



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

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MAY 12 2017

OFFICE OF
WATER AND
WATERSHEDS

Ms. Michelle Hale
Director, Division of Water
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Ste. 303
Juneau, Alaska 99811-1800

Re: January 24, 2017 Submittal of Revisions to Alaska's Recreational Water Quality Criteria for Fresh and Marine Water

Dear Ms. Hale:

Pursuant to section 303(c) of the Clean Water Act (CWA) and 40 CFR Part 131, the U.S. Environmental Protection Agency (EPA) approves revisions to water quality standards contained within 18 AAC 70.020(b)(2), 18 AAC 70.020(b)(14), and 18 AAC 70.990(73), including the revisions addressing bacteria criteria to protect primary contact recreation in fresh water and marine water, which were submitted by the Alaska Department of Environmental Conservation (DEC) by letter of January 24, 2017.

The EPA has also reviewed the submitted changes to 18 AAC 70.005(a), which DEC refers to as "nonapplicability of groundwater provisions," and 18 AAC 70.020(b) Water Quality Standards Table Note 1, and has determined that they do not constitute new or revised water quality standards subject to action in accordance with CWA Section 303(c).

Details of the submitted revisions and the EPA's action are outlined below and in the enclosed technical support document (hereafter referred to as the TSD).

Background

By letter dated January 24, 2017, DEC submitted revisions to various sections of 18 AAC 70. The revisions were adopted on September 23, 2016, were certified by the Alaska Attorney General on January 3, 2017 as duly adopted pursuant to state law, and became effective under Alaska state law on February 5, 2017. Prior to adopting the revisions, DEC provided the opportunity for public comment as described in DEC's submittal letter.

The revisions submitted to the EPA for review are identified in an enclosure to DEC's submittal letter, and include revised bacteria criteria to protect primary contact recreation in fresh water and marine water at 18 AAC 70.020(b)(2)(B)(i) and 18 AAC 70.020(b)(14)(B)(i), respectively; editorial and housekeeping changes to the other bacteria criteria sections at 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14); and a newly adopted definition of "colony forming unit (cfu)" at 18 AAC 70.990(73).

In addition to the general obligation at 40 CFR 131.11(a) to adopt those water quality criteria that protect its designated uses, Alaska, as a state covered by the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act), has specific requirements regarding recreational water quality criteria for its coastal recreation waters. In November 2012, the EPA released recreational water quality criteria recommendations for protecting human health in coastal and non-coastal waters designated for primary contact recreation use (EPA's 2012 Recreational Water Quality Criteria). Following the EPA's publication of new or revised coastal recreation water quality criteria, Section 303(i)(1)(B) of the CWA directs states and authorized tribes with coastal recreation waters to adopt and submit new or revised pathogen water quality standards for the coastal recreation waters of the state for all pathogens and pathogen indicators to which the publication of new or revised water quality criteria are applicable. As discussed in the EPA's enclosed TSD, Alaska's revisions to 18 AAC 70.020(b)(14)(B)(i) addressing bacteria criteria to protect primary contact recreation in marine water are consistent with the EPA's 2012 Recreational Water Quality Criteria, and thus address the CWA section 303(i)(1)(B) requirements for coastal recreation waters in Alaska. Furthermore, Alaska's revisions to 18 AAC 70.020(b)(2)(B)(i) addressing bacteria criteria to protect primary contact recreation in fresh water are also consistent with the EPA's 2012 Recreational Water Quality Criteria.

The revisions identified by ADEC in its submittal also include changes to Alaska's "nonapplicability of groundwater provisions" at 18 AAC 70.005(a) and editorial and housekeeping changes to 18 AAC 70.020(b) Water Quality Standards Table Note 1. The EPA is not acting on those changes because they do not establish the desired condition or instream level of protection for any waters to which the EPA's authorities under CWA section 303(c) and 40 CFR Part 131 apply (What is a New or Revised Water Quality Standard under 303(c)(3), Frequently Asked Questions, October 2012, EPA Publication No. 820F12017).

