of the intestinal tract of warm-blooded animals, and its presence in water samples is an indication of fecal pollution and the possible presence of enteric pathogens."

Comments from Region 10, US EPA

Comment 1 from Region 10, US EPA

The proposed language in Table 200(2)(b) Primary Contact Recreation Bacteria Criteria in Fresh Water states, "E. coil organism levels within an averaging period must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained within the averaging period exceeding 320 CFU or MPN per 100 mL." And The proposed language in Table 21 0(3)(b) Primary Contact Recreation Bacteria Criteria in Marine Water states, "Enterococci organism levels within an averaging period must not exceed a geometric mean value of 30 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample values exist,) obtained within the averaging period exceeding 110 CFU or MPN per 100 mL. The EPA interprets the proposed language in both rule provisions above to mean that the 10 percent exceedance frequency is calculated over the same averaging period as the geometric mean. The EPA suggests clarifying the rule language that both the geometric mean and 10 percent exceedance are measured over the same averaging period

Ecology Response to Comment 1 from Region 10, US EPA

Thank you for your comment. We believe that it is implied that when calculating the geometric mean within the averaging period, that the 10 percent exceedance value must be calculated within the same subset of data.

Comment 2 from Region 10, US EPA

In addition, the proposed language at 173-201A-200(2)(b)(i) and 173-201A-210(3)(b)(i) states, "A minimum of three samples is required to calculate a geometric mean for comparison to the geometric mean criteria. Sample collection dates should be well distributed throughout the averaging period so as not to mask noncompliance periods. The EPA recommends that Ecology not include data sufficiency clauses or statements which address the number of samples in its criteria statement. Instead, the EPA recommends that Ecology include these statements regarding sampling in the slate's water quality assessment policy 1—1 12 for assessing compliance with the revised recreational criteria. If such language is retained in Ecology's water quality standards, the EPA does not plan to take action on this language as it would not be considered a new or revised water quality standard under Section 303(c) of the Clean Water Act.

Ecology Response to Comment 2 from Region 10, US EPA

Thank you for your comment. We support a minimum sample size when calculating a geometric mean. The geometric mean is a statistic and any statistic is associated with variability. A minimum of 3 samples is required to calculate variability around the geometric mean.

Variability is useful in determining consistency among samples collected within a given location and provides certainty around the water quality. Furthermore, requiring a minimum sample size inhibits the use of individual samples to be compared to the geometric mean criteria. Individual samples collected from ambient surface waters do not represent the condition of a waterbody over time; therefore should not be compared to the geometric mean criterion which is a statistic defined as an average of multiple samples in a given period of time.

Comments from Interagency Project Team

Comment 1 from Interagency Project Team

References to Ecology's Water Quality Policy (WQP) 1-11 Chapters 1 and 2 within the Rule would benefit stakeholders looking to understand linkages between the Rule and data collection, evaluation, and assessment policies.

Recommendation: Embed a reference to WQP 1-11 within the Rule.

Ecology Response to Comment 1 from Interagency Project Team

The surface water quality standards are used as a basis for determining compliance for many water quality programs at the state and federal level, and it would therefore not be appropriate to provide linkages in Chapter 173-201A WA to only a subset of programs and policies that apply the standards. Rather, each program that implements the water quality standards should be responsible for explaining the connection to the surface water criteria and how the standards are applied. Using your example, we suggest you refer to Water Quality Policy 1-11, which provides guidance on how the water quality standards are applied to the listing methodologies for different water quality parameters to meet Clean Water Act sections 303(d) and 305(b). (Also see comments from Snohomish County Surface Water Management)

Comment 2 from Interagency Project Team

Ecology's February 2018 public review draft of WQP 1-11 included a minimum of five (5) freshwater fecal coliform samples to calculate a geometric mean value in accordance with WAC 173-201A-200(2)(b)(i). The draft Rule proposes lowering that minimum to three (3) samples, but does not provide the basis for the smaller sample size. The highly variable nature of fecal coliform bacteria requires a greater sampling effort and appropriate sample design to demonstrate that a water body meets standards during a critical period2 (Ecology, 2016). The Team can appreciate the precautionary safeguards for using a small sample size for immediate public health alerts. However, this Rule impacts policy related to 303(d) listing so it must ensure the sample size is adequate to represent the general condition of the water body (e.g., minimize skew from episodic events).

Recommendation: The Team encourages Ecology to provide stakeholders the scientific rationale for proposing a minimum of three (3) samples for calculation of geometric mean.

Ecology Response to Comment 2 from Interagency Project Team

Thank you for your comment. The EPA recommends no minimum sample size for samples collected within an averaging period. The current recreational criteria language states that it is "preferable" to have 5 or more data collection events but does not require a minimum number of samples. Therefore, there is currently no minimum sample size requirement for the recreational use criteria. We support a minimum sample size when calculating a geometric mean.

The geometric mean is a statistic and any statistic is associated with variability. A minimum of 3 samples is required to calculate variability around the geometric mean. Variability is useful in determining consistency among samples collected within a given location and provides certainty around the water quality. Furthermore, requiring a minimum sample size inhibits the use of individual samples to be compared to the geometric mean criteria. Individual samples collected from ambient surface waters do not represent the condition of a waterbody over time; therefore should not be compared to the geometric mean criterion which is a statistic defined as an average of multiple samples in a given period of time.

Comment 3 from Interagency Project Team

The terminology "averaging period" is undefined.

Ecology Response to Comment 3 from Interagency Project Team

Thank you for your comment. The term averaging period is not a special term applied specifically to the surface water quality standards and the definition is specific to the water quality criteria identified. Averaging period is defined in the context of this rulemaking within the recreational use criteria language and are specified for effluent bacteria samples and ambient water quality samples.

Comment 4 from Interagency Project Team

Define "averaging period" or modify the term to ensure consistency with WQP 1-11 and definitions for "critical period."

Ecology Response to Comment 4 from Interagency Project Team

The averaging periods for primary contact recreation bacteria criteria are already defined in WAC 173-200(2)(b)(i)(A) and (B) for fresh water and 173-201A-210(3)(B)(i)(A) and (B) for marine water. A critical period definition in Policy 1-11 would apply to a specific time period or season in which the criteria would need to be met (typically defined through a total maximum daily load, or TMDL, study) and would need to meet averaging periods defined in WAC 173-201A.
(Also see comments from Snohomish County Surface Water Management)

Comment 5 from Interagency Project Team

Page 4, last paragraph, "The proposed rule will now require a minimum of 3 sample values within the averaging period to calculate the geometric mean for comparison to the geometric mean criteria. Permit writers should require weekly sampling to collect an adequate number of samples to compare to the geometric mean. The STV (or 10% not-to-exceed value) may continue to be used as a single sample maximum in permits when sample sizes are less than 10 samples per averaging period."

Comment: The Plan focuses on changes to NPDES permits with water quality-based effluent limits (WQBELs). Sampling expectations may be unclear to Municipal stormwater permittees required to monitor water quality for fecal coliform bacteria without WQBELs.

Recommendation: Please clarify the sentence in bold above related to weekly sampling to ensure consistent interpretation. Additionally, appropriate Ecology staff should engage municipal stakeholders as soon as possible to help ensure permittees understand how to plan for the implementation of rule changes such as single or dual indicator monitoring.

Ecology Response to Comment 5 from Interagency Project Team

Thank you for your comment. The Rule Implementation Plan is intended to be general guidance for implementing changes associated with the rule. This particular sentence is guidance for permit writers and not specific to particular permittees. We have modified this sentence in the Plan to be clearer.

Currently, municipal stormwater general permits do not require bacteria monitoring for compliance purposes unless required in a TMDL cleanup plan. This permit is currently in development and the public review process. Questions concerning how the changes in this rulemaking will affect the final permit will also be addressed in that process.

Comment 6 from Interagency Project Team

Page 5, last paragraph, "When the fecal coliform indicator is phased out of the water quality standards, *E. coli* will remain as the sole numeric criteria for determining that this use is met. Ecology will work with the EPA and local watershed stakeholders to determine the appropriate time to change to the *E. coli* indicator. Dual parameter monitoring of fecal coliform and the updated bacterial indicator may be needed to determine attainment of water contact recreation uses."

Comment: It is unclear how the 2-year transition period applies to TMDL monitoring and when dual monitoring will be required.

Recommendation: Clarify how the 2-year transition period applies to TMDL monitoring and the criteria used to trigger dual monitoring.

