Broad-scale Monitoring Bulletin
LAKE MUSKOKA – ZONE 15

Lake Muskoka Facts

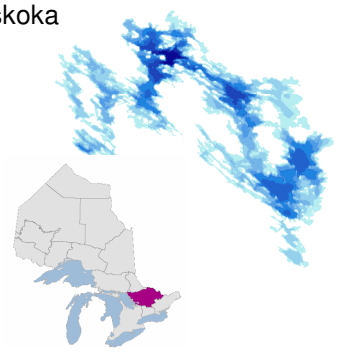
District Municipality of Muskoka

Surface Area: 12 603 ha

Maximum Depth: 67 m

Average Depth: 15 m

Water Clarity: 4.2 m



Monitoring Activities

- ✓ Fish netting
- ✓ Fish contaminants
- ✓ Zooplankton
- ✓ Water chemistry
- ✓ Bathymetry
- ✓ Water temperature/dissolved oxygen
- ✓ Invasive Species

Netting Summary

Netting dates: July 14 – 23, 2008 (small mesh)
July 11 – August 9, 2011 (large mesh)

Netting days: 4 (small mesh), 8 (large mesh)

Number of net sets: 21 (small mesh), 38 (large mesh)

Number of fish species caught: 14

About the Program

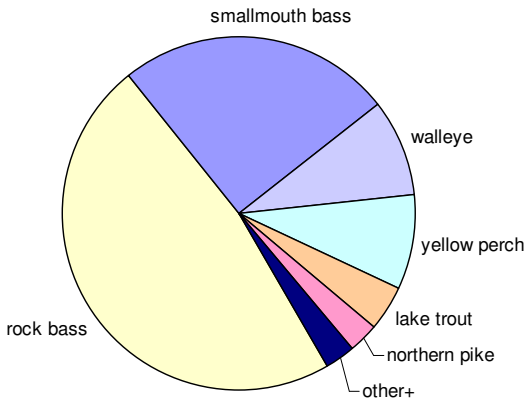
The Broad-scale Monitoring Program provides information for managing our fisheries effectively. This bulletin provides **a snapshot of the recent monitoring activities and netting results.** Netting is conducted using large and small mesh nets. Large mesh nets contribute information about fish species and small mesh nets describe the fish community. To learn more about the sampling program read *Broad-scale Monitoring Program: Monitoring the Health of Ontario Inland Lakes* or visit ontario.ca/fishing.

Fish Netting Results

Fish populations were surveyed using large and small mesh nets to provide information on fish species present and their characteristics, such as growth, age and abundance. The catch data below show that 8 species were surveyed in large mesh nets. Additional fish species that were caught in small mesh nets are mottled sculpin, trout-perch, and spottail shiner. Lake Muskoka is also part of a province wide evaluation of the Broad-scale Monitoring method and will be surveyed at a higher intensity and interval than other lakes. The additional data will collectively be used to refine the methods and improve interpretations made from results.

Fish species	Total Catch %	Maximum Length cm	Minimum Length cm	Average Length cm
rock bass	47	32.9	4.8	16.0
smallmouth bass	25	46.9	14.7	29.6
walleye	9	72.9	17.3	49.7
yellow perch	9	18.9	13.7	15.8
lake trout	4	73.9	19.8	49.6
northern pike	3	52.2	13.7	31.1
burbot	<1	55.1	41.9	50.3
pumpkinseed	<1	66.4	47.7	59.4
rainbow smelt	<1	97.0	86.5	90.5
lake whitefish	<1	16.8	16.8	16.8
brown bullhead	<1	32.4	28.4	30.4
lake herring	<1	31.2	31.2	31.2

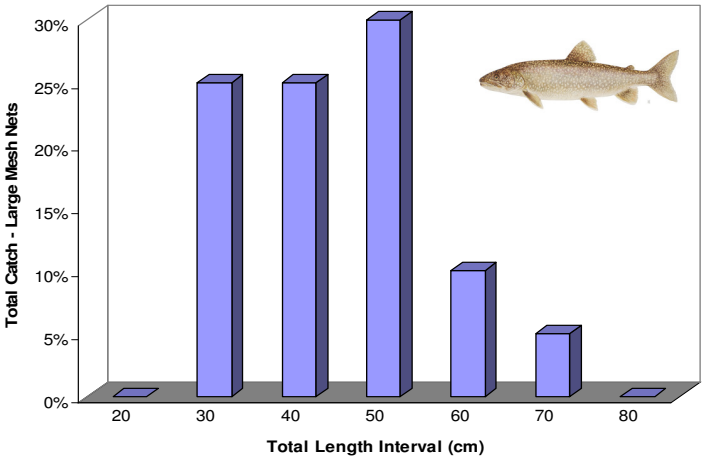
Proportion of Fish Caught in Large Mesh Nets



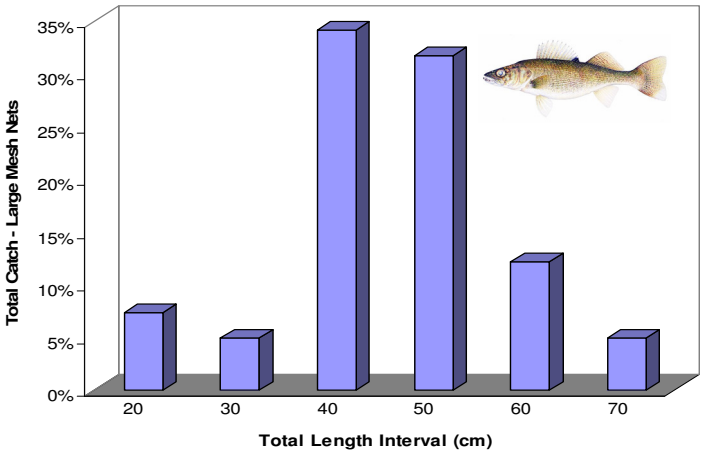
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Ontario

Length Distribution of Lake Trout



Length Distribution of Walleye



20 cm = 20 to 30 cm, 30 cm = 30 to 40 cm, etc.

The size of lake trout ranged from 18 to 73 cm (from a total of 20 fish) and walleye ranged from cm (from a total of 41 fish).

Water Chemistry and Temperature

Water samples were collected in May 2009 and sent to the Ministry of Environment for analysis. Water temperature, oxygen levels and water transparency were measured in August 2010. Lake Muskoka is considered a cold-water lake that can support cold and cool-water fish species such as lake trout, lake herring, whitefish, walleye and northern pike.

Invasive Species

Invasive species were monitored using plankton nets and observations made by field crews. Spiny water flea, zebra mussel and rainbow smelt have already been detected in Lake Muskoka. Samples are currently being processed to determine if any new invasive species were detected through this sampling program. Any species new to Ontario or an invasive species that is a new record for a waterbody is reported to the Invading Species Hotline www.invadingspecies.com.

Fish Contaminants

Levels of contaminants in fish flesh (e.g. mercury, PCB's, mirex, organochlorine pesticides and other organic chemicals) will be reported in the *Guide to Eating Sport Fishing in Ontario* or visit ontario.ca/fishguide.

For more information please contact Ministry of Natural Resources at 1-800-667-1940, send an email to mnr.nric.mnr@ontario.ca or visit ontario.ca/fishing.