



WATER QUALITY STANDARDS FOR AQUATIC LIFE & RECREATION

Appendix 4

PARAMETER	PROVINCIAL WATER QUALITY OBJECTIVES	CANADIAN WATER QUALITY GUIDELINES FOR PROTECTION OF	
		AQUATIC LIFE	RECREATION
Ammonia (unionized)	0.02 mg/L ¹	0.019 mg/L ¹	-
Dissolved Oxygen	Warm water: >5-8 mg/L Cold water: >4-7 mg/L	Warm water: 6 mg/L (early life stages); 5.5 mg/L Cold water: 9.5 mg/L (early life stages); 6.5 mg/L	Precise values not established
DOC	-	-	-
Nitrate (NO ₃)	-	Long-term Exposure: 13 mg/L Short-term Exposure: 550 mg/L	-
Nitrite (NO ₂)	-	0.02 mg/L	-
pH	6.5-8.5	6.5-9	5.0-9.0
Total Nitrogen	-	-	-
Total Phosphorus	0.03 mg/L (streams) 0.02 mg/L (lakes)	Should: (i) Not exceed predefined trigger ranges (see below); and (ii) Not increase more than 50% over the baseline (reference) condition <u>Trigger Ranges:</u> Ultra-oligotrophic: < 0.004 mg/L Oligotrophic: 0.004-0.010 mg/L Mesotrophic: 0.010-0.020 mg/L Meso-Eutrophic: 0.020-0.035 mg/L Eutrophic: 0.035-.0100 mg/L Hyper-eutrophic: > 0.100 mg/L	-
Turbidity	Should not change the natural Secchi disc reading by > 10%	<u>Clear-flow</u> (i) Short-term exposure: Maximum increase of 8 NTUs from background levels (ii) Longer-term exposure: Maximum increase of 2 NTUs from background levels	50 NTU

PARAMETER	PROVINCIAL WATER QUALITY OBJECTIVES	CANADIAN WATER QUALITY GUIDELINES FOR PROTECTION OF AQUATIC LIFE	RECREATION
		<u>High-Flow</u> (i) Maximum increase of 8 NTUs from background levels at any one time when background levels are between 8 and 80 NTUs (ii) Should not increase more than 10% of background levels when background is > 80 NTUs	
Water Clarity	Secchi disc depth of at least 1.2 m	-	Secchi disc depth of at least 1.2 m

¹ Standard is dependent on pH and temperature

REFERENCES

Canadian Water Quality Guidelines. 2008. pH ranges for the Protection of Aquatic Life.

http://www.ccme.ca/files/Resources/supporting_scientific_documents/cwqg_pn_1040.pdf

CCME (Canadian Council of Ministers of the Environment). 1999. Canadian Water Quality Guidelines for the Protection of Aquatic Life; Dissolved Oxygen (Freshwater)

<http://ceqg-rcqe.ccme.ca/download/en/177>

CCME (Canadian Council of Ministers of the Environment). 2002. Canadian Water Quality Guidelines for the Protection of Aquatic Life; Total particulate matter.

<http://ceqg-rcqe.ccme.ca/download/en/217>

CCME (Canadian Council of Ministers of the Environment). 2004. Canadian Water Quality Guidelines for the Protection of Aquatic Life; Phosphorus: Canadian guidance framework for the management of freshwater systems.

<http://ceqg-rcqe.ccme.ca/download/en/205>

CCME (Canadian Council of Ministers of the Environment). 2010. Canadian Water Quality Guidelines for the Protection of Aquatic Life; Ammonia.

<http://ceqg-rcqe.ccme.ca/download/en/141>

CCME (Canadian Council of Ministers of the Environment). 2012. Canadian Water Quality Guidelines for the Protection of Aquatic Life; Nitrate ion.

<http://ceqg-rcqe.ccme.ca/download/en/197>

Health Canada. 2012. Guidelines for Canadian Recreational Water Quality, (Third Edition). Water, Air and Climate Change bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Catalogue No H129-15/2012E.

<http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/water-recreational-recreative-eau/alt/pdf/water-recreational-recreative-eau-eng.pdf>

Ministry of Environment and Energy. 1994. Water Management: Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy.

http://agrienvarchive.ca/download/water_qual_object94.pdf