Ecology Response to Comment 6 from Interagency Project Team

Thank you for your comment. During the 2-year transition period, TMDL monitoring will not need to change. Following the 2-year transition period, fecal coliform TMDLs load allocations set for recreation uses may be revised to E. coli on a case-by-case basis. After the 2-year transition period ends, entities that prefer to use E. coli as a compliance measure to meet limits set by a TMDL may request this change with the permit writer. However, we do not plan to systematically convert all TMDL load allocations to E. coli limits. The process to convert a TMDL WQBEL to the new indicator will require our consultation with EPA, and possibly local watershed stakeholders, to determine how this transition should occur and ultimately ensure attainment of cleanup goals.

Comment 7 from Interagency Project Team

Page 6, Section: Implementing the New Criteria in the Water Quality Assessment.

Comment: It is unclear how Ecology will handle de-listing waterbodies (without a nexus to the marine shellfish harvesting use) when the fecal coliform indicator is phased out. Ecology's February 2018 public review draft of WQP 1-11 states on page 30, "In some cases, Ecology will allow alternate indicators of bacteria in freshwater when the data submitter is able to demonstrate that the indicator is an appropriate surrogate. For example, *E. coli* bacteria values can be used to determine non-compliance with the fecal coliform criteria because *E. coli* is a subset of the group of bacteria referred to as fecal coliforms. For the same reason, however, *E. coli* values cannot be used to show compliance with the fecal coliform criteria." The Team recognizes there may be various approaches for handling de-listing waterbodies and encourages Ecology to engage stakeholders on this important detail before finalizing the Rule, Plan, and the related WQP 1-11.

Recommendation: Clarify how Ecology will handle de-listing waterbodies after fecal coliform is phased out as an indicator for purposes of compliance with fresh water contact recreation use criteria.

Ecology Response to Comment 7 from Interagency Project Team

Ecology recognizes that the timing of recent revisions to WQP 1-11 and this rule making may cause confusion as to what listing methodology for bacteria will be used for the next water quality assessment. Since we cannot predetermine what will be in the final rule until it is adopted and approved by EPA, we did not attempt to revise the listing methodology for bacteria based on draft rule revisions. Rather, we based revisions to WQP 1-11 on the currently approved bacteria criteria. After the new bacteria rules are adopted, we will consider revising WQP 1-11 based on the new bacteria standards and will conduct a public review of the draft methodology before updating WQP 1-11. This draft methodology will include guidance on how we will handle de-listing of waterbodies after fecal coliform is phased out.

Comment 8 from Interagency Project Team

Page 6, last paragraph, "after the proposed rule is adopted and the current Water Quality Assessment is completed, the water quality assessment listing policy (Policy 1-11) may be updated in consideration of the magnitude, duration and frequency changes to the contact recreation criteria. Potential future updates to Policy 1-11 may include the assessment period duration, sample size requirements, and bacterial indicators used to determine impaired waters."

Comment: Ecology anticipates the Rule will be adopted before the Water Quality Assessment is complete in 2019. The implementation plan indicates Ecology "may" update WQP 1-11 to reflect changes in the proposed rule.

Recommendation: Clarify how Ecology's WQP 1-11 will be updated to ensure consistency and ease Rule implementation. The Team encourages Ecology to update the February 2018 public review draft of WQP 1-11 to ensure analysis of bacteria data for the current Water Quality Assessment will be consistent with the Rule and WQP 1-11. This includes ensuring consistency for the number of minimum samples required to calculate a geometric mean as well as methods for evaluating data and in making category determinations and de-listing

Ecology Response to Comment 8 from Interagency Project Team

We fully anticipate a public process to update the listing methodology for bacteria in WQP 1-11 after the rule is adopted and approved by EPA. As noted in your comment, this will include ensuring consistency between the new bacteria standards and the assessment of data in making category determinations.

Comments from Roza-Sunnyside Board of Joint Control

Comment 1 from Roza-Sunnyside Board of Joint Control

The RSBOJC proposes the *E. coli* organism geometric mean be 126 CFU or MPN per 100 mL and the statistical threshold value (STV) be 410 CFU or MPN per 100 mL for agricultural use water in the State of Washington. These values will harmonize the State of Washington with the Federal Drug Act (FDA) Food Safety and Management Act (FSMA) for agricultural use water.

Ecology Response to Comment 1 from Roza-Sunnyside Board of Joint Control

Thank you for your comment. Our decision to select the more protective EPA recommendation of a geometric mean criterion of 100 CFU or MPN per 100 mL and a statistical threshold value of 320 was based on protection of all recreation waters of Washington State. If irrigation waters are not designated for recreational uses, then the recreational use criteria will not apply. In waters that have both recreation uses and agriculture uses, the recreational use criteria will apply. In waters designated for agriculture uses only, the recreational use criteria will not apply. We do not consider the FDA Food Safety and Management Act when evaluating the protection of human health related to recreation in Washington State waters.

Comment 2 from Roza-Sunnyside Board of Joint Control

The proposed *E. coli* recreational use geometric mean of 100 CFU or MPN and the STV of 320 CFU or MPN is based on reducing human health concerns while swimming, wading, boating or surfing. Irrigation districts by law do not allow these human activities on their facilities. Agricultural use water, which is not recreational use, harmonizes with the FDA FSMA agricultural water standards.

Ecology Response to Comment 2 from Roza-Sunnyside Board of Joint Control

Thank you for your comment. If a particular agricultural water is not designated for recreation use, then the recreational use criteria does not apply. The recreational use criteria may apply to protect downstream waters. For example, a small tributary of a larger river may be designated as primary contact to protect primary contact recreation in the downstream large river. To modify the uses and therefore the associated numeric criteria of a waterbody, a use attainability analysis process must first occur to determine appropriate designated use.

Comment 3 from Roza-Sunnyside Board of Joint Control

In addition, the RSBOJC notes the Sulphur Creek is now defined as "upstream from the mouth of 46.3815, longitude -119.9584" on page 127, Table 602 for WRIA 37 and is proposed as Primary Contact for Recreational Uses. This site is just north of the Roza Irrigation District boundary. The Sulphur Creek Wasteway is a defined man-made irrigation facility within the boundaries of both the Roza and the Sunnyside Valley Irrigation Districts. The RSBOJC proposes the Sulphur Creek Wasteway, which is agricultural return flow water, define *E. coli* compliance by the FDA FSMA standards.

Ecology Response to Comment from 3 Roza-Sunnyside Board of Joint Control

Thank you for your comment. Sulphur Creek is designated for secondary contact recreation use and will be upgraded to primary contact recreation use with the proposed recreational use criteria revisions. Upstream water bodies are generally required to be protective of downstream uses. The Yakima River is designated for the primary contact recreation use and therefore, waters that flow to the Yakima River must also meet the new primary contact indicator criteria.

Comments from King County Department of Natural Resources and Parks

Comment 1 from King County Department of Natural Resources and Parks

The implementation guidance (Ecology publication 18-1 0-029) discusses a stakeholder process that includes Ecology, the Environmental Protection Agency (EPA), and local stakeholders that will determine which of the current 500+ statewide fecal coliform TMDLs should be shifted to an *E. coli* indicator. However, the timeline and requirements to implement these changes, especially the need to monitor for both indicators, are vague. King County requests that Ecology more clearly define this process and work with the stakeholder group to determine which indicator applies to a location in a timely manner. This will avoid the cost and confusion associated with monitoring both indicators. We propose that Ecology either: 1) convert existing fecal coliform based TMDLs to *E. coli* based TMDLs, or 2) retain fecal coliform as the indicator organism for these TMDLs.

Ecology Response to Comment 1 from King County Department of Natural Resources and Parks

Thank you for your comment. All permittees with TMDL monitoring requirements will continue to use fecal coliform after adoption of the rule. While there are 582 water body segments for which fecal coliform load allocations have been set, a significant portion are set to protect downstream shellfish harvesting uses. The shellfish harvesting criteria will not change and thus, no changes will occur to the TMDL monitoring requirements. Fecal coliform TMDLs set for recreation uses may need to be revised for E. coli on a case-by-case basis. This process will involve collaboration between local watershed stakeholders, Ecology, and EPA. The exact process that this will ensue has not been developed. The implementation plan serves as a general guidance for implementation but is not overly detailed in that it restricts processes or methods available. Permittees with TMDL monitoring requirements will continue with their current limits until actions are taken that would modify the associated TMDL requirements.

