Proposed Revisions to the
Nevada Water Quality Regulations
NAC 445A.1256 to NAC 445A.2214

STATEWIDE FECAL COLIFORM

Introduction

- The Clean Water Act requires States to routinely review and update surface water quality

- Proposing a statewide revision to the fecal coliform water quality regulations for most of Nevada's waterbodies.

Background

- Water quality criteria for bacteria are concentrations of indicator organisms which are predictors of whether harmful pathogens are present in the water body

- 1986 EPA guidance recommended *E. coli* (*Escherichia coli)* be used to predict harmful pathogens for water contact recreation

Background continued

- In 2002, NDEP completed a statewide revision to the standards to include a *E. coli* criteria in the water quality standards for water contact recreation

- NDEP retained both fecal coliform and *E. coli* for a limited time to ensure consistency and continuity in the state's water quality programs

Proposed revision

- Revise the current fecal coliform standard on most of Nevada's waters containing the *E. coli* water quality standard

- On the waters we are changing, the existing standard consists of four different criteria's expressed eight different ways

Existing fecal coliform criteria

Parameter	Existing Criteria	Footnote
Fecal Coliform -No./100 ml	≤ 200/400	Must not exceed a geometric mean of 200 per 100 milliliters based on a minimum of 5 samples during any 30-day period, nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 milliliters.
Fecal Coliform -No./100 ml	≤ 200/400	Based on the minimum of not less than 5 samples taken over a 30-day period, the fecal coliform bacterial level may not exceed a geometric mean of 200 per 100 milliliters, nor may more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100 milliliters.
Fecal Coliform -No./100 ml	blank	The more stringent of the following apply: 1. The fecal coliform concentration must not exceed a geometric mean of 1,000 per 100 milliliters, nor may more than 20 percent of total samples exceed 2,400 per 100 milliliters. 2. The fecal coliform concentration must not exceed the 95th percentile of the annual geometric mean or the 95th percentile of n, where n equals a certain number of single value samples as determined by the Division.
Fecal Coliform -No./100 ml	A.G.M. ≤1000 S.V. ≤ 2000	None

Proposed criteria

- S.V. ≤ 1000 CFU per 100 ml

  Recommendation of the National Academy of Sciences (Water Quality Criteria 1972) for protection of waterbody beneficial uses other than water contact recreational use.

- Contact recreation is protected by the existing *E. coli* bacteria standard as the primary standard to protect the waters for swimming and other recreational activities.

Tightening the belt

- 3 waters (7 NAC's) have an existing fecal coliform standard less stringent than the proposed S.V. ≤ 1000 CFU per 100 ml
- With our recent assessment data, 2 of the NAC's (Muddy River at Lake Mead and Virgin River at Lake Mead) would not meet the S.V. of ≤ 1000 CFU per 100 ml standard
- DRAFT 2008-10 Integrated Report, the Muddy River at Lake Mead already exceeds the existing and proposed standard

Waters not changed

- NDEP is not proposing to revise the bacterial criteria for Lake Mead (NAC 445A.2152 and 445A.2154) and Las Vegas Wash (NAC 445A.2156 and 445A.2158)

- The fecal coliform standards on these waters will be reviewed in the next comprehensive water quality assessment and standards review of Lake Mead and Las Vegas Wash

Petition

- 226 standards tables to be changed
- Example table illustrates the changes to be made

Example Table 1

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY STANDARDS FOR BENEFICIAL USES	Beneficial Use[a]										
			Livestock	Irrigation	Aquatic	Contact Noncontact	Municipal	Industrial	Wildlife	Aesthetic	Enhance	Marsh
Beneficial Uses			X	X	X	X	X	X		X			
Aquatic Life Species of Concern													
Temperature - °C ΔT^b - °C		S.V. ≤ 20 ΔT = 0			*	X							
pH - SU		S.V. 6.5 - 9.0	X	X	*	*		X		*			
Total Phosphorus (as P) - mg/l		S.V. ≤ 0.025			*	*	X	X					
Dissolved Oxygen - mg/l		S.V. ≥ 6.0	X		*	X	X	X		X			
Total Ammonia (as N) - mg/l		[c]			*			X					
Total Dissolved Solids - mg/l		S.V. ≤ 500 or the 95th percentile (whichever is less).	X	X				*					
E. coli - No./100 ml		A.G.M. ≤ 126 S.V. ≤ 410				*	X						
Fecal Coliform - No./100 ml		~~≤ 200/400~~ [d] S.V. ≤ 1000	~~X~~ *	~~X~~ *		~~*~~	X	X		~~X~~ *			

* = The most restrictive beneficial use.
X = Beneficial use.

[a] Refer to NAC 445A.122 and 445A.1252 for beneficial use terminology.

[b] Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone, but the increase must not cause a violation of the single value standard.

[c] The ambient water quality criteria for ammonia are specified in NAC 445A.118.

~~[d] Must not exceed a geometric mean of 200 per 100 milliliters based on a minimum of 5 samples during any 30-day period, nor may more than 10 percent of total samples during any 30-day period exceed 400 per 100 milliliters.~~

Conclusion

- NDEP-BWQP proposes to update the fecal coliform standard to current EPA criteria to remain consistent across all waters within the state having the *E. coli* standard protecting the contact recreation beneficial use.

Questions/Comments

Nevada Division of Environmental Protection

Bureau of Water Quality Planning - Standards

901 So. Stewart St., Suite 4001

Carson City, NV 89701

Petition, Rationale, and Factsheet are at:

http://ndep.nv.gov/admin/public.htm