

Jody Frymire

Thank you for the opportunity to submit comment; please see my attached comment.

Foroozan Labib
WSDOT Municipal Permit Comments
Washington State Department of Ecology
P.O. Box 47696
Olympia, WA 98504-7600

Document: WSDOT Municipal Stormwater NPDES General Permit

January 29, 2019

Dear Foroozan Labib,

IDEXX appreciates the opportunity from the State of Washington Department of Ecology (Ecology) to submit a comment for the Washington State Department of Transportation (WSDOT) Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) General Permit. At this time, IDEXX would like to request Ecology to consider the following comments.

1. Recommends and supports changes to the bacteria parameter for Municipal Storm water NPDES General Permits from fecal coliforms to either *E. coli* and/or enterococci.

Rational: *E. coli* and enterococci are more protective indicators of fecal contamination versus fecal coliforms.

Fecal coliform bacteria are commonly identified as being thermotolerant bacteria (able to grow at 44.5°C) [1]. Thermotolerant bacteria consists of *E. coli*, Klebsiella, Enterobacter, and Citrobacter species [1,2]. When testing for fecal coliforms, the population of the bacteria present can affect the fecal coliform results, for example: Klebsiella, Enterobacter, & Citrobacter species are false-positive indicators of fecal contamination as they are from nonfecal origin [2]. It has been found, up to 15% of Klebsiella (nonfecal origin) are thermotolerant and up to 10% of *E. coli* are not thermotolerant, thus potentially causing an error rate of 25% when testing for fecal coliforms [3]. *E. coli* is the only bacteria of the coliform bacteria group that comes from the intestinal tract and found to be more specific to the detection of fecal contamination, so much so, that *E. coli* is the definitive indicator of fecal contamination in US drinking water regulations [3,4] and is the recommended bacterial indicator for fecal contamination in recreational fresh water, as part of the 2012 U.S. EPA Recreational Water Quality Criteria recommendations [5].

Within marine waters, studies show enterococci as compared to other fecal contamination indicators, have a higher survival rate and enterococci show a direct association with risk of illness [6,7]. The European Union (EU), uses enterococci as an indicator of fecal contamination for recreational waters, as well as in drinking water, and additionally enterococci are part of the U.S. EPA 2012 Recreational Water Quality Criteria and included by the World Health Organization as recommended bacteria indicator for fecal contamination for recreational water [5,7].

2. Recommends revising the bacteria parameter Laboratory Method, listed on page 100, from SM9221E to include EPA-approved methods at 40 CFR Part 136.

Rational: We acknowledge the EPA doesn't provide federal requirements for analytical procedures for storm water; however, the EPA guidance is to follow EPA-approved methods included at 40 CFR Part 136 [7,8]. In revising the specific method for bacteria parameters to include EPA approved methods, allows laboratories to choose a method that may be more cost effective and improve workflow.

As stated in the WSDOT Permit Fact Sheet, under the Storm Water Problem section, it's noted human health and drinking water are impacted by storm water. In changing the bacteria parameters to a more protective indicator, of either *E. coli* or enterococci, storm water sample results will better correspond with recreational and drinking water sample results, which report (or will soon be reporting) as *E. coli* or enterococci [6]. IDEXX appreciates the opportunity to provide this comment and hopes Ecology will consider this suggestion as an additional way to protect human health. We look forward to the next steps in the rule making process.

Respectfully submitted,



Jody Frymire

Regulatory Affairs Associate, IDEXX Water | One IDEXX Drive | Westbrook, Maine 04092 USA
idexx.com/water | jody-frymire@idexx.com | Tel: +1 207 556 4840

References

1. Warden, Paul; DeSarno, Monique; Volk, Sarah; and Eldred, Bradley. Analytical Services. Evaluation of Colilert-18 for Detection and Enumeration of Fecal Coliform Bacteria in Wastewater Using the U.S. Environmental Protection Agency Alternative Test Procedure Protocol. *Microbiological Methods, Journal of AOAC International*. Volume 94, Number 5: 2011
2. Doyle, Michael. Erickson, Mary. Closing the Door on the Fecal Coliform Assay. *Microbe*, Volume 1, Number 4, page 162: 2006
3. Allen, Martin; Edberg, Stephen; Clancy, Jennifer; Hrudehy, Steve. Drinking water microbial myths. *Critical Reviews in Microbiology*; ISSN: 1040-841X (print), 1549-7828 (electronic): 2013:
<http://informahealthcare.com/mb>
4. Cummings, Dennis. The Fecal Coliform Test Method Compared to Specific Tests for *Escherichia coli*. IDEXX: <https://www.idexx.com/resource-library/water/water-reg-article9B.pdf>
5. U.S. Environmental Protection Agency. Recreational Water Quality Criteria. Office of Water. EPA 820-F-12-058. <https://www.epa.gov/sites/production/files/2015-10/documents/rwqc2012.pdf>
6. Washington State Department of Ecology – Updates to the standards. Date accessed: January 18, 2019
<https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality->

[standards/Updates-to-the-standards](#)

7. U.S. Environmental Protection Agency, Office of Wastewater Enforcement and Compliance Permits Division. EPA 833-F-93-002. *NPDES Storm Water Questions and Answer Document*. Washington, DC: Diane Publishing; 1992.
8. U.S. Environmental Protection Agency, Office of Water. EPA 833-B-92-001. *NPDES Storm Water Sampling Guidance Document*. Washington, DC; 1992.