2011 Lake System Health Monitoring Program

Data Report

February 2012

Prepared by
The District Municipality of Muskoka
Planning and Economic
Development Department

With Technical Support from the
Dorset Environmental Science Centre,
Ministry of the Environment

Table of Contents

Purpose

This data report contains the data collected during the 2011 Lake System Health Monitoring Program.

The 2011 Lake System Health Monitoring Program Year End Report contains information on monitoring parameters and sampling procedures and is available on The District Municipality of Muskoka website at http://muskokadistrict.iwebez.com/siteengine/activepage.asp?PageID=231.

Lake Data Sheets for all of the lakes monitored for recreational water quality by Muskoka are available on the Muskoka Water Web at http://www.muskokawaterweb.ca/lake-data/muskoka-data/lake-data-sheets.

Shoreline Land Use Survey Maps for all of the lakes surveyed to date are available on the Muskoka Water Web at http://www.muskokawaterweb.ca/lake-data/muskoka-data/shoreline-land-use-maps.

Aquatic Invertebrate Data Sheets for all of the lakes involved in the benthic monitoring program are available on the Muskoka Water Web at http://www.muskokawaterweb.ca/lake-data/muskoka-data/biological-monitoring-data.

Table 1: 2011 Total Phosphorus Data (Spring)

Lake Name	Date (dd/mm/yyyy)	TP1 (µg/L)	TP2 (µg/L)	Ave TP (µg/L)
Ada	19/05/2011	16.4	16.8	16.6
Axle	07/06/2011	4.4	4.8	4.6
Barron's	02/06/2011	52.2	35.8	44.0
Bass (ML)	19/05/2011	6.2	5.4	5.8
Bigwind	29/04/2011	6.2	7.2	6.7
Brandy	13/05/2011	17.6	18.8	18.2
Brooks	25/05/2011	12.2	8.2	10.2
Bruce	11/05/2011	8.6	9.6	9.1
Buck (HT)	17/05/2011	12.0	11.6	11.8
Buck (LOB)	26/05/2011	7.4	9.4	8.4
Butterfly	19/05/2011	9.8	10.6	10.2
Chub (HT)	11/05/2011	11.2	11.2	11.2
Chub (LOB)	20/05/2011	13.0	13.2	13.1
Cognashene Bay	30/05/2011	6.8	9.2	8.0
Cornall	01/06/2011	10.0	10.8	10.4
Crosson	03/06/2011	13.6	10.8	12.2
Dark	09/05/2011	6.6	7.8	7.2
Deer	07/06/2011	5.2	6.4	5.8
Devine	17/05/2011	9.6	9.6	9.6
Fawn	11/05/2011	13.6	13.0	13.3
Flatrock	06/06/2011	11.0	11.2	11.1
Foote	17/05/2011	12.2	9.8	11.0
Go Home Bay	30/05/2011	6.2	7.6	6.9
Grandview	20/05/2011	6.2	5.0	5.6
Grindstone	07/06/2011	7.2	7.8	7.5
Gull	02/06/2011	9.2	12.4	10.8
Gullfeather	03/06/2011	9.8	16.2	13.0
Hardup	27/05/2011	6.8	8.0	7.4
Joseph - Cox Bay	10/05/2011	4.2	4.4	4.3
Joseph - Hamer Bay	10/05/2011	3.8	3.6	3.7
Joseph - Joseph River	10/05/2011	5.4	5.2	5.3
Joseph - Little Lake Joseph	10/05/2011	5.4	5.0	5.2
Joseph - Main	10/05/2011	4.0	4.8	4.4
Joseph - North	10/05/2011	3.6	3.4	3.5
Joseph - South	10/05/2011	3.6	4.0	3.8
Kahshe - Grant's Bay	31/05/2011	17.4	18.2	17.8
Kahshe - Main	31/05/2011	10.6	10.2	10.4
Lake of Bays - Dwight Bay	18/05/2011	6.0	5.6	5.8
Lake of Bays - Haystack Bay	18/05/2011	4.0	4.0	4.0
Lake of Bays - Rat Bay	18/05/2011	5.6	6.4	6.0
Lake of Bays - South Muskoka River Bay	18/05/2011	4.2	4.0	4.1
Lake of Bays - South Portage Bay	18/05/2011	–	5.8	5.8
Lake of Bays - Ten Mile Bay	18/05/2011	3.6	3.8	3.7
Lake of Bays - Trading Bay	18/05/2011	3.8	4.2	4.0
Leonard	13/05/2011	6.6	5.4	6.0