Comment 2 from King County Department of Natural Resources and Parks

King County encourages Ecology to update the February 2018 public review draft of Water Quality Policy 1-11 to ensure that analysis of bacteria data in the Water Quality Assessment is consistent with the revised rule, including sample sizes and averaging periods.

Ecology Response to Comment 2 from King County Department of Natural Resources and Parks

We fully anticipates a public process to update the listing methodology for bacteria in WQP 1-11 after the rule is adopted and approved by the EPA (anticipated in early 2019). As noted in your comment, this will include ensuring consistency between the new bacteria standards and the assessment of data in making category determinations.

Comment 3 from King County Department of Natural Resources and Parks

The EPA's 2012 recommended averaging period of 30 days for the criteria are absent under the proposed rule (WAC 173-201A, Table 200(2)(b) and Table 210(3)(b)). The minimum duration of the averaging period is a key component of the EPA recommended standards. The footnote at the bottom of Table 1 in Ecology's regulatory analysis (Publication 18-10- 027) accurately describes the EPA-recommended averaging period for the criteria, and EPA's provision for accommodating a 90-day averaging period for ambient monitoring purposes is described on page 5.

The proposed revisions to WAC 173-201A-200 Section (2)(b)(i)(A) and (B) for freshwaters (page 14/15) and WAC 173-201A-210 Section 3(b)(i)(A) and (B) for marine waters (page 21), both state the averaging of sample values for compliance: "A minimum of three samples is required to calculate a geometric mean for comparison to the geometric mean criterion. Sample collection dates shall be well distributed throughout the averaging period so as not to mask noncompliance periods." The text later specifies that for effluent bacteria samples the averaging period "... shall be thirty days or less..." and for ambient water quality samples "...ninety days or less ..." The phrase "...or less..." is unnecessary given the previous statement outlining the distribution of samples, and the phrase could lead to compliance decisions that are based on a duration shorter than the minimum recommended period. Thus, the phrase "or less" as a monitoring provision could cause confusion and be interpreted to effectively shorten the criteria to be inconsistent with EPA's and Ecology's recommendations.

Therefore, we recommend that the phrase "or less" be deleted here, and anywhere else in the accompanying rule, regulatory analysis, or Implementation Plan documents where referring to the duration basis of the criteria or monitoring period for compliance purposes.

Ecology Response to Comment 3 from King County Department of Natural Resources and Parks

Thank you for your comment. The phrase "or less" is an important component of the averaging period as it maintains our ability to respond to major pollution events that may occur within a shorter time period than defined within the averaging period. Requiring data to be averaged up to the maximum duration of the averaging period may result in the masking of non-compliance periods by the "averaging out" or dilution of major bacteria pollution events. We choose to continue to use the phrase "or less" to respond to acute pollution events. This is not a change to the application of the standards, rather it maintains the ability that is currently available to ensure compliance.

Comment 4 from King County Department of Natural Resources and Parks

We also recommend that the term "effluent limitations" in WAC 173-201A-200 Section (2)(b)(i)(A) and (3)(b)(i)(A) be deleted here when referring to the criteria, since this section of the rule defines the ambient water quality standard was and the standard is not applicable to an effluent discharge. References to effluent limitations should be clearly identified as applying to monitoring provisions.

Ecology Response to Comment 4 from King County Department of Natural Resources and Parks

Thank you for your comment. We decided to change the term effluent limitation. Here is the new language: "Effluent bacteria samples: When averaging effluent bacteria sample values for comparison to the geometric mean criteria, or for determining permit compliance, the averaging period shall be thirty days or less."

Comment 5 from King County Department of Natural Resources and Parks

On page 20 of the rule, King County recommends the following language for 173-201A210(2)(b)(v): "Where fecal coliform is used as an indicator, and results suggest that sources other than warm-blooded animals may be a source (e.g., Klebsiella from wood waste), alternative criteria may be established on a site-specific basis by the department."

Ecology Response to Comment 5 from King County Department of Natural Resources and Parks

Thank you for your comment. We acknowledge your comment and have decided to retain the "alternative indicator criteria" provision within the surface water quality standards. However, we inserted a clarifying statement to this provision that states that an alternative indicator criteria will need to follow guidelines for developing a site-specific criteria (WAC 173-201A-430).

Comment 6 from King County Department of Natural Resources and Parks

The first full paragraph of the Implementation Plan, 2nd sentence states "For those permittees that discharge directly to marine waters or to rivers that are upstream of marine shellfish harvesting uses, both fecal coliform and enterococci monitoring will need to be considered." For situations where discharges are to marine locations with designated shellfish protection uses, King County recommends that the Implementation Plan specify that the permit writer may limit the monitoring requirements to the more restrictive indicator organism (i.e., either fecal coliform or enterococci, but not both). This will avoid monitoring and laboratory analysis for both indicator bacteria when only one parameter is necessary.

Ecology Response to Comment 6 from King County Department of Natural Resources and Parks

Thank you for your comment. We already included a similar phrase in the implementation under the section "Changes to specific permit related requirements," subsection "Permits with fecal coliform WQBELs based on the protection of recreation and shellfish harvesting uses."
The phrase states: "In marine waters, side-by-side data comparing water contact recreation criteria or shellfish harvesting bacterial indicator sample values may be used to determine the more stringent criteria. The Ecology permit writer will maintain the discretion to require both bacterial indicator monitor for the protection of water contact recreation use and shellfish harvesting use. However, when effectual, the permit writer may choose to limit the compliance monitoring to demonstrate compliance with only the more stringent criteria."

Comment 7 from King County Department of Natural Resources and Parks

On page 6 of the Implementation Plan, under section "Implementing the new criteria in the Water Quality Assessment', it is unclear how Ecology will address existing freshwater Category 5 listed water body segments that do not discharge to marine shellfish harvesting areas when the fecal coliform indicator is phased out. We recommend that Ecology clarify this. Two possible pathways include:

Pathway 1:
1. All listings for Fecal Coliform are converted to *E. coli* listings and water body segments are re-evaluated in the next WQA
2. If *E. coli* levels exceed WQS during the next WQA the segment is listed for *E. coli*. If not, the segment is moved to Category 2 "Segment is a Water of Concern".

Pathway 2:
1. All listings for Fecal Coliform are retained, but are moved to Category 3 "Segment Lacks Sufficient Data" and the water body segment is reevaluated in the next WQA.
2. If *E. coli* exceeds THE WQS, the segment is listed for *E. coli*. If not, the segment IS moved to Category 2 "Segment is a Water of Concern" or Category 1.

Ecology Response to Comment 7 from King County Department of Natural Resources and Parks

We recognize that the timing of recent revisions to WQP 1-11 and this rule making may cause confusion as to what listing methodology for bacteria will be used for the next water quality assessment. After the final rule is adopted and approved by the EPA (anticipated by early 2019), we will consider revising WQP 1-11 based on the new bacteria standards and will conduct a public review of the draft methodology before updating WQP 1-11. This draft methodology will include guidance on how we will handle de-listing of waterbodies after fecal coliform is phased out. We appreciate your suggestions for how fecal coliform listings could be handled after that criteria is phased out, and will pass those on to our Water Quality Assessment staff for consideration.

Comments from Northwest Pulp & Paper Association

Comment 1 from Northwest Pulp & Paper Association

WAC 173-201A-200(2)(b) – The sentence "Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance" should be eliminated.

Discussion – WAC 173-201A is the "Water Quality Standards for Surface Waters of the State of Washington." This regulation should be limited to presenting those ambient water quality standards necessary to protect designated uses. Ecology may certainly determine the appropriate ambient water quality monitoring need to assess attainment of these water quality numeric criteria. But there is no reason for the regulation to wander into addressing an "effluent discharge." Coupling "effluent discharge" and "compliance" could imply an expectation for a monitoring requirement in an NPDES permit. That is a task appropriately left to a Department of Ecology NPDES permit writer and one that will consider unique features of the permittee wastewater characteristics and water quality standards.

Ecology Response to Comment 1 from Northwest Pulp & Paper Association

Thank you for your comment. We decided to delete the following sentence: "Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance."

Comment 2 from Northwest Pulp & Paper Association

WAC 173-201A-200 Table 200(2)(b) – It should be understood that the E.Coli and fecal coliform numeric criteria do not apply at the "end of the discharge pipe," but rather at the edge of the designated chronic mixing zone.

