## **Water quality standards**

Fecal coliform and enterococci analyses results from the 2020 monitoring seasons were evaluated based on the Alaska Water Quality Standards for marine water (18 AAC 70 (14)) (Table 2). Results were evaluated both for in-season management standards, and post-season retrospective analysis.

A minimum of five samples were used to calculate a geometric mean, and when two sub-criteria are specified (i.e., geometric mean and 10% of samples in a season), both criteria must both be met or the site fails the standard.

Results were evaluated as follows:

*Fecal coliform*

Fecal coliform exceedances were determined based on standards set for:

1. Secondary water recreation
   1. In-season exceedances for secondary contact recreation were identified when
      1. Individual fecal coliform sample values exceeded 400 CFU/100 mL, or
      2. The geometric mean of fecal coliform samples exceeded 200 CFU/100 mL over a 30 day period.
   2. Post-season site exceedances were identified post-season if 10% of fecal coliform sample values exceeded 400 CFU/100 mL.
2. Harvesting raw aquatic life for consumption
   1. In-season exceedances for harvesting raw aquatic life for consumption were identified when
      1. Individual fecal coliform samples exceeded 31 CFU/100 mL
   2. Post-season site exceedances were identified when
      1. 10% of fecal coliform samples from season exceeded 31 CFU/100 mL, or
      2. The geometric mean of fecal coliform samples from the season exceeded 14 CFU/100 mL.

*Enterococci*

Enterococci exceedances were determined based on standards set for:

1. Contact recreation
   1. In-season exceedances for contact recreation were identified when
      1. Individual enterococci samples exceeded 130 CFU/100 mL
      2. The geometric mean of enterococci samples exceeded 35 CFU/100 mL over a 30 day period.
   2. Post-season site exceedances were identified when 10% of enterococci samples exceeded 130 CFU/ 100 mL

When a contact or secondary recreation exceedance occurred during the recreational season, a public advisory was issued by ADEC. Advisories were active until two consecutive weeks of bacteria concentrations below exceedance criteria were achieved. When an exceedance for harvesting raw aquatic life for consumption occurred, the ADEC seafood monitoring group was notified with an online notice

| **Designated use** | **Description of criteria** |
| --- | --- |
| **(14) Bacteria, For Marine Water Uses** | |
| **(A) Water Supply** | |
| (i) aquaculture | For products normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. For products not normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml. |
| (ii) seafood processing | In a 30-day period, the geometric mean of samples may not exceed 20 fecal coliform/100 ml, and not more than 10% of the samples may exceed 40 fecal coliform/100 ml. |
| (iii) industrial | Where worker contact is present, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. |
| **(B) Water Recreation** | |
| **(i) contact recreation** | **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.** |
| (ii) secondary recreation | In a 30-day period, the geometric mean of samples may not exceed 200 fecal coliform/100ml, and not more than 10% of the samples may exceed 400 fecal coliform/100 ml. |
| (C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife | Not applicable. |
| **(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life** | **The geometric mean of samples may not exceed 14 fecal coliform/100 ml; and not more than 10% of the samples may exceed;**  - 43 MPN per 100 ml for a five-tube decimal dilution test;  - 49 MPN per 100 ml for a three-tube decimal dilution test;  - 28 MPN per 100 ml for a twelve-tube single dilution test;  **- 31 CFU per 100 ml for a membrane filtration test (see note 14).****[[1]](https://mail.google.com/mail/u/0/" \l "m_-6762702817775982643__ftn1" \o ")** |