Lake Name	Date (dd/mm/yyyy)	TP1 (µg/L)	TP2 (µg/L)	Ave TP (µg/L)
Little Go-Home Bay	02/06/2011	11.8	18.4	15.1
Longline	20/05/2011	–	6.2	6.2
Long's	11/05/2011	15.4	10.2	12.8
Mary	11/05/2011	7.0	8.0	7.5
McDonald	24/05/2011	11.2	12.8	12.0
Menominee	11/05/2011	8.4	9.4	8.9
Moot	28/04/2011	5.6	5.8	5.7
Morrison	03/05/2011	10.6	9.8	10.2
Myers	24/05/2011	9.6	17.0	13.3
Neilson	09/05/2011	14.0	14.8	14.4
Nine Mile	09/05/2011	13.0	12.8	12.9
North Bay *	03/05/2011	16.2	15.4	15.8
North Muldrew	03/05/2011	10.4	10.4	10.4
Nutt	11/05/2011	–	8.0	8.0
Oudaze	08/06/2011	13.2	10.6	11.9
Oxbow	25/05/2011	9.0	6.6	7.8
Paint	26/05/2011	6.0	9.6	7.8
Pell	25/05/2011	11.8	13.8	12.8
Penfold	11/05/2011	14.4	15.4	14.9
Pine (BR)	05/05/2011	8.4	8.2	8.3
Pine (GR)	01/06/2011	14.0	8.2	11.1
Prospect	05/05/2011	8.6	9.6	9.1
Rosseau - Brackenrig Bay	16/05/2011	8.2	8.8	8.5
Rosseau - East Portage Bay	16/05/2011	5.4	6.6	6.0
Rosseau - Main	16/05/2011	5.2	5.4	5.3
Rosseau - North	16/05/2011	4.6	5.4	5.0
Rosseau - Skeleton Bay	16/05/2011	5.4	5.2	5.3
Silver (GR)	09/05/2011	10.2	9.6	9.9
Silver (ML)	16/05/2011	37.2	23.2	30.2
Six Mile - Cedar Nook Bay	13/05/2011	7.6	7.4	7.5
Six Mile - Main	13/05/2011	9.0	8.6	8.8
Six Mile - Provincial Park Bay	13/05/2011	8.6	8.4	8.5
Sixteen Mile	27/05/2011	6.6	5.4	6.0
Solitaire	26/05/2011	6.0	7.8	6.9
South Bay *	03/05/2011	16.2	16.4	16.3
South Muldrew	07/06/2011	7.4	8.6	8.0
South Nelson	25/05/2011	11.8	9.2	10.5
Stoneleigh	28/04/2011	12.4	13.6	13.0
Tackaberry	28/04/2011	13.0	12.2	12.6
Tasso	25/05/2011	6.2	–	6.2
Three Mile (GR)	09/05/2011	18.0	19.2	18.6
Tucker	03/06/2011	5.6	9.2	7.4
Turtle	03/05/2011	9.6	9.2	9.4
Wah Wah Taysee	24/05/2011	3.0	2.6	2.8
Waseosa	09/06/2011	8.2	8.4	8.3
Wood	29/04/2011	7.2	11.4	9.3