Discussion -- Many Department of Ecology-issued NPDES permits for POTWs specify technology-based effluent limits for bacteria equal to the current WAC 173-201A fecal coliform criterion. But note that Ecology's Permit Writers Manual offers

"The point of compliance for the fecal coliform standard is at the boundary of the chronic mixing zone if one is allowed. The design flow for application for the standard is the 7Q10 low flow for flowing freshwater and the 50th percentile current velocity for marine." (Chapter 6, page 178, Permit Writers Manual publication no. 92-109, revised January 2015).

We assume this PWM language will define the point of compliance should any bacteria effluent limitations be included in pulp and paper mill NPDES permits. This makes sense as it is extraordinarily unlikely any full immersion recreational contact would occur in an authorized pulp and paper mill mixing zone.

Ecology Response to Comment 2 from Northwest Pulp & Paper Association

Thank you for your comment. This rulemaking is not intended to change the point of compliance provided to dischargers within a permit. The point of compliance will continue to be determined by the permit writer as guided by the Permit Writers Manual.

Comment 3 from Northwest Pulp & Paper Association

WAC 173-201A-200(2)(b)(iv) – This provision allowing for "alternative indicator criteria" should be retained. Elements from the state of Oregon's regulatory approach for addressing bacteria from non-fecal sources should be included in Ecology's Permit Writers Manual.

Discussion – The objective of bacteria water quality standards is to limit human exposure to disease-causing bacteria. *E. coli* and enterococcus have been shown to have good, but not perfect, correlation with gastrointestinal disease incidence. The relationship between bacteria counts and illness will vary due to numerous factors and there certainly is the possibility of "false positive" results. NWPPA believes it would be appropriate to retain the "alternative indicator criteria" language to provide a regulatory mechanism to address any false-positive situations which might be documented.

This AIC provision could be supplemented with new guidance to be included in Ecology's Permit Writers Manual. The state of Oregon has developed protective, science-based regulatory guidance on this topic (see Summary of Comments and DEQ Responses, Water Quality Bacteria Standards 2016, Oregon Environmental Quality Commission meeting, August 17-18, 2016, pages 24-25, electronic attachment with this letter). While Oregon's model approach is targeting the NPDES permit effluent limit-setting activity, most of the bacteria source evaluation steps would be applicable for a Washington water quality standard "alternative indicator criteria" process. Ecology's inclusion of similar guidance is reasonable and protective of public interest.

Ecology Response to Comment 3 from Northwest Pulp & Paper Association

Thank you for your comment. We decided to retain the "alternative indicator criteria" provision within the surface water quality standards. However, we inserted a clarifying statement to this provision that states that an alternative indicator criteria will need to follow guidelines for developing a site-specific criteria (WAC 173-201A-430).

Comment 4 from Northwest Pulp & Paper Association

WAC 173-201A-210(3)(b) Marine primary contact recreation bacteria criteria – Same comment as presented for WAC 173-201A-200(2)(b) above (#1).

Ecology Response to Comment 4 from Northwest Pulp & Paper Association

Thank you for your comment. We decided to delete the following sentence: "Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance."

Comment 5 from Northwest Pulp & Paper Association

WAC 173-201A-210(3)(b)(i)(A) – Eliminate this section for same reason as presented for WAC 173-201A-200(2)(b) above (#1).

Ecology Response to Comment 5 from Northwest Pulp & Paper Association

Thank you for your comment. We decided to delete the following sentence: "Both bacterial indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance."

Comment 6 from Northwest Pulp & Paper Association

WAC 173-201A-210(3)(b)(iv) – Please re-insert this "alternative indicator criteria" for the reasons presented for WAC 173-201A-200(b)(iv) above (#3).

Ecology Response to Comment 6 from Northwest Pulp & Paper Association

Thank you for your comment. We decided to retain the "alternative indicator criteria" provision within the surface water quality standards. However, we inserted a clarifying statement to this provision that states that an alternative indicator criteria will need to follow guidelines for developing a site-specific criteria (WAC 173-201A-430).

Comments from Washington Environmental Council

Comment 1 from Washington Environmental Council

WEC believes that this rulemaking proposal to update Chapter 173-201A WAC to include new bacterial indicators and numeric criteria for water contact recreational use, modify the water contact recreational use classes, and improve location information for fresh and marine waters meets the objective to enhance the state's water quality standards to be as protective as possible to protect the public from waterborne illnesses and disease while boating, swimming, and recreating in state waters.

Ecology Response to Comment 1 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment, and agree that these rule revisions meet the objective to enhance the state's water quality standards and protect the public.

Comment 2 from Washington Environmental Council

WEC supports transitioning from a fecal coliform-based water contact recreation use criteria to one based on *E. coli* and/or enterococci and certain changes to key elements in the current water standards.

Ecology Response to Comment 2 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 3 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 1: selects *E. coli* as the freshwater bacterial indicator. *E. coli* as an indicator is more protective and since the EPA no longer recommends fecal coliform as an indicator for recreational use criteria. EPA is requiring the adoption of *E. coli* or enterococcus as freshwater indicators and enterococcus for marine waters.

Ecology Response to Comment 3 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 4 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 2: sets water contact recreation use criteria for only the primary contact use class, and remove the extraordinary and secondary use classes associated with fresh and marine waters.

WEC greatly appreciates Ecology's implementation of an Environmental Justice Benefits and Lens (Section 4.2.2.2 in Preliminary Regulatory Analyses document) to ensure that all communities throughout the state have access to cleaner and safer fresh and marine waterbodies regardless of where they live. Eliminating the secondary use contact designation (wading and partial immersion during recreational activities) elevates all waterbodies to primary contact use and creates equity for all Washingtonians.

Ecology Response to Comment 4 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 5 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 1: Select an illness rate of 32 per 1,000 primary contact recreates.

Ecology Response to Comment 5 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 6 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 2: The geometric mean would be calculated over a 30-day rolling averaging period for permit compliance, while all other monitoring data would be averaged over a 90-day rolling averaging period. WEC recommends language that directs permittees to conduct the sampling during the times people are actually recreating in the water.

Ecology Response to Comment 6 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 7 from Washington Environmental Council

WEC ***does not*** support Ecology's decision to select Alternative 2: Require a minimum of 3 samples to calculate the geometric mean within the averaging period. WEC **supports the No Action alternative (#3)** which would keep the current language that 5 or more data collection events are preferable when calculating a geometric mean. A minimum sample size of only 3 samples is not sufficiently protective given the sporadic nature of fecal contamination from nonpoint sources. We support a much higher minimum number of samples to be averaged using a geometric mean for the purposes of establishing compliance.

Ecology Response to Comment 7 from Washington Environmental Council

Thank you for your comment. EPA recommends that no minimum sample size for samples collected within an averaging period. The current recreational criteria language states that it is "preferable" to have five or more data collection events but does not require a minimum number of samples. Therefore, there is currently no minimum sample size requirement for recreational use criteria. We support a minimum sample size when calculating a geometric mean. The geometric mean is a statistic and any statistic is associated with variability. A minimum of three samples is required to calculate variability around the geometric mean.

Variability is useful in determining consistency among samples collected within a given location and provides certainty around the water quality. Furthermore, requiring a minimum sample size inhibits the use of individual samples to be compared to the geometric mean criteria. Individual samples collected from ambient surface waters do not represent the condition of a waterbody over time; therefore should not be compared to the geometric mean criterion which is a statistic defined as an average of multiple samples in a given period of time.

Comment 8 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 1: Change units of measure to "MPN or CFU per 100 mL."

Ecology Response to Comment 8 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 9 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 2: No Action

Ecology Response to Comment 9 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comment 10 from Washington Environmental Council

WEC supports Ecology's decision to select Alternative 1: The water contact recreation use criteria proposal includes both the fecal coliform-based criteria and the newly adopted criteria for a 2-year period. This transition period will allow dischargers and environmental monitoring staff to collect side-by-side data on the new bacterial indicators and if necessary, adjust treatment technologies. A proposed sunset date is included in the proposed rule, after which time all compliance monitoring for the protection of water contact recreation use will need to meet the new bacteria indicator criteria of *E. coli* or enterococci (Note: all fecal coliform monitoring requirements to protect shellfish beds will remain in place until pollution control objectives have been met and shellfish harvesting uses are fully attained).

