

Soil & Water Conservation Society of Metro Halifax ('SWCSMH')

(a volunteer scientific stakeholder-group)

310-4 Lakefront Road, Dartmouth, NS, Canada B2Y 3C4

Email: limnos@chebucto.ns.ca

Tel: (902) 463-7777

Homepage: <http://www.chebucto.ns.ca/Science/SWCS/SWCS.html>

Ref.: WAB0027 (total= 11 p.)
To: Chairman Dr. Wayne Stobo and Members,
Halifax/Halifax County Watershed Advisory Board (WAB), HRM
From: S. M. Mandaville (Professional Lake Manage.), Chairman & Exec. Director
Date: October 31, 2000
Subject: **Lake Carrying Capacities- Water Quality: Trophic Status-----
examples from the long time leader, the District Municipality of
Muskoka, Ontario**

This is being submitted pursuant to email instructions from our WAB Chairman on October 31, 00 for discussions during our November, 00 Board meeting.

Introduction: Keeping lake phosphorus low, the limiting nutrient in our natural undisturbed lakes, has the added advantage of minimizing the following among other symptoms:

- ◆ nuisance algal blooms;
- ◆ nuisance weeds;
- ◆ shifts in fish species from economically and socially important species, such as salmonids e.g., trout, landlocked salmon, which decline or disappear as a result of nutrient enrichment-caused effects to coarser fish of reduced economic/social value, e.g., perch, carp & minnow family;
- ◆ impacts on 'biodiversity' of the early warning indicators, the benthic macroinvertebrates, though these are also affected by other urban pollutants, not just by phosphorus; and last but not least
- ◆ significant 'blue-green/cyanobacterial blooms', a small percentage of such algal blooms could be toxic to humans as well when they swim or ski during a bloom, the symptoms being similar to swimmers itch.

More info with supporting published scientific literature is in the various synopses available via the web/university libraries (URL above).

I am herewith enclosing a selection of pertinent pages from a package I received from the District Municipality of Muskoka in March, 1992. Specific points noteworthy of mention are:---

1. Policy F.13, page 0027-4: Lake Capacity- trophic status.
2. Policy F.15, page 0027-4: "Water Quality Objective" as a value of chlorophyll-a concentration beyond which development shall not generally be permitted to proceed.
3. Policy 9.2.1., page 0027-7: Minimum requirements of a site-evaluation report where required in the Plan.
4. Lake Specific Policy examples:
 - 4.1. Bing Lake- Chaffey Ward, page 0027-8: sec. 10.2.2.
 - 4.1.1. Water quality objective (chlorophyll-a) = 2.1 µg/l. New lot frontage = 122 metres (400 feet).
 - 4.2. Harp Lake- Chaffey Ward, page 0027-9: sec. 10.2.23.
 - 4.2.1. Water quality objective (chlorophyll-a) = 3.0 µg/l. New lot frontage = 120 metres (400 feet).
 - 4.3. Lake of Bays- Brunel Ward, page 0027-9: sec. 10.2.25.
 - 4.3.1. Water quality objective (chlorophyll-a) = 1.5 µg/l.
 - 4.4. Otter Lake- Brunel Ward, page 0027-10: sec. 10.2.39.
 - 4.4.1. Water quality objective (chlorophyll-a) = 5.4 µg/l. New lot creation shall be prohibited.
 - 4.5. Section III: Waterfront Residential, page 0027-11: sec. 3.1.
Minimum lot frontages, 200-660 ft; minimum lot area, 1-5 acres.

Cc: Dr. Tony Blouin Ph.D., Manager-Environmental Policy, Planning Dept., HRM
John Sheppard P.Eng., Manager, Environmental Approvals, HRM
Geoff Howell, Integration & Interpretation Section, Environment Canada