* Data provided by the Severn Sound Environmental Association

Table 2: 2011 Secchi Depth Measurements

Lake Name	May Secchi (m)	Aug Secchi (m)	Ave Secchi (m)
Ada	2.0	1.5	1.8
Axle	4.0	3.5	3.8
Barron's	1.8	1.3	1.5
Bass (ML)	2.8	2.0	2.4
Bigwind	4.5	5.0	4.8
Brandy	1.3	0.8	1.0
Brooks	3.5	1.8	2.6
Bruce	4.5	4.3	4.4
Buck (HT)	1.0	1.0	1.0
Buck (LOB)	4.0	5.5	4.8
Butterfly	2.3	1.5	1.9
Chub (HT)	1.5	2.5	2.0
Chub (LOB)	1.5	1.5	1.5
Cognashene Bay	2.8	4.8	3.8
Cornall	2.3	2.0	2.1
Crosson	2.0	3.3	2.6
Dark	2.3	3.0	2.6
Deer	5.5	3.5	4.5
Devine	1.8	2.0	1.9
Fawn	1.5	1.5	1.5
Flatrock	2.0	2.0	2.0
Foote	2.0	1.8	1.9
Go Home Bay	2.3	1.8	2.0
Grandview	3.8	7.3	5.5
Grindstone	2.5	4.5	3.5
Gull	2.8	3.5	3.1
Gullfeather	1.5	2.3	1.9
Hardup	3.0	4.5	3.8
Joseph - Cox Bay	4.0	4.0	4.0
Joseph - Hamer Bay	6.0	6.0	6.0
Joseph - Joseph River	2.8	3.5	3.1
Joseph - Little Lake Joseph	3.8	4.8	4.3
Joseph - Main	5.5	4.5	5.0
Joseph - North	5.8	5.8	5.8
Joseph - South	4.3	3.8	4.0
Kahshe - Grants Bay	2.3	2.3	2.3
Kahshe - Main	2.3	2.3	2.3
Lake of Bays - Dwight Bay	3.8	3.3	3.5
Lake of Bays - Haystack Bay	4.8	4.0	4.4
Lake of Bays - Rat Bay	3.3	3.0	3.1
Lake of Bays - South Muskoka River Bay	4.3	3.8	4.0
Lake of Bays - South Portage Bay	3.8	3.5	3.6
Lake of Bays - Ten Mile Bay	3.5	3.5	3.5
Lake of Bays - Trading Bay	4.0	3.8	3.9
Leonard	3.3	3.5	3.4
Little Go-Home Bay	2.8	2.3	2.5

Lake Name	May Secchi (m)	Aug Secchi (m)	Ave Secchi (m)
Longline	3.5	4.0	3.8
Long's	1.8	1.8	1.8
Mary	3.0	2.8	2.9
McDonald	2.8	5.3	4.0
Menominee	1.0	1.2	1.1
Moot	1.5	1.8	1.6
Morrison	2.5	2.8	2.6
Myers	2.0	1.5	1.8
Neilson	1.8	2.0	1.9
Nine Mile	1.8	1.5	1.6
North Bay *	1.8	2.5	2.2
North Muldrew	2.0	2.5	2.3
Nutt	2.3	3.8	3.0
Oudaze	2.0	2.5	2.3
Oxbow	2.5	3.0	2.8
Paint	2.0	3.3	2.6
Pell	1.5	1.5	1.5
Penfold	1.5	1.3	1.4
Pine (BR)	3.8	3.8	3.8
Pine (GR)	3.8	2.0	2.9
Prospect	2.5	2.8	2.6
Rosseau - Brackenrig Bay	1.8	2.5	2.1
Rosseau - East Portage Bay	3.5	3.3	3.4
Rosseau - Main	3.8	3.5	3.6
Rosseau - North	4.0	5.0	4.5
Rosseau - Skeleton Bay	4.0	2.8	3.4
Silver (GR)	2.5	2.5	2.5
Silver (ML)	1.8	5.3	3.5
Six Mile - Cedar Nook Bay	2.8	3.5	3.1
Six Mile - Main	2.8	3.8	3.3
Six Mile - Provincial Park Bay	3.0	3.0	3.0
Sixteen Mile	5.5	4.8	5.1
Solitaire	4.5	5.5	5.0
South Bay *	1.8	2.5	2.2
South Muldrew	2.8	2.8	2.8
South Nelson	1.8	2.3	2.0
Stoneleigh	1.8	1.0	1.4
Tackaberry	3.0	3.8	3.4
Tasso	4.0	4.0	4.0
Three Mile (GR)	1.5	3.5	2.5
Tucker	4.0	5.5	4.8
Turtle	2.8	1.8	2.3
Wah Wah Taysee	7.8	5.5	6.6
Waseosa	1.8	2.5	2.1
Wood	2.8	3.8	3.3