WEC believes the 2-year transition period that includes both the fecal coliform-based criteria and the newly adopted criteria is very reasonable and implementable by permittees. Furthermore, method evolution needs side-by-side testing until the old method is retired while providing a dependable backup plan as new tests are incorporated.

Ecology Response to Comment 10 from Washington Environmental Council

Thank you for your comment. We acknowledge your comment.

Comments from State of Washington Department of Health

Comment 1 from State of Washington Department of Health

WAC 173-201 A-210(2) governs shellfish harvesting water quality standards. The Department of Health's Shellfish Program, acting as the State designated Shellfish Authority by the U. S. Food and Drug Administration, implements federal rules to classify commercial shellfish harvesting areas and equivalent state rules to classify recreational shellfish harvesting areas. We follow strict marine water quality standards under Chapter 246-282 WAC, Sanitary control of shellfish, to assure areas are

classified appropriately and, unfortunately, the standards in chapter 246-282 WAC differ significantly from those in Chapter 173-201A, WAC. We would like the opportunity to work with the Department of Ecology to ensure language in WAC 173-201 A- 210(2) is updated to reflect required National Shellfish Sanitation Program standards followed by our Shellfish Program.

Ecology Response to Comment 1 from State of Washington Department of Health

Thank you for your comment. We are receptive to working with the WA Department of Health to align the shellfish harvesting criteria with the National Shellfish Sanitation Program standards. However, a change to the shellfish harvesting criteria will need to be completed in a subsequent rulemaking separate from the recreational use criteria rulemaking. We will perform a public review of the surface water quality standards in early 2019 and will use this process to prioritize necessary rulemakings including revisions to the shellfish harvesting use criteria.

Comment 2 from State of Washington Department of Health

As the Shellfish Strategic Initiative Lead, we pass through federal National Estuary Program (NEP) funds for bacteria pollution identification and correction (PIC) program work across Puget Sound counties to improve water quality to recover safe, year-round shellfish harvest. PIC work primarily addresses nonpoint sources of bacteria pollution. We are concerned the proposed rule language and draft rule implementation plan does not clearly spell out that nonpoint source pollution from properties without permits can cause exceedances of recreational use bacteria criteria. Additionally, we would like to see the rule's applicability to determining compliance for nonpoint sources of bacteria pollution included.

Ecology Response to Comment 2 from State of Washington Department of Health

Thank you for your comment. Nonpoint source (NPS) pollution is regulated by chapter 90.48 RCW, Water Pollution Control Act. This rule is in alignment with chapter 90.48 RCW and does not change our implementation of this law. Where nonpoint source pollution may be causing or contributing to exceedances of the numeric bacteria criteria or other relevant water quality standards, we maintain our authority under Chapter 90.48 RCW to regulate any such discharge to state waters. We agree nonpoint pollution can cause exceedances of the recreational use bacteria criteria. In many watersheds it is the primary cause of impairments. It is important to continue the work of identifying nonpoint sources of pollution (including bacteria) and taking action to control those pollution sources, including the implementation of effective best management practices. This rule does not change or effect the existing authorities the state has to address nonpoint pollution. Furthermore this rulemaking in no way limits the ability of current pollution identification programs to continue to address nonpoint pollution sources that contribute to decertification of shellfish harvesting areas.

Comment 3 from State of Washington Department of Health

The proposed rule language definition of "ambient water quality" applies to a "surface water of the state." Does this mean the recreation use criteria apply to nonpoint source discharges to waters of the state consistent with WAC 173-201A-600(1)?

If the proposed new recreation use criteria apply to nonpoint source discharges to waters of the state, Please clarify that criteria to protect recreation use apply to all other tributaries to the waters where the recreation use exists (e.g., applies to field or roadside ditch, ephemeral waterway, or a receiving water not listed in Table 602).

Ecology Response to Comment 3 from State of Washington Department of Health

Thank you for your comment. The State Surface Water Quality Standards (SWQS) apply to "[s]urface waters of the state includ[ing] lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Nonpoint source pollution is regulated by chapter 90.48 RCW, Water Pollution Control Act. This rule is in alignment with chapter 90.48 RCW, and does not change our implementation of this law. *Chapter 90.48 RCW provides us the authority to limit pollution. Under chapter 90.48 RCW, nonpoint sources are not allowed to discharge and may be regulated to ensure that they are not causing or contributing to impairment of designated uses. This rulemaking in no way limits the ability of nonpoint programs to continue to address pollution sources that discharge to state waters.*

Comment 4 from State of Washington Department of Health

Similar to the rule language, the Draft Rule Implementation Plan does not recognize the rule's applicability to nonpoint bacteria pollution compliance work. The Implementation and Enforcement section does not include how this rule meets the needs of monitoring and compliance programs addressing nonpoint sources from properties without permits. Language in the Promoting and Assisting Voluntary Compliance section refers only to permitted discharges/effluent limits in permits and laboratory accreditation. The Training and Informing Ecology Staff section does not include, for example, Water Quality Specialists hired to address nonpoint bacteria pollution sources from un-permitted, non-dairy agricultural properties. We encourage including recognition and support of nonpoint compliance work to reduce bacteria pollution in the final Implementation Plan.

Ecology Response to Comment 4 from State of Washington Department of Health

Thank you for your comment. A section regarding nonpoint source work has now been included in the Rule Implementation Plan. Please refer to more information added to the Rule Implementation Plan regarding TMDLs and the Water Quality Assessment.

Comment 5 from State of Washington Department of Health

In addition, we are concerned with the transition from fecal coliform bacteria to *E. coli* as it may relate to point sources discharging to freshwater that potentially impact shellfish growing areas. It is important to our Shellfish Program that these facilities continue monitoring for fecal coliform bacteria and that the new rule maintains this requirement.

Ecology Response to Comment 5 from State of Washington Department of Health

Thank you for your comment. Permittees discharging to a waterbody with a freshwater TMDLs set to protect downstream shellfish harvesting uses will continue to monitor for fecal coliform. We will maintain the current rule language [WAC 173-201A-200(2)(b)(iii)] in the bacteria criteria section that allows us to establish more stringent pollution controls in freshwater to protect downstream shellfish uses. We recognizes that in some areas of the state, the fecal coliform criteria set in freshwater to protect recreation uses, may also act to protect downstream shellfish harvesting use. However, the shellfish criteria and the standards provision cited above also provide the necessary protection of shellfish harvesting use in downstream marine waters.

We will perform a public review of the surface water quality standards in early 2019 and will use this process to prioritize necessary rulemakings including revisions to the shellfish harvesting use criteria. We encourage WDOH to participate in this process to address explicit freshwater criteria for the protection of marine water uses.

Comments from Snohomish County Surface Water Management

Comment 1 from Snohomish County Surface Water Management

References to Ecology's Water Quality Policy (WQP) 1-11 Chapters 1 and 2 within the Rule would be beneficial for stakeholders looking to understand linkages between the Rule and data collection, evaluation and assessment policies.

Recommendation: Embed a reference to WQP 1-11 within the Water Contact Recreation section.

Ecology Response to Comment 1 from Snohomish County Surface Water Management

The surface water quality standards are used as a basis for determining compliance for many water quality programs at the state and federal level, and it would therefore not be appropriate to provide linkages in Chapter 173-201A WA to only a subset of programs and policies that apply the standards. Rather, each program that implements the water quality standards should be responsible for explaining the connection to the surface water criteria and how the standards are applied. Using your example, we suggest you refer to Water Quality Policy 1-11, which provides guidance on how the water quality standards are applied to the listing methodologies for different water quality parameters to meet Clean Water Act sections 303(d) and 305(b)
(See also: comments from the Interagency Project Team)

Comment 2 from Snohomish County Surface Water Management

Ecology's February 2018 public review draft of the WQP required a minimum of five (5) freshwater fecal coliform samples within each averaging period to calculate a geometric mean value in accordance with WAC The draft Rule proposes requiring only three (3) *E. coli* samples within each averaging period to assess whether or not a waterbody is meeting standards. Given the highly variable nature of fecal coliform bacteria, we question whether 3 samples are sufficient to make an assessment.

Recommendation: The minimum number of samples required to calculate the geomean value within each averaging/critical period should remain at five (5). The County requests the scientific rationale supporting the proposal to utilize three (3) samples.

Ecology Response to Comment 2 from Snohomish County Surface Water Management

Thank you for your comment. The EPA recommends no minimum sample size for samples collected within an averaging period. The current recreational criteria language states that it is "preferable" to have 5 or more data collection events but does not require a minimum number of samples. Therefore, there is currently no minimum sample size requirement for recreational use criteria. We support a minimum sample size when calculating a geometric mean. The geometric mean is a statistic and any statistic is associated with variability. A minimum of 3 samples is required to calculate variability around the geometric mean.

