

# State of Alaska

## AMENDMENTS TO 18 AAC 70 WATER QUALITY STANDARDS

*Draft Amendments*

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Alaska Department of Environmental Conservation  
Water Quality Standards Section  
410 Willoughby Ave  
Juneau, Alaska 99811

The Department of Environmental Conservation proposes to amend or adopt new regulations in Title 70 of the Alaska Administrative Code dealing with state water quality standards, including the following:

18 AAC 70.020(b)(5) is amended to read:

(5) PETROLEUM HYDROCARBONS, OILS AND GREASE, FOR FRESH WATER USES	
(A) Water Supply  (i) drinking, culinary, and food processing	May not cause a visible sheen upon the surface of the water. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply  (ii) agriculture, including irrigation and stock watering	May not cause a visible sheen upon the surface of the water.
(A) Water Supply  (iii) aquaculture	Total aqueous hydrocarbons (TAqH) in the water column may not exceed <b><u>a four-day (96-hour) average of 15 µg/l</u></b> (see note 7). Total aromatic hydrocarbons (TAH) in the water column may not exceed <b><u>a four-day (96-hour) average of 10 µg/l</u></b> (see note 7). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply  (iv) industrial	May not make the water unfit or unsafe for the use.

(B) Water Recreation  (i) contact recreation	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines.  Surface waters must be virtually free from floating oils.
(B) Water Recreation  (ii) secondary recreation	Same as (5)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (5)(A)(iii).

18 AAC 70.020(b)(10) is amended to read:

(10) TEMPERATURE, FOR FRESH WATER USES									
(A) Water Supply  (i) drinking, culinary, and food processing	May not exceed 15° C								
(A) Water Supply  (ii) agriculture, including irrigation and stock watering	May not exceed 30° C								
(A) Water Supply  (iii) aquaculture	<p>May not exceed 20° C at any time. The following maximum temperatures <b><u>as determined by measurement of the 7-DADMax</u></b> [WEEKLY AVERAGE] may not be exceeded, where applicable (<b><u>see note 15)</u></b>:</p> <table data-bbox="669 1234 1128 1495"> <tr> <td>Migration routes</td> <td>15° C</td> </tr> <tr> <td>Spawning areas</td> <td>13° C</td> </tr> <tr> <td>Rearing areas</td> <td>15° C</td> </tr> <tr> <td>Egg &amp; fry incubation</td> <td>13° C</td> </tr> </table> <p>For all other waters, the <b><u>7-DADMax</u></b> may not exceed site-specific requirements needed to preserve normal species diversity or to prevent appearance of nuisance organisms.</p>	Migration routes	15° C	Spawning areas	13° C	Rearing areas	15° C	Egg & fry incubation	13° C
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Spawning areas	13° C								
Rearing areas	15° C								
Egg & fry incubation	13° C								

(A) Water Supply (iv) industrial	May not exceed 25° C
(B) Water Recreation (i) contact recreation	Same as (10)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (10)(A)(iii).

18 AAC 70.020(b)(17) is amended to read:

(17) PETROLEUM HYDROCARBONS, OILS AND GREASE, FOR MARINE WATER USES	
(A) Water Supply  (i) aquaculture	Total aqueous hydrocarbons (TAqH) in the water column may not exceed <b><u>a four-day (96-hour) average of 15 µg/l</u></b> (see note 7). Total aromatic hydrocarbons (TAH) in the water column may not exceed <b><u>a four-day (96-hour) average of 10 µg/l</u></b> (see note 7). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply  (ii) seafood processing	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply  (iii) industrial	May not make the water unfit or unsafe for the use.

(B) Water Recreation (i) contact recreation	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines.  Surface waters must be virtually free from floating oils.
(B) Water Recreation (ii) secondary recreation	Same as (17)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (17)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	May not exceed concentrations that individually or in combination impart undesirable odor or taste to organisms as determined by bioassay or organoleptic tests.

18 AAC 70.020(b) NOTES are amended by adding one new note to read:

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15. Exclusions from 18 AAC 70,020(b)(10) include:

(A) Human actions; when considered cumulatively, may not cause the 7-DADMax temperature of a waterbody to increase more than 0.3°C (0.54°F) above the biologically based criteria at (A)(iii).

(B) Air Temperature Exclusion; Ambient water temperature may exceed the criteria at 18 AAC 70.020(b)(10) or an applicable site-specific water quality criteria when the daily maximum air temperature exceed the 90th percentile value of the annual maximum air temperatures, as calculated using at least 10 years of air temperature data.

(C) Low Flow Exclusion; Ambient water temperature may exceed the criteria at 18 AAC



70.020(b)(10) or an applicable site-specific standard when the daily stream flow falls below the acute critical low flow or monthly average stream flow falls below the chronic critical low flow, as calculated using the 10-year, 7-day low flow (7Q10). (Eff. 11/1/97, Register 143; am 4/29/99, Register 150; am 5/27/99, Register 150; am 6/22/2003, Register 166; am 6/13/2006, Register 178; am 9/1/2006, Register 179; am 9/19/2009, Register 191; am 5/26/2011, Register 198; am 2/19/2016, Register 217; am 2/5/2017, Register 221; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_)