* Data provided by the Severn Sound Environmental Association

Table 3: 2011 Late Summer Hypolimnetic Phosphorus Data

Lake Name	Date (dd/mm/yyyy)	TP1 (µg/L)	TP2 (µg/L)	Ave TP (µg/L)
Atkins	12/08/2011	6.6	6.0	6.3
Bass (GR)	23/08/2011	22.6	22.4	22.5
Bearpaw	11/08/2011	13.8	13.2	13.5
Ben	10/08/2011	13.0	10.8	11.9
Camel	24/08/2011	6.2	6.8	6.5
Cassidy	24/08/2011	10.4	11.4	10.9
Chub (HT)	17/08/2011	5.8	5.4	5.6
Cooper	16/08/2011	8.8	7.2	8.0
Cornall	23/08/2011	11.0	–	11.0
Dark	18/08/2011	9.2	10.4	9.8
Devine	24/08/2011	7.4	12.8	10.1
Echo	12/08/2011	7.0	6.4	6.7
Fawn	19/08/2011	26.6	27.4	27.0
Foote	17/08/2011	11.6	12.4	12.0
Fox	17/08/2011	12.8	13.2	13.0
Gibson - North	10/08/2011	18.0	17.6	17.8
Gibson - South	10/08/2011	19.0	19.4	19.2
Gullwing	11/08/2011	22.8	20.2	21.5
Healey	23/08/2011	18.2	20.6	19.4
Hesner's	04/08/2011	7.6	10.6	9.1
Leech	23/08/2011	6.0	6.6	6.3
McRey	12/08/2011	8.4	8.6	8.5
Medora	19/08/2011	8.2	9.8	9.0
Menominee	05/08/2011	10.0	9.2	9.6
Moot	12/08/2011	14.4	12.2	13.3
Muskoka - Muskoka Bay	18/08/2011	7.4	7.2	7.3
Neilson	11/08/2011	61.3	64.0	62.7
Nutt	24/08/2011	6.2	7.4	6.8
Otter	08/08/2011	27.2	26.6	26.9
Pigeon	25/08/2011	4.8	6.8	5.8
Ricketts	19/08/2011	6.4	7.2	6.8
Ril	05/08/2011	7.4	6.2	6.8
Rose	08/08/2011	16.4	18.2	17.3
Ryde	10/08/2011	10.2	16.0	13.1
Silversands	19/08/2011	9.8	10.8	10.3
Sixteen Mile	16/08/2011	7.8	7.4	7.6
Spence - North	19/08/2011	6.6	8.0	7.3
Three Mile (GR)	23/08/2011	9.8	11.0	10.4
Vernon - Hunter's Bay	08/08/2011	24.0	21.8	22.9
Wood	11/08/2011	15.4	11.2	13.3

Interpretation of Water Quality Data

1. Spring phosphorus

Phosphorus is the nutrient that controls the growth of algae in most Ontario lakes. For this reason, any increase in phosphorus in a lake will tend to increase the quantity of algae that can grow.

High levels of phosphorus can lead to algal blooms that detract from recreational water quality and in some cases affects the habitat of coldwater fish species such as lake trout.

A sensitivity rating is given to each lake in Muskoka based on the lake's responsiveness to phosphorus inputs and the mobility of phosphorus within the lake's watershed. A lake can have either a low, moderate or high sensitivity to phosphorus.

Phosphorus samples are collected in the spring during a period called "spring turnover". This is the best time to sample for phosphorus because the lake is completely mixed and a water sample represents the phosphorus concentration throughout the whole lake.

By sampling spring phosphorus each year it is possible to detect a change in the nutrient status of a lake. Several years of data must be collected to first observe the normal, between-year-differences, before a trend can be identified.

Phosphorus enters a lake naturally through sediment and precipitation. Human inputs of phosphorus enter a lake primarily through surface runoff from sources such as septic system seepage, lawn fertilizer runoff, agricultural runoff and municipal wastewater.

Lakes with phosphorus concentrations below 10 micrograms per litre (μg/L) are considered oligotrophic or unenriched. Those with a phosphorus concentration falling between 11 and 20 μg/L are termed mesotrophic or moderately enriched, while lakes with a phosphorus concentration exceeding 20 μg/L are called eutrophic and are considered enriched.

Each lake has a threshold concentration, which is equal to the background level of phosphorus plus an additional 50%. If a lake's measured *and* modelled (value calculated using a water quality model) phosphorus concentrations over a 10-year period are greater than its threshold value, then the lake is considered "over threshold" and actions will be initiated to reduce the amount of phosphorus entering the lake from its watershed.

A review of The District Municipality of Muskoka water quality model is currently underway. The threshold status of all lakes are being reviewed.

2. Secchi depth measurements

Secchi depth is a measurement of water clarity. In Muskoka, the major determinant of water clarity may be either natural colour or an increase in nutrient input from the surrounding watershed.