Variability is useful in determining consistency among samples collected within a given location and provides certainty around the water quality. Furthermore, requiring a minimum sample size inhibits the use of individual samples to be compared to the geometric mean criteria. Individual samples collected from ambient surface waters do not represent the condition of a waterbody over time; therefore should not be compared to the geometric mean criterion which is a statistic defined as an average of multiple samples in a given period of time.

Comment 3 from Snohomish County Surface Water Management

The terminology "averaging period" is undefined in WAC 173-201A-020 for both effluent discharges and ambient water quality conditions. The terms "averaging period" in the Rule and "critical period" in the WQP are utilized interchangeably, but mean the same thing. Additionally, the Rule should clarify that data are analyzed by water year, in addition to critical period/averaging period, for the purposes of determining attainment of standards.

Recommendation: Include definitions for "averaging period" for both effluent dischargers and ambient water samples in section 173-201A-020. For ambient waters, limit confusion between Rule and the WQP by using either averaging or critical period, but not both and clarify that data are also analyzed by water year.

Ecology Response to Comment from 3 Snohomish County Surface Water Management

The averaging periods for primary contact recreation bacteria criteria are already defined in language found at WAC 173-200(2)(b)(i)(A) and (B) for fresh water and 173-201A-210(3)(B)(i)(A) and (B) for marine water. The averaging periods are specified within the context of effluent bacteria samples and ambient water quality samples. We disagree that the terms averaging period in the rule and critical period in WQP 1-11 are used interchangeably but mean the same thing. A critical period definition in Policy 1-11 refers to a specific time period or season in which the criteria would need to be met based on data and information from that location (typically defined through a total maximum daily load, or TMDL, study). A critical period that has shown non-attainment of the water quality standards may be longer or shorter than the averaging period defined by the criteria. For example, a critical period may include the 'wet' season from October through March. Within that defined critical period, the averaging periods specified in WAC 173-201A would also need to be met. In the case of this example, a series of 90-day averages of sample data would be calculated within the 6-month critical period to determine compliance in the 'wet' season.

Comment 4 from Snohomish County Surface Water Management

Page 4 of the Plan indicates the proposed Rule will require a minimum of three (3) samples within the averaging period to calculate the geometric mean for comparison to the geometric mean criteria. It then states: "permit writers should require weekly sampling to collect an adequate number of samples to compare to the geometric mean." This sentence appears to be intended for NPDES Municipal permittees subject to Water Quality Based Effluent Limits. However, the sentence could be interpreted to apply to NPDES Municipal Stormwater permittees.

Recommendation: Please clarify which NPDES permittee the sentence in bold above refers to.

Ecology Response to Comment 4 from Snohomish County Surface Water Management

Thank you for your comment. The Rule Implementation Plan is intended to be general guidance for implementing changes associated with the rule. This particular sentence is guidance for permit writers and not specific to particular permittees. We have modified this sentence in the Plan to be clearer.

Comment 5 from Snohomish County Surface Water Management

Page 5, last paragraph, indicates that "When the fecal coliform indicator is phased out of the water quality standards (December 2020), *E. coli* will remain as the sole numeric criteria for determining that this use is met. Ecology will work with the EPA and local watershed stakeholders to determine the appropriate time to change to the coli indicator. Dual parameter monitoring of fecal coliform and the updated bacterial indicator may be needed to determine attainment of water contact recreation uses." The proposal for dual monitoring is rather vague and (complicated by existing TMDLs, the location of a freshwater body, the draft status of the Water Quality policy 1-11 and timing of NPDES Municipal Stormwater permit issuance.

Recommendation: Do not require dual monitoring as a component of NPDES Municipal Stormwater permits or to delist an impaired waterbody. If Ecology's intent to consider this further, they should coordinate with NPDES Municipal Stormwater permittees and Other stakeholders.

Ecology Response to Comment 5 from Snohomish County Surface Water Management

Thank you for your comment. Currently, municipal stormwater general permits require best management practices rather than bacteria monitoring unless required by an approved TMDL. Dual monitoring in freshwaters pertains to revisions of TMDLs based on recreation uses. To determine if TMDL cleanup goals are being met and surface water quality standards are attained, effluent limits based on fecal coliform may need to be recalculated for E. coli. Ultimately, TMDL decisions to modify an effluent limit will be a collaborative effort between Ecology, EPA, and the local watershed stakeholders. After the 2-year transition period, E. coli levels will be the sole measure used to determine attainment of recreational uses in ambient surface waters. Effluent limits or TMDL load allocations in freshwater may need to remain where these limits are set to also meet downstream marine shellfish harvesting use criteria.

Comment 6 from Snohomish County Surface Water Management

Page 6 of the plan indicates that we anticipate the Rule will be adopted before the current Water Quality Assessment is completed in 2019, but does not anticipate updating the VVQP such that methods of assessment for fecal coliform and E.coli will match Rule.

Recommendation: The County requests that Ecology update the Water Quality Policy to be consistent with adopted Rule such that the Water Quality Assessment is consistent with both in terms of averaging periods, sample size and indicators to use for each waterbody.

Ecology Response to Comment 6 from Snohomish County Surface Water Management

We recognize that the timing of recent revisions to WQP 1-11 and this rulemaking may cause confusion as to what listing methodology for bacteria will be used for the next water quality assessment. We anticipate a public process to update the listing methodology for bacteria in WQP 1-11 after the rule is adopted and approved by the EPA. As noted in the comment, this will include ensuring consistency between the new bacteria standards and the assessment of data in making category determinations, including how listings based on fecal coliform data will be managed in future assessments.

Comments from Washington State Department of Agriculture

Comment 1 from Washington State Department of Agriculture

New proposed definitions for "ambient water quality" and for "effluent." Neither of the definitions appear to consider nonpoint source (NPS) discharges into water bodies or to acknowledge that NPS pollution can cause exceedances of bacteria criteria:

The definition of "effluent" refers to discharges from "point sources into surface waters." The NPS discharges DNMP typically identifies are not considered point sources and thus would not be "effluent." The "ambient water quality" applies to a "surface water of the state." Is NPS runoff from a property considered a surface water of the state?

How will compliance be measured for NPS bacteria pollution? For example, this rule language appears to entirely overlook NPS compliance: "Both bacteria indicators may be used to measure effluent discharge and ambient water quality conditions to determine compliance" (WAC 143-201 on page 13). It is unclear what benefit measuring ambient water quality conditions will provide if the sources of bacteria cannot be identified and corrected using the same criteria.

Ecology Response to Comment 1 from Washington State Department of Agriculture

Thank you for your comment. The new definition of "ambient water quality" is now included to distinguish between the averaging period data requirements for recreational criteria. The current averaging period states, "…it is preferable to average by season." EPA is requiring that water quality samples be averaged within a 30-day or less period for compliance with water quality standards. We are adopting a 30-day averaging period for compliance purposes and a 90-day averaging period for ambient monitoring. While EPA restricts averaging for 30 days or less for compliance purposes, we are adopting a 90-day averaging periods for low frequency sample collection water quality monitoring programs (i.e. 1-2 samples per month). This flexibility enables the low frequency monitoring programs to collect adequate samples to calculate a geometric mean and compare it with the recreational criteria. Given the application of two different averaging periods to different water quality monitoring types, new definitions were created to define the extent the two averaging periods can be applied.

We removed the definition for effluent included in the proposed rule language.

Nonpoint source pollution is regulated by chapter 90.48 RCW, Water Pollution Control Act. This rule is in alignment with chapter 90.48 RCW, and does not change the implementation of this law. The nonpoint program is responsible for identifying sources of bacterial pollution that are from a nonpoint source. Within the nonpoint program, source identification is often used to identify discharges of pollution from particular areas. As with the current bacteria criteria, if a nonpoint source is discharging or has the substantial potential to pollute a water body or impact a downstream beneficial use, actions to minimize the pollution, including best management practices, should be implemented. Chapter 90.48 RCW serves as the regulatory authority for the nonpoint program to prevent and eliminate pollution and if needed, take actions to minimize pollution. Where nonpoint sources may be causing or contributing to bacteria pollution, we may use our authority under chapter 90.48 RCW to regulate any such discharge to state waters.

