Minnesota Lake Water Quality Assessment Report: Developing Nutrient Criteria. Third Edition. September 2005.

This recent Minnesota Pollution Control Agency (MPCA) Report serves as the technical basis for Minnesota's proposed draft lake nutrient criteria. MPCA's previous Lake Water Quality Assessment (LWQA) reports (1988 and 1990) were developed as a requirement for participation in Clean Lakes Program (Section 314 of the Clean Water Act of 1987). The first two editions described regional patterns in lake water quality in Minnesota and served as a basis for developing ecoregion-based phosphorus criteria. The reports have long provided a basis for assessing the water quality of Minnesota's lakes and the criteria have been used extensively for water quality goal setting.

As a part of the Clean Water Action Plan of 1997, nutrients were identified as a significant national problem and U.S. Environmental Protection Agency was requested to develop a National Nutrient Strategy. One aspect of this strategy recommended that states develop ecoregion-based criteria for total phosphorus, total nitrogen, chlorophyll-a, and Secchi transparency.

This edition builds on the previous LWQA reports and provides a detailed description of MPCA's approach for setting lake nutrient criteria. The draft criteria (below) were developed based upon multiple sources of information, including: reference lake data, statewide lake data, historic reconstruction of lake water quality from fossil algae in lake sediments, lake user perceptions, fishery and macrophyte requirements and other factors. Draft criteria are presented and examples of how the criteria may be used to further lake management are included in this edition. These criteria will be included in the next revision of the State's water quality standards that is currently underway.

If you have any questions or need a copy of the report, please contact Steven Heiskary, Environmental Analysis and Outcomes Division, by phone at (651) 296-7217 or (800) 657-3864 or by e-mail at *steven.heiskary@pca.state.mn.us*. Copies are also available on-line at: http://www.pca.state.mn.us/water/lakequality.html#reports .

Ecoregion	TP	Chl-a	Secchi
	ppb	ppb	meters
NLF – Lake trout (Class 2A)	**< 12**	**< 3**	**> 4.8**
NLF – Stream trout (Class 2A)	**< 20**	**< 6**	**> 2.5**
NLF – Aquatic Rec. Use (Class 2B)	**< 30**	**< 9**	**> 2.0**
CHF – Stream trout (Class 2A)	**< 20**	**< 6**	**> 2.5**
CHF – Aquatic Rec. Use (Class 2B)	**< 40**	**< 14**	**> 1.4**
CHF – Aquatic Rec. Use (Class 2B) Shallow lakes	**< 60**	**< 20**	**> 1.0**
WCP & NGP – Aquatic Rec. Use (Class 2B)	**< 65**	**< 22**	**> 0.9**
WCP & NGP – Aquatic Rec. Use (Class 2B) Shallow lakes	**< 90**	**< 30**	**> 0.7**