Today's Action

Pursuant to section 303(c) of the Clean Water Act (CWA) and 40 CFR Part 131, the EPA approves the revisions to the following bacteria criteria related provisions submitted by DEC: 18 AAC 70.020(b)(2) - bacteria criteria for freshwater uses; 18 AAC 70.020(b)(2)(A)(i) through (iv) - bacteria criteria for various water supply uses of fresh water; 18 AAC 70.020(b)(2)(B)(i) through (ii) - bacteria criteria for primary contact recreation and secondary recreation in fresh water; 18 AAC 70.020(b)(14) - bacteria criteria for marine water uses; 18 AAC 70.020(b)(14)(A)(i) through (iii) - bacteria criteria for various water supply uses of marine water; 18 AAC 70.020(b)(14)(B)(i) through (ii) - bacteria criteria for primary contact recreation and secondary recreation in marine water; and 18 AAC 70.990(73) - definition of colony forming unit (cfu).

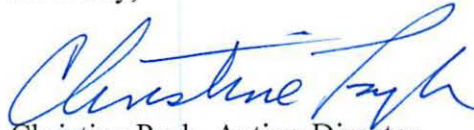
This action applies only to water bodies in the State of Alaska, and does not apply to waters that are within Indian Country, as defined in 18 U.S.C. § 1151. In addition, nothing in this letter shall constitute an approval or disapproval of a water quality standard that applies to waters within Indian Country. The EPA, or authorized Indian Tribes, as appropriate, will retain responsibilities for water quality standards for waters within Indian Country.

Today's Action and Federally Promulgated Recreational Criteria at 40 CFR 131.41

On November 16, 2004, the EPA promulgated bacteriological criteria for coastal recreation waters for those states not complying with CWA section 303(i)(1)(A) as established by the 2000 BEACH Act (Water Quality Standards for Coastal and Great Lakes Recreation Waters, 69 FR 67218). Alaska was included in that promulgation at 40 CFR 131.41. As a result of the EPA's approval today, Alaska's bacteria criteria for marine coastal recreation waters at 18 AAC 70.020(b)(14)(B)(i) will be in effect for CWA purposes in Alaska. 40 CFR 131.41 will continue to include a reference to Alaska until the EPA formally withdraws Alaska from the federal rule.

The EPA looks forward to future work with Alaska on water quality standards pursuant to our responsibilities under the CWA. If you have any questions regarding this letter, please contact me at (206) 553-1855 or Matthew Szelag of my staff at (907) 271-1208.

Sincerely,



Christine Psyk, Acting Director
Office of Water and Watersheds

cc: Ms. Nancy Sonafrank, ADEC
Mr. Brock Tabor, ADEC
Ms. Denise Elston, ADEC
(by email)

Technical Support Document

**The EPA's Approval of Alaska's Revisions to 18 AAC 70
Regarding Bacteria Criteria to Protect Primary Contact
Recreation in Fresh Water and Marine Water Submitted
January 24, 2017**

May 12, 2017

Background

By letter dated January 24, 2017, DEC submitted revisions to various sections of 18 AAC 70. The revisions were adopted on September 23, 2016, were certified by the Alaska Attorney General on January 3, 2017 as duly adopted pursuant to state law, and became effective under Alaska state law on February 5, 2017. Prior to adopting the revisions, DEC provided the opportunity for public comment as described in DEC's submittal letter.

The revisions submitted to the EPA for review are identified in an enclosure to DEC's submittal letter, and address bacteria criteria to protect primary contact recreation in fresh water and marine water at 18 AAC 70.020(b)(2)(B)(i) and 18 AAC 70.020(b)(14)(B)(i), respectively; editorial and housekeeping changes to the other bacteria criteria sections at 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14); and a newly adopted definition of "colony forming unit (cfu)" at 18 AAC 70.990(73).

In addition to the general obligation at 40 CFR 131.11(a) to adopt those water quality criteria that protect its designated uses, Alaska, as a state covered by the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act), has specific requirements regarding recreational water quality criteria for its coastal recreation waters. The BEACH Act of 2000 directed the EPA to conduct studies associated with pathogens and human health, and to publish recommendations for pathogens and pathogen indicators based on those studies. On November 26, 2012, the EPA met those requirements with the release of its "2012 Recreational Water Quality Criteria" recommendations (Office of Water 820-F-12-058). Following the EPA's publication of new or revised coastal recreation water quality criteria, Section 303(i)(1)(B) of the CWA directs states and authorized tribes with coastal recreational waters to adopt and submit new or revised pathogen water quality standards for coastal recreation waters of the state for all pathogens and pathogen indicators to which the publication of new or revised water quality criteria are applicable. As discussed below in the rationale for today's action, Alaska's revisions to 18 AAC 70.020(b)(14)(B)(i) addressing bacteria criteria to protect primary contact recreation in marine water are consistent with the EPA's 2012 Recreational Water Quality Criteria, and thus address the BEACH Act requirements for coastal recreation waters in Alaska. Furthermore, Alaska's revisions to 18 AAC 70.020(b)(2)(B)(i) addressing bacteria criteria to protect primary contact recreation in fresh water are also consistent with the EPA's 2012 Recreational Water Quality Criteria.