(Also see our response to comments from the State of Washington Department of Health)

Comment 2 from Washington State Department of Agriculture

In discussions, it appeared that Ecology rule-making staff indicated that only waterways where people can submerge (swim, scuba, water-ski) would be protected for recreational use under the proposed bacterial criteria, while waterways where wading, fishing, boating (or other recreational activities where people do not typically submerge) would not be protected.

Will NPS staff need to show that a waterway is used for primary contact purposes that include complete submergence in order for the bacteria criteria to apply?

Ecology Response to Comment 2 from Washington State Department of Agriculture

Thank you for your comment. The EPA required all water bodies or segments be designated for "swimmable and fishable" uses. The waters identified for such designated uses are where the surface water quality standards apply. Waters protected for primary contact uses (e.g. swimming) are presumed to be protective of secondary contact uses (e.g. wading, fishing, or boating).

The State Surface Water Quality Standards (SWQS) apply to "[s]urface waters of the state includ[ing] lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands, and all other surface waters and water courses within the jurisdiction of the state of Washington. This application of the standards applies regardless of whether at any given time, it could be perceived that full submersion could or could not occur in a surface water.

Chapter 90.48 RCW provides us the authority to limit pollution. Under chapter 90.48 RCW, nonpoint sources are not allowed to pollute waters of the state, and we are authorized to take action if they create the substantial potential to pollute. Nonpoint staff are authorized to regulate nonpoint sources to ensure that they are not causing or contributing to impairment of designated uses. Our nonpoint source staff may use this authority to regulate discharges that cause or contribute to bacteria exceedance in surface waters. They do not have to show a waterway is used for primary contact purposes prior to taking action.

This rulemaking should not be seen as prescribing or otherwise superseding the bacteria thresholds that are used by any regulatory agency to take actions that limit nonpoint source pollution.

Comment 3 from Washington State Department of Agriculture

Table 602 specifically lists a number of streams where primary contact recreation activities (if limited to complete submergence activities such as swimming, scuba or water-skiing) are very unlikely to occur (e.g., in W RIA l, Bertrand Creek, Breckenridge Creek, Deer Creek, Fishtrap Creek, Johnson Creek-s unnamed tributary, Pepin Creek, Squaw Creek), yet these waterways are specifically protected for primary contact recreation use.

Does the bacteria criteria apply only to the listed rivers and streams and not others, or, where the receiving water is listed (e.g. Nooksack River, Sumas River), the primary contact criteria will apply in order to support the downstream designated use downstream? If so, Can this apparent discrepancy be clarified as field staff will receive questions about why the standard only applies to certain waters?

Ecology Response to Comment 3 from Washington State Department of Agriculture

Thank you for your comment. All surface waters of the state are designated for recreation uses as described in WAC 173-200A-600 (freshwater) and WAC 173-200A-610 (marine water). Waters designated for primary contact may be designated as such to protect downstream recreational uses. For example, a small tributary of a larger river may be designated as primary contact to protect primary contact recreation in the downstream large river.

Water bodies listed in Tables 602 (fresh water) and 612 (marine water) have a special condition that differ in some way from the general use designations in parts 600 and 610, and are therefore listed individually in these tables. These tables should not be seen as the only waters in which designated uses apply.

Waters designated for extraordinary or secondary uses are placed in Tables 602/612, given their special condition. Some waters listed in Table 602/612 are designated the primary contact use for recreation but have other special conditions related to aquatic life uses, water supply uses, or misc. uses. The special condition for other uses, other than recreation, is the reason these water bodies are listed in Table 602/612.

Currently, if data suggests that water contact activities should not be designated for primary contact uses, then a use attainability analysis may be used to change the recreational use. However, in the current recreational use criteria proposal, all surface waters designated will be designated for primary contact uses.

Comment 4 from Washington State Department of Agriculture

Ecology rule-making staff noted that unpermitted discharges do not get consideration of a mixing zone; therefore, the proposed new water contact recreation bacteria criteria would apply to NPS discharges into any waters where the recreation criteria apply (discussed during an August 16, 2018 conference call). If this is the case, DNMP encourage consideration of language that better acknowledges the applicability of the primary contact recreation criteria to NPSs for determining compliance.

If the recreational use does not apply at the point where field runoff enters state waters such as field ditches and ephemeral waterways, please clarify where a NPS discharge will need to be documented in order to apply the primary' contact recreational bacteria criterion.

Specifically, will samples from discharges have to be taken at the confluence of a WAC 173-201 A Table 602 listed waterway to demonstrate a violation has occurred?

How does Ecology propose nonpoint staff including DNMP protect surface waters that ultimately flow into shellfish production areas?

Ecology Response to Comment 4 from Washington State Department of Agriculture

Thank you for your comment. Chapter 90.48 RCW serves as the regulatory authority for the nonpoint program to prevent and eliminate pollution and if needed, take actions to minimize pollution. Where nonpoint sources may be causing or contributing to bacteria pollution, we may use our authority under chapter 90.48 RCW to regulate any such discharge to state waters. Taking samples from field runoff provides strong evidence that there is a discharge to state waters.

The Dairy Nutrient Management Program (DNMP) can use water quality sampling to help document violations and support a determination of violation of chapter 90.48 RCW. While a violation occurs whenever there is a discharge of a pollutant, regulatory agencies can look at the surface water quality standards when choosing threshold values they will use in deciding which actions to pursue. This rulemaking should not be seen as prescribing or otherwise superseding the bacteria thresholds or sampling locations that are used by any regulatory agency to inform when and where to take actions that limit nonpoint source pollution. Nonpoint programs may continue to use fecal coliform to document releases of bacteria into surface waters of the State. Continuing to use fecal coliform for source identification may be especially useful when downstream waters are designated for the shellfish harvesting use. This rulemaking in no way limits the ability of current pollution identification programs to continue to address pollution sources that contribute to decertification of shellfish harvesting areas.

Mixing zones are a water quality standard provision that applies only to permitted dischargers, therefore nonpoint sources do not have a mixing zone. Our staff recommends DNMP staff continue to implement chapter 90.48 RCW by identifying bacteria pollution sources and eliminating those sources using a combination of best management practice (BMP) implementation, technical assistance, and regulatory enforcement as needed.

Comment 5 from Washington State Department of Agriculture

DNMP has been receiving National Estuary Program (NEP) funding for a number of years to work with various partners in northwest Washington counties on Pollution Identification and Correction (PIC) programs to protect and restore commercial, recreational, and Sustenance harvest of shellfish in marine receiving waters. In areas where DNMP is working, dairies are one of a number of sources of bacterial pollution that have the potential to impact shellfish harvest. DNMP works with Health Departments, Public Works and Planning Departments, Ecology, Conservation Districts, Tribes, farmers, drainage districts, and the public to identify and reduce preventable bacteria sources. The vast majority of potential sources PIC programs work with do not have NPDES permits and are not considered point sources. Aside from the Wastewater Treatment Plants, there are generally not designated point sources of bacteria in these watersheds. The few dairies with NPDES CAFO general permits are not considered point sources as their permits do not allow the discharge of pollutants to waters of the state. Rather, these areas have a multitude of nonpoint sources where adequate control is necessary to ensure the protection of downstream shellfish beds.

Ecology Response to Comment 5 from Washington State Department of Agriculture

Thank you for your comment. We agree that controlling nonpoint sources is necessary to ensure the protection of downstream shellfish beds. Again, nonpoint source pollution is regulated by chapter 90.48 RCW, Water Pollution Control Act. Chapter 90.48 RCW serves as the regulatory authority for the nonpoint program to prevent and eliminate pollution. We agree that it is important for PIC programs to continue to address nonpoint sources by identifying sources of pollution (including bacteria) and taking action to control those pollution sources with effective measures, including BMPs. This rule does not change or effect the existing authorities the state has to address nonpoint pollution. Furthermore, this rulemaking in no way limits the ability of current pollution identification programs to continue to address pollution sources that contribute to decertification of shellfish harvesting areas.

Comment 6 from Washington State Department of Agriculture

DNMP and its partners have relied on Ecology documents such as the Nooksack River Watershed Bacteria TMDL (Publication No. 00-10-036). This document, among many, assumed the water contact recreation bacteria criteria listed in Table 200(2)(b) of WAC 173-201A are applicable for protecting all characteristic uses in the basin and receiving waters, not just primary contact recreation uses involving full submergence as defined in the proposed criteria. The assumption in such documents was that a combination of point and nonpoint source reduction efforts were critical to meeting this criteria in order to protect the downstream shellfish harvest use by meeting the stringent National Shellfish Sanitation Program fecal coliform criteria.

