

Appendix A

Summary of Water Quality Criteria for Microbiological Indicators

**Table 1. Summary of Water Quality Criteria for Microbiological Indicators.
Ministry of Environment 2001.**

Water Use	Escherichia coli	Enterococci	Pseudomonas aeruginosa	Fecal coliforms
Raw Drinking Water - no treatment	0/100 mL	0/100 mL	0/100 mL	0/100 mL
Raw Drinking Water - disinfection only	less than or equal to 10/100 mL 90th percentile	less than or equal to 3/100 mL 90th percentile	None applicable	less than or equal to 10/100 mL 90th percentile
Raw Drinking Water - partial treatment	less than or equal to 100/100 mL 90th percentile	less than or equal to 25/100 mL 90th percentile	None applicable	less than or equal to 100/100 mL 90th percentile
Raw Drinking Water - complete treatment	None applicable	None applicable	None applicable	None applicable
Aquatic Life - shellfish harvesting	less than or equal to 43/100 mL 90th percentile	less than or equal to 11/100 mL 90th percentile	None applicable	less than or equal to 43/100 mL 90th percentile
Aquatic Life - shellfish harvesting	less than or equal to 14/100 mL median	less than or equal to 4/100 mL median	None applicable	less than or equal to 14/100 mL median
Wildlife	None applicable	None applicable	None applicable	None applicable
Livestock - free range animals	None applicable	None applicable	None applicable	None applicable
Livestock - general livestock use	200/100 mL maximum	50/100 mL maximum	None applicable	200/100 mL maximum
Livestock - closely confined (no treatment)	0/100 mL maximum	0/100 mL maximum	None applicable	0/100 mL maximum
Livestock - closely confined (disinfection only)	less than or equal to 10/100 mL 90th percentile	less than or equal to 3/100 mL 90th percentile	None applicable	less than or equal to 10/100 mL 90th percentile
Livestock - closely confined (partial treatment)	less than or equal to 100/100 mL 90th percentile	less than or equal to 25/100 mL 90th percentile	None applicable	less than or equal to 100/100 mL 90th percentile

Livestock - closely confined (complete treatment)	None applicable	None applicable	None applicable	None applicable
Irrigation - crops eaten raw	less than or equal to 77/100 mL geometric mean	less than or equal to 20/100 mL geometric mean	None applicable	less than or equal to 200/100 mL geometric mean
Irrigation - public access - livestock access	less than or equal to 385/100 mL geometric mean	less than or equal to 100/100 mL geometric mean	less than or equal to 10/100 mL 75th percentile	None applicable
Irrigation - general irrigation	less than or equal to 1000/100 mL geometric mean	less than or equal to 250/100 mL geometric mean	None applicable	less than or equal to 1000/100 mL geometric mean
Recreation - aesthetics - non contact	None applicable	None applicable	None applicable	None applicable
Recreation - secondary contact - crustacean harvesting	less than or equal to 385/100 mL geometric mean	less than or equal to 100/100 mL geometric mean	less than or equal to 10/100 mL 75th percentile	None applicable
Recreation - primary contact	less than or equal to 77/100 mL geometric mean	less than or equal to 20/100 mL geometric mean	less than or equal to 2/100 mL 75th percentile	less than or equal to 200/100 mL geometric mean
Industrial Water (dairy, food processing) - no treatment	0/100 mL	0/100 mL	None applicable	0/100 mL
Industrial Water (dairy, food processing) - disinfection only	less than or equal to 10/100 mL 90th percentile	less than or equal to 3/100 mL 90th percentile	None applicable	less than or equal to 10/100 mL 90th percentile
Industrial Water (dairy, food processing) - partial treatment	less than or equal to 100/100 mL 90th percentile	less than or equal to 25/100 mL 90th percentile	None applicable	less than or equal to 100/100 mL 90th percentile
Industrial Water (dairy, food processing) - complete treatment	None applicable	None applicable	None applicable	None applicable
Industrial Water - other industries	less than or equal to 385/100 mL	less than or equal to 100/100 mL	less than or equal to 10/100 mL	None applicable

	geometric mean	geometric mean	75th percentile	
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1. Fecal coliform criteria which presently exist will apply on an interim basis until use of the other preferred indicators is adopted.

2. For the dairy industry there is an additional criterion of less than or equal to 5/100 mL lipolytic and/or proteolytic bacteria.

3. Medians and geometric means are calculated from at least 5 samples in a 30-day period. Ten samples are required for 90th percentiles.

4. These recreation and shellfish harvesting criteria are applicable to fresh and marine waters, except the E. coli criteria, which apply only to fresh water.

5. Only a few salad greens which cannot be adequately washed to remove adhering or trapped pathogens are of concern under the crops eaten raw section of irrigation. Examples include lettuce, cabbage, broccoli, cauliflower and similar crops.

6. These primary contact recreation criteria may be subject to revision depending upon the future results of a federal/provincial study group on Canadian recreational water quality.