DEC also submitted changes to 18 AAC 70.005(a) and 18 AAC 70.020(b) Water Quality Standards Table Note 1 that do not constitute new or revised water quality standards actionable under section 303(c) of the CWA because they do not establish the desired condition or instream level of protection for any waters to which the EPA's authorities under CWA section 303(c) and 40 CFR Part 131 apply (What is a New or Revised Water Quality Standard under 303(c)(3), Frequently Asked Questions, October 2012, EPA Publication No. 820F12017). Alaska's regulations at 18 AAC 70 include provisions that are applicable to ground water in addition to surface water, and a revision to the first sentence of 18 AAC 70.005(a) clarifies that 18 AAC 70.005 only concerns the applicability of the provisions at 18 AAC 70 "as they are applicable to groundwater," i.e., 18 AAC 70.005 does not affect the applicability of provisions at 18 AAC 70 as they pertain to surface waters covered by the authorities of CWA section 303(c) and 40 CFR Part 131. Alaska's changes to 18 AAC 70.020(b) Water Quality Standards Table Note 1 also do not constitute new or revised water quality standards subject to action in accordance with CWA Section 303(c). Rather, those changes update language pertaining to analytical methods used to

measure compliance with wastewater discharge limitations and to assess attainment of water quality standards, and pertain to the reporting of results obtained by such methods.

Today’s action addresses only those changes to 18 AAC 70 that are revisions to water quality standards for the purpose of CWA Section 303(c).

Today’s Action

Pursuant to section 303(c) of the Clean Water Act (CWA) and 40 CFR Part 131, the EPA approves the revisions to the following bacteria criteria related provisions submitted by DEC: 18 AAC 70.020(b)(2) - bacteria criteria for freshwater uses; 18 AAC 70.020(b)(2)(A)(i) through (iv) - bacteria criteria for various water supply uses of fresh water; 18 AAC 70.020(b)(2)(B)(i) through (ii) – bacteria criteria for primary contact recreation and secondary recreation in fresh water; 18 AAC 70.020(b)(14) - bacteria criteria for marine water uses; 18 AAC 70.020(b)(14)(A)(i) through (iii) - bacteria criteria for various water supply uses of marine water; 18 AAC 70.020(b)(14)(B)(i) through (ii) - bacteria criteria for primary contact recreation and secondary recreation in marine water; and 18 AAC 70.990(73) - definition of colony forming unit (cfu).

As discussed in the Background section above, the EPA is not acting on the changes to 18 AAC 70.005(a) - nonapplicability of groundwater provisions; and 18 AAC 70.020(b) Water Quality Standards Table Note 1 - pertaining to analytical methods and the reporting of results obtained by such methods.

This action applies only to water bodies in the State of Alaska, and does not apply to waters that are within Indian Country, as defined in 18 U.S.C. § 1151. In addition, nothing in this letter shall constitute an approval or disapproval of a water quality standard that applies to waters within Indian Country. The EPA, or authorized Indian Tribes, as appropriate, will retain responsibilities for water quality standards for waters within Indian Country.

Rationale for Today’s Action

18 AAC 70.020(b)(2)(B)(i) - Criteria to protect primary contact recreation in fresh water

As shown in Table 1 and discussed below, the EPA has determined that each component of Alaska’s revised criteria (indicator organism, magnitude, duration, and frequency) at 18 AAC 70.020(b)(2)(B)(i) are consistent with the EPA’s 2012 Recreational Water Quality Criteria recommendations and are protective of primary contact recreation in fresh water for the reasons discussed in the EPA’s criteria development document (Office of Water 820-F-12-058).

