

RECREATIONAL WATER QUALITY CRITERIA (RWQC) IN ALASKA WATER QUALITY STANDARDS



Fact Sheet

BACKGROUND- The U.S. Environmental Protection Agency (EPA) issued updated water quality criteria recommendations for recreational waters in 2012. EPA is requiredⁱ to issue new criteria recommendations for coastal recreation waters as new science becomes available.

Alaska's water quality criteria currently use fecal coliform as the bacterial indicator for measuring recreation water quality criteria. The presence of fecal coliform indicates that bacteria contamination from the waste of humans and/or other warm blooded animals may be present.

WHAT ARE RECREATIONAL WATER QUALITY CRITERIA (RWQC)? The RWQC are designed to protect the public from exposure to harmful levels of pathogens while participating in primary water-contact activities such as swimming, where immersion in and ingestion of water are likely.

WHY AMEND THE RWQC? In 2012, EPA updated the RWQC recommendations for protecting human health in coastal and non-coastal waters designated for primary contact recreation use (e.g., swimming). The recommendations include the use of the indicator bacteria *E. coli* (freshwater) and enterococci (fresh and marine water). These two indicators exhibit the strongest correlation to swimming-associated illness.

WHAT IS DIFFERENT? The 1986 bacteria criteria document (1986) included four single sample maximum (SSM) values for different levels of beach usage (use intensity). The 2012 RWQC for bacteria remove the SSM and instead provided states and tribes with recommendations for both a GM and a statistical threshold value (STV), rather than just a GM or just an STV. The 2012 criteria values are based on more recent epidemiological studies and the associated water quality distribution around the GM that is protective of the primary contact recreation designated use. The criteria values differ because the pooled data set to calculate the GM and the STV reflect revised data from EPA's epidemiological studies.

Table 1 (below) is a comparison of the current DEC criteria to the EPA-recommended 2012 RWQC. For more information on EPA's 2012 Recreational Water Quality Criteria, please visit the EPA website at <https://www.epa.gov/wqc/2012-recreational-water-quality-criteria>.

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Table 1: Existing DEC Criteria compared to EPA's 2012 RWQC

Criteria Elements		Fecal Coliform (cfu/100 ml)	Enterococcus (cfu/100 ml)	
		Freshwater only	Fresh	Marine
Existing Criteria applicable in permits and monitoring efforts	SSM ^c	200 ^a	NA	276 ^b
	GM ^c	100 ^a	NA	35 ^b
Criteria Elements		E. Coli (cfu/100 ml)	Enterococcus (cfu/100 ml)	
2012 RWQC EPA 36 illnesses per 1000 ^d	STV ^c	410	130	
	GM ^c	126	35	

- a. EPA 1986 RWQC
- b. Promulgated for Alaska in 2004 Bacteria Ruleⁱⁱ
- c. Single Sample Maximum (SSM), Geometric Mean (GM) and Statistical Threshold Value (STV) are measured in colony forming units (cfu) per 100 milliliters.
- d. Illness rates upon which these recommendations are based using the National Epidemiological and Environmental Assessment of Recreational Water (NEEAR)

WHO WILL BE AFFECTED? Municipalities (Departments of Public Health), Publicly Owned Treatment Works, and certain state/federal landholders with designated recreational areas will be affected by revised criteria as they may be required to post public notifications, should water quality monitoring indicate the presence of indicator bacteria.

Once DEC adopts and EPA approves the revised criteria for *E. coli* and enterococci, the new values will replace the current fecal coliform criteria for the recreation designated use only and may become the basis for some permit limits, water quality assessments, beach monitoring and total maximum daily loads (TMDLs).

WHY IS DEC INTERESTED IN THIS ISSUE? DEC desires to use the most recent science available in its regulatory programs to protect Alaska's recreational water users from exposure to bacteria at levels that are associated with illness.

ⁱ Under the authority of the Clean Water Act (CWA) §304(a) and §304(a)(9)

ⁱⁱ 2004 Bacteria Rule in 69 FR 67217-67243.