Ecology Response to Comment 6 from Washington State Department of Agriculture

Thank you for your comment. We agree that in water bodies with TMDLs, a combination of point and nonpoint source reduction efforts are often important to protect downstream shellfish harvesting. The revised recreational use criteria is intended to be protective of recreational uses designated for Washington State waters. Waters protected for primary contact uses (e.g. swimming) are presumed to be protective of secondary contact uses (e.g. wading, fishing, boating). Other criteria are in place in the surface water quality standards to protect other designated uses such as shellfish harvesting.

A change in surface water quality standards should not imply that more or less bacteria will be released into a water body. A surface water quality standard only serves to be the threshold or regulatory value that indicates that the designated use is not protected.

Actions identified in TMDL implementation plans should continue so that all designated uses, including downstream shellfish harvesting, are shown to be persistently protected. A TMDL is not deemed successful until persistent attainment of the applicable criteria can be demonstrated.

Comment 7 from Washington State Department of Agriculture

The proposed recreational use water contact recreation bacteria criteria changes the criterion from fecal coliform to E.coli. The proposal also increases the 90th percentile criterion from 200 colony forming units (CFU) fecal coliform per 100 mL to 320 E.coli per 100mL. This change represents, at a minimum, a 60% increase in allowable pollution since in nearly all instances the proportion of E.coli is a subset of the

fecal coliform count. It is unclear how this increase in allowable pollution in freshwater will protect the downstream shellfish production. It does not appear to align with existing state goals to restore currently closed shellfish production growing areas.

Ecology Response to Comment 7 from Washington State Department of Agriculture

Thank you for your comment. The statistical threshold value (STV) is based on the 90th percentile of the water quality distribution from epidemiological studies that demonstrate a relationship between gastrointestinal illnesses and bacterial levels (i.e. E. coli and enterococci). To develop or propose more stringent recreational criteria than EPA recommendations would require a sound justification. At this time, we do not have information that leads us to believe that a STV of 200 would provide additional necessary protection to human health during recreational activities. The STV as it relates to the recreational use criteria is intended to detect major pollution events. The increase in the STV does not necessarily mean that more pollution will enter waterways or that permittees will release more bacteria into waters.

Current rule language [WAC 173-201A-200(2)(b)(iii)]will be maintained in the bacteria criteria section that allows Ecology to establish more stringent pollution controls in freshwater to protect downstream shellfish uses. Ecology recognizes that in some areas of the state, the fecal coliform criteria set in freshwater to protect recreation uses, may also act to protect downstream shellfish harvesting use. However, the shellfish criteria and the standards provision cited above also provide the necessary protection of shellfish harvesting use in downstream marine waters. Ecology will be performing a public review of the surface water quality standards in early 2019 and will use this process to prioritize necessary rulemakings including revisions to the shellfish harvesting use criteria. We encourage WSDA to participate in this process to address explicit freshwater criteria for the protection of marine water uses.

Comment 8 from Washington State Department of Agriculture

In PIC program areas with fecal coliform TMDLs, ambient water sampling programs are generally closely coupled with source identification sampling, discharge identification, and source correction. It is unclear how this will occur if some source identification and discharge documentation sampling starts to use the E.coli while ambient sampling is based upon continued use of fecal coliform as appears anticipated in Ecology's implementation plans, which states: TMDL cleanup goals for marine waters are set to meet fecal coliform criteria that are protective of the shellfish harvesting use. The shellfish harvesting criteria will not change in the proposed rule. Therefore, TMDL implementation and effectiveness monitoring will continue with the fecal coliform indicator. Fecal coliform-based TMDLs with pollutant load allocations based on shellfish harvesting uses will continue to monitor for fecal coliform.

Ecology Response to Comment 8 from Washington State Department of Agriculture

Thank you for your comment. Nonpoint programs such as Pollution Identification and Correction (PIC) may continue to use fecal coliform to limit bacteria pollution for pollutant minimization under chapter 90.48 RCW. Both indicators can be used for source identification, discharge identification, and source correction. E. coli will be required for compliance with surface water quality standards and attainment of the designated recreation use. A significant portion of TMDLs are set to protect downstream shellfish harvesting and thus, permittees will continue to monitor fecal coliform after this rule adoption to protect downstream shellfish uses.

Comment 9 from Washington State Department of Agriculture

At this time, the proposed criteria allows Ecology to establish more stringent bacterial criteria (WAC 173-201 A-200(2)(b)(iii)) but the process to do so it not clear and could take years. In order to ensure the protection of downstream uses including shellfish production and to avoid conflict with the state-s antidegradation policy of "restor[ing] and maintain[ing] the highest possible quality of the surface waters of Washington," maintaining the current more restrictive 90th percentile criteria of 200 may be appropriate until such a time as Ecology establishes a E.coli TMDL to protect downstream shellfish production.

Ecology Response to Comment 9 from Washington State Department of Agriculture

Thank you for your comment. The application of more stringent bacteria limits need not be a rulemaking. Several TMDLs to protect downstream shellfish uses have set upstream freshwater load allocations that are more stringent than the recreational use fecal coliform criteria.

At this time, we do not have information that leads us to believe that a statistical threshold value (STV) of 200 would provide additional necessary protection to human health during recreational activities. The STV as it relates to the recreational use criteria is intended to detect major pollution events. The increase in the STV for E. coli does not necessarily mean that more pollution will enter waterways or that permittees will release more bacteria into waters. Furthermore this rulemaking in no way limits the ability of current pollution identification programs to continue to address pollution sources that contribute to decertification of shellfish harvesting areas.

Comment 10 from Washington State Department of Agriculture

Definition of E coli appears to eliminate approved method In Washington State, over 100 laboratories are accredited for SM 9223B, the enzyme substrate test for total coliform and E.coli. SM 9223 B includes the Colisure and Colilert methods. SM 9223 B method incubates the sample at 35 degrees and separates total coliform from *E. coli* using florescence. The proposed rule change defines E.coli in part by temperature, stating that it can grow at 44.5 degrees Celsius.

Will SM 9223 B methods be prohibited due to the incubation temperature 35 degrees Celsius?

Ecology Response to Comment 10 from Washington State Department of Agriculture

Thank you for your comment. The current definition of E. coli has been in the surface water quality standards since 2003 and is one of several valid definitions and does not preclude the use of a particular analytical method. We understand that confusion may occur when interpreting the current definition. To eliminate any ambiguity, the definition of E. coli will be broadened to: "E. coli is a bacterium in the family Enterobacteriacae named Escherichia coli and is a common inhabitant of the intestinal tract of warm-blooded animals, and its presence in water samples is an indication of fecal pollution and the possible presence of enteric pathogens."

Comment from Thurston County Public Health and Social Services

Comment from Thurston County Public Health and Social Services

I am the laboratory Manager for the Thurston County Public Health and Social Services, Environmental Health Division Water laboratory. I would like to point out that the method that my lab and many others here in Washington State use (SM 9223B; Enzyme Substrate Method using IDEXX, Colilert Quanti-Tray) for enumeration of E.coli in MPN format is not approved for surface water analysis. Currently, this method is only approved for drinking water and wastewater.

Ecology Response to Comment from Thurston County Public Health and Social Services

Thank you for the comment. We consider all EPA-approved Clean Water Act microbiological methods acceptable for bacterial analyses including method SM 9223B. Laboratories are expected to follow EPA guidance on test methods.

Appendix A: Citation List

This citation list contains references for data, factual information, studies, or reports on which the agency relied in the adoption for this rule making (RCW 34.05.370(f)).
At the end of each citation is a number in brackets identifying which of the citation categories below the sources of information belongs (RCW 34.05.272).

Citation Categories	
1	Peer review is overseen by an independent third party.
2	Review is by staff internal to Department of Ecology.
3	Review is by persons that are external to and selected by the Department of Ecology.
4	Documented open public review process that is not limited to invited organizations or individuals.
5	Federal and state statutes.
6	Court and hearings board decisions.
7	Federal and state administrative rules and regulations.
8	Policy and regulatory documents adopted by local governments.
9	Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under other processes.
10	Records of best professional judgment of Department of Ecology employees or other individuals.
11	Sources of information that do not fit into one of the other categories listed.

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