Table 1: Comparison of Alaska’s Revised Criteria at 18 AAC 70.020(b)(2)(B)(i) to Protect Primary Contact Recreation in <u>Fresh Water</u> with the EPA’s 2012 Recreational Water Quality Criteria Recommendations		
Criteria Component - Fresh Water	EPA’s 2012 Recommendation	Alaska’s Revision
Indicator	Enterococci <u>or</u> <i>E. coli</i>	<i>E. coli</i>

Magnitude (cfu/100 ml)	Recommendation 1 - Illness Rate of 36/1,000 Enterococci: GM = 35; STV = 130 <i>E. coli</i> : GM = 126; STV = 410	Illness Rate of 36/1,000 <i>E. coli</i> : GM = 126; STV = 410
	Recommendation 2 - Illness Rate of 32/1,000 Enterococci: GM = 30; STV = 110 <i>E. coli</i> : GM = 100; STV = 320	
Duration and Frequency - GM	Not to be exceeded in any 30-day interval	Consistent with the EPA's recommendation (see Alaska's adopted language in the Duration and Frequency discussion below)
Duration and Frequency - STV	Not to be exceeded more than 10% of the time in the same 30-day interval assessed for the GM	Consistent with the EPA's recommendation (see Alaska's adopted language in the Duration and Frequency discussion below)

GM = Geometric Mean; STV = Statistical Threshold Value; cfu = Coliform Forming Units

Indicator

Alaska adopted *E. coli* as its indicator organism in fresh water. The EPA recommends the use of either *E. coli* or Enterococci as an indicator in freshwater, adopting one of the two is sufficient.

Magnitude

Alaska adopted a geometric mean (GM) of 126 cfu/100 ml and a statistical threshold value (STV) of 410 cfu/100 ml, which are consistent with the EPA's recommendation for *E. coli* at an illness rate of 36/1,000 primary contact recreators. The EPA recommends adoption of both a GM and a STV at an illness rate of either 36/1,000 primary contact recreators or 32/1,000 primary contact recreators. The EPA believes the criteria recommendations at both illness rates are protective of the designated use of primary contact recreation in fresh water.

Duration and Frequency

Alaska's revised criteria to protect primary contact recreation in fresh water specify, "In a 30-day period, the geometric mean of samples may not exceed 126 *E. coli* cfu/100 ml and not more than 10% of the samples may exceed a statistical threshold value (STV) of 410 *E. coli* cfu/100 ml." DEC has clarified that this language means that the ten percent exceedance frequency of the STV applies to the same 30-day period as the GM (Email from Brock Tabor, ADEC, to William Beckwith, EPA, September 13, 2016, 10:36 AM). The EPA has determined that this is consistent with its recommendation that the GM not be exceeded in any 30-day interval and the STV not to be exceeded more than 10% of the time in the same 30-day interval assessed for the GM.

18 AAC 70.020(b)(14)(B)(i) - Criteria to protect primary contact recreation in marine water

As shown in Table 2 and discussed below, the EPA has determined that each component of Alaska’s revised criteria (indicator organism, magnitude, duration, and frequency) at 18 AAC 70.020(b)(14)(B)(i) is consistent with the EPA’s 2012 Recreational Water Quality Criteria recommendations and protective of primary contact recreation in marine water for the reasons discussed in the EPA’s criteria development document (Office of Water 820-F-12-058).

Table 2: Comparison of Alaska’s Revised Criteria at 18 AAC 70.020(b)(14)(B)(i) to Protect Primary Contact Recreation in <u>Marine Water</u> with the EPA’s 2012 Recreational Water Quality Criteria Recommendations		
Criteria Component - Marine Water	EPA’s 2012 Recommendation	Alaska’s Revision
Indicator	Enterococci	Enterococci
Magnitude (cfu/100 ml)	Recommendation 1 - Illness Rate of 36/1,000 GM = 35; STV = 130	Illness Rate of 36/1,000 GM = 35; STV = 130
	Recommendation 2 - Illness Rate of 32/1,000 GM = 30; STV = 110	
Duration and Frequency - GM	Not to be exceeded in any 30-day interval	Consistent with the EPA’s recommendation (see Alaska’s adopted language in the Duration and Frequency discussion below)
Duration and Frequency - STV	Not to be exceeded more than 10% of the time in the same 30-day interval assessed for the GM	Consistent with the EPA’s recommendation (see Alaska’s adopted language in the Duration and Frequency discussion below)

GM = Geometric Mean; STV = Statistical Threshold Value; cfu = Coliform Forming Units

Indicator

Alaska adopted Enterococci as its indicator organism in marine water. The EPA recommends the use of Enterococci only as an indicator in marine water.