**Authority:** AS 46.03.020            AS 46.03.070            AS 46.03.080  
AS 46.03.050

18 AAC 70.020(c)(1) is amended to read:

(1) Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, 19th edition, 1995, 20th edition, 1998, [OR] 21st edition, 2005, **22<sup>nd</sup> edition, 2012, or 23<sup>rd</sup> edition, 2017** published jointly by the American Public Health and American Water Works Associations, and the Water Environment Federation; the editions of Standard Methods for the Examination of Water and Wastewater listed in this paragraph are adopted by reference, except for analytical methods where the most recently EPA approved version is required under (c)(3) of this section and later versions of those methods are not adopted by reference and are not approved;

18 AAC 70.020(c)(3) is amended to read:

(3) [EPA'S *GUIDELINES ESTABLISHING TEST PROCEDURES FOR THE ANALYSIS OF POLLUTANTS UNDER THE CLEAN WATER ACT: ANALYSIS AND SAMPLING PROCEDURES*, 77 FED. REG. 29758 - 29846 (MAY 18, 2012)] **40 C.F.R. Part**

**136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), revised as of July 1, 2021** , adopted by reference;

(Eff. 11/1/97, Register 143; am 4/29/99, Register 150; am 5/27/99, Register 150; am 6/22/2003, Register 166; am 6/13/2006, Register 178; am 9/1/2006, Register 179; am 9/19/2009, Register 191; am 5/26/2011, Register 198; am 2/19/2016, Register 217; am 2/5/2017, Register 221; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_)

**Authority:** AS 46.03.020 AS 46.03.070 AS 46.03.080  
AS 46.03.050

18 AAC 70.040(3) is amended to to read:

(3) in estuaries, where the fresh and marine water criteria differ [WITHIN THE SAME USE CLASS], the standard will be determined on the basis of salinity. **For waters in which the salinity varies between greater than two and less than ten parts per thousand, the applicable criteria are the more stringent of the fresh water or marine water criteria;**

however, the marine water quality criteria will apply for

(A) dissolved oxygen if the salinity is one part per thousand or greater;

and

(B) fecal coliform bacteria if the salinity is 10 parts per thousand or greater **based on 95<sup>th</sup> percentile of the dataset of salinity values;**

18 AAC 70.040(4) is repealed and readopted to read:

(4) the salinity value used for differentiating between fresh and marine waters will be determined using the vertically arithmetic average maximum salinity present during mean higher high water level under calm weather conditions; the department will consider a variety of

methods for the compilation of a salinity data set; however, the most persuasive is data collected when:

(A) streamflow values are between the 25<sup>th</sup> and 75<sup>th</sup> percentile of the streamflow values for the period of record; and

(B) the mean higher high water level is within  $\pm 10\%$  of the mean higher high water level datum for the current tidal datum period.

**(5) if both a narrative and a numeric criterion apply under 18 AAC**

**70.020(b), compliance with the numeric criterion satisfies the narrative criterion unless the department finds that the potential for cumulative or synergistic effects or other reasons**

**specific to a particular situation require a more stringent criterion to protect the**

**designated use;** (Eff. 11/1/97, Register 143; am 9/19/2009, Register 191; am \_\_/\_\_/\_\_\_\_,

Register \_\_\_\_)

**Authority:** AS 46.03.020 AS 46.03.070 AS 46.03.080

18 AAC 70.990 is amended by adding the following definitions:

(79) "7-DADMax" means "7-day average of the daily maximum", the arithmetic average of seven consecutive measures of daily maximum recorded values. The 7-DADMax for any individual day is calculated using a lagged seven-day average, which is calculable each day beyond day six of the applicable assessment period.

(80) "fresh waters" means waters in which salinity is less than two parts per thousand based on the 95<sup>th</sup> percentile of the data set of salinity values; the applicable criteria are the fresh water criteria in 18 AAC 70.020(b)(1-12) except as noted at 18 AAC 70.040;

(81) "marine waters" means the salinity is equal to or greater than 10 parts per thousand

based on the 95<sup>th</sup> percentile of the dataset of salinity values; the applicable criteria are the marine criteria in 18 AAC 70.020(b)(13-24).

(82) “mean higher high water” means the tidal datum plane of the average of the higher of the two high waters of each day, as would be established by the National Geodetic Survey, at any place subject to tidal influence. (Eff. 11/1/97, Register 143; am 4/29/99, Register 150; am 6/22/2003, Register 166; am 6/13/2006, Register 178; am 2/5/2017, Register 221; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_ ))

<b>Authority:</b>	AS 46.03.010	AS 46.03.070	AS 46.03.110
	AS 46.03.020	AS 46.03.080	AS 46.03.710
	AS 46.03.050	AS 46.03.100	AS 46.03.720

18 AAC 83.010(f) is amended to read:

(f) The provisions of 40 C.F.R. Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), [AS] revised as of **July 1, 2021** [SEPTEMBER 18, 2014], are adopted by reference.

(Eff. 11/1/97, Register 143; am 4/29/99, Register 150; am 5/27/99, Register 150; am 6/22/2003, Register 166; am 6/13/2006, Register 178; am 9/1/2006, Register 179; am 9/19/2009, Register 191; am 5/26/2011, Register 198; am 2/19/2016, Register 217; am 2/5/2017, Register 221; am \_\_/\_\_/\_\_\_\_, Register \_\_\_\_ )

<b>Authority:</b>	AS 44.46.020	AS 46.03.020	AS 46.03.100
	AS 44.03.010	AS 46.03.050	AS 46.03.110