Magnitude

Alaska adopted a geometric mean (GM) of 35 cfu/100 ml and a statistical threshold value (STV) of 130 cfu/100 ml, which are consistent with the EPA’s recommendation for Enterococci at an

illness rate of 36/1,000 primary contact recreators. The EPA recommends adoption of both a GM and a STV at an illness rate of either 36/1,000 primary contact recreators or 32/1,000 primary contact recreators. The EPA believes the criteria recommendations at both illness rates are protective of the designated use of primary contact recreation in marine water.

Duration and Frequency

Alaska's revised criteria to protect primary contact recreation in marine water specify, "In a 30-day period, the geometric mean of samples may not exceed 35 enterococci cfu/100 ml and not more than 10% of the samples may exceed a statistical threshold value (STV) of 130 enterococci cfu/100 ml." DEC has clarified that this language means that the ten percent exceedance frequency of the STV applies to the same 30-day period as the GM (Email from Brock Tabor, ADEC, to William Beckwith, EPA, September 13, 2016, 10:36 AM). The EPA has determined that this is consistent with its recommendation that the GM not be exceeded in any 30-day interval and the STV not to be exceeded more than 10% of the time in the same 30-day interval assessed for the GM.

18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14) - Editorial and housekeeping changes

Consistent with the indicator organism revisions from fecal coliform to *E. coli* and enterococci, for primary contact recreation in fresh water and marine water, respectively, DEC revised the header for the criteria contained within 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14) from "fecal coliform bacteria" to "bacteria."

Where fecal coliform continues to be the specified indicator organism for bacteria criteria contained within 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14), DEC replaced the abbreviation "FC" with "fecal coliform" spelled-out in full (for the various water supply designated uses and the designated use of secondary contact recreation, for both fresh water and marine water, and for the marine water shellfish consumption designated use).

At 18 AAC 70.020(b)(2)(A)(ii), DEC revised "The geometric mean of samples taken in a 30-day period may not exceed..." to "In a 30-day period, the geometric mean may not exceed..." to be consistent with language for certain other bacteria criteria in Alaska's water quality standards.

The EPA approves these non-substantive editorial and housekeeping changes as providing useful clarifying information regarding the bacteria criteria contained within 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14).

The EPA's approval of these non-substantive editorial and housekeeping changes to previously approved water quality standards at 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14) is to ensure public transparency as to which provisions are effective for purposes of the CWA. The scope of the EPA's action in approving such provisions extends only as far as the actual changes themselves. The EPA's action here does not constitute an action on the underlying previously approved water quality standards (What is a New or Revised Water Quality Standard under 303(c)(3), Frequently Asked Questions, October 2012, EPA Publication No. 820F12017).

18 AAC 70.990(73) - Definition of “colony forming unit (cfu)”

DEC added a definition of “colony forming unit (cfu)” at 18 AAC 70.990(73):

“Colony forming unit (cfu)” means a measurement for microbial growth reported as colony forming units per 100mL of water (cfu/100mL). A colony of bacteria refers to a mass of individual cell(s) of the same organism, growing together.

The EPA approves Alaska’s definition at 18 AAC 70.990(73) as being consistent with the definition of colony forming unit commonly used in bacteriological analysis and providing useful information regarding the bacteria criteria contained within 18 AAC 70.020(b)(2) and 18 AAC 70.020(b)(14).

Today’s Action and Federally Promulgated Recreational Criteria at 40 CFR 131.41

On November 16, 2004, the EPA promulgated bacteriological criteria for coastal recreation waters for those states not complying with CWA section 303(i)(1)(A) as established by the 2000 BEACH Act (Water Quality Standards for Coastal and Great Lakes Recreation Waters, 69 FR 67218). Alaska was included in that promulgation at 40 CFR 131.41. As is explained in the preamble to that rule, “State and Territorial standards for bacteria approved by the EPA pursuant to Clean Water Act sections 303(c) and 303(i) will be in effect for Clean Water Act purposes, and the Federal criteria for 40 CFR 131.41 will no longer apply.” As a result of the EPA’s approval today, Alaska’s bacteria criteria for marine coastal recreation waters at 18 AAC 70.020(b)(14)(B)(i) will be in effect for CWA purposes in Alaska. 40 CFR 131.41 will continue to include a reference to Alaska until the EPA formally withdraws Alaska from the federal rule.