A lake may naturally be a brown colour due to high levels of dissolved organic carbon (DOC) that comes from the wetlands in a watershed. DOC colours lakes brown and reduces water clarity, but is not an indication of nutrient enrichment. Examples of lakes with naturally high DOC content include Brandy Lake and Tea Lake.

Water clarity can also decrease as nutrients from the surrounding watershed enter and enrich the lake, resulting in high levels of suspended sediments or algal growth.

Water clarity can change weekly or yearly as a result of weather, length of winter ice cover, shoreline development, natural seasonal trends or other impacts. However, when the primary determinant of water clarity is a function of nutrient enrichment, a long-term trend that indicates a reduction in water clarity is an indication of reduced water quality.

In general, where a lake is not coloured by DOC, the higher the Secchi depth reading, the clearer the lake and the less nutrients it contains. Lakes with Secchi depth measurements over five metres are considered oligotrophic or unenriched. Those with a Secchi depth measurement falling between three and five metres are termed mesotrophic or moderately enriched, while lakes with a Secchi depth measurement below three metres are called eutrophic and are considered enriched.

3. Temperature and dissolved oxygen measurements

Temperature is a measure of the intensity of heat stored in a volume of water. Temperature patterns affect the solubility of many chemical compounds and influences the effects of pollution on aquatic life.

Dissolved oxygen is a measure of the concentration of oxygen dissolved in water. Adequate concentrations of dissolved oxygen are necessary for the survival of fish and other aquatic organisms. Dissolved oxygen concentration is an indicator of a lake's ability to support aquatic life.

Dissolved oxygen levels above five milligrams per litre (mg/L) are considered optimal for most aquatic organisms. Most fish cannot survive if levels fall below 3 mg/L. For coldwater species, such as lake trout, a minimum of 6 mg/L is needed, along with a temperature below 10°C. Lakes with dissolved oxygen readings below 0.5 mg/L are considered anoxic.

Sample Lake Data Sheet

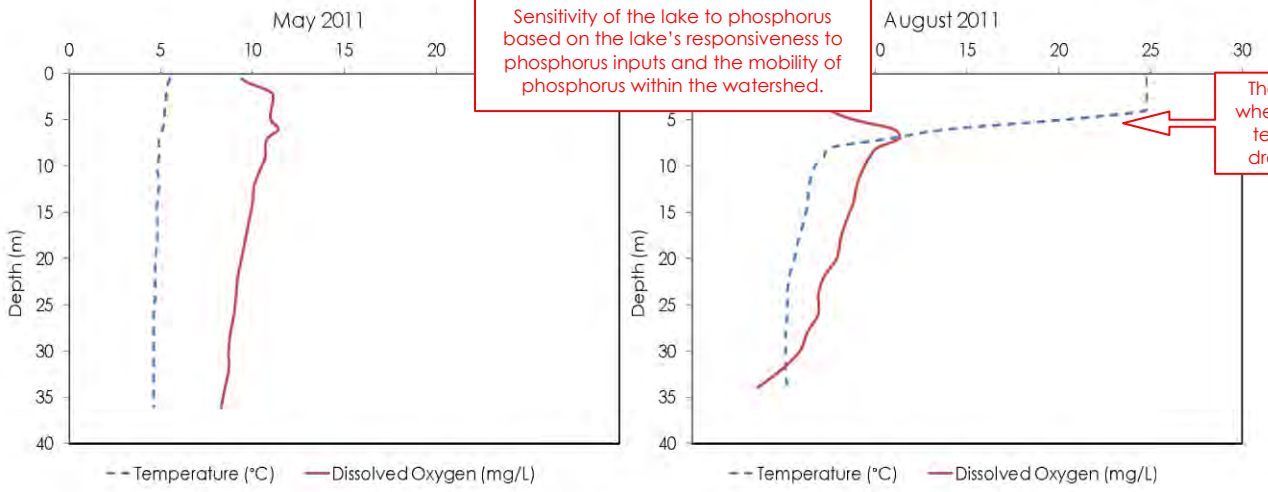
Lake trout lakes are managed by the Ministry of Natural Resources to ensure adequate dissolved oxygen concentrations. At Capacity (AC) lakes may be subject to development restrictions.

Bigwind Lake

Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**1.09 km²**	Watershed Area (excluding lake):	**4.1 km²**
Maximum Depth:	**36 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**5.2 m**
Phosphorus (10-year average):	**6.0 µg/L**	Sensitivity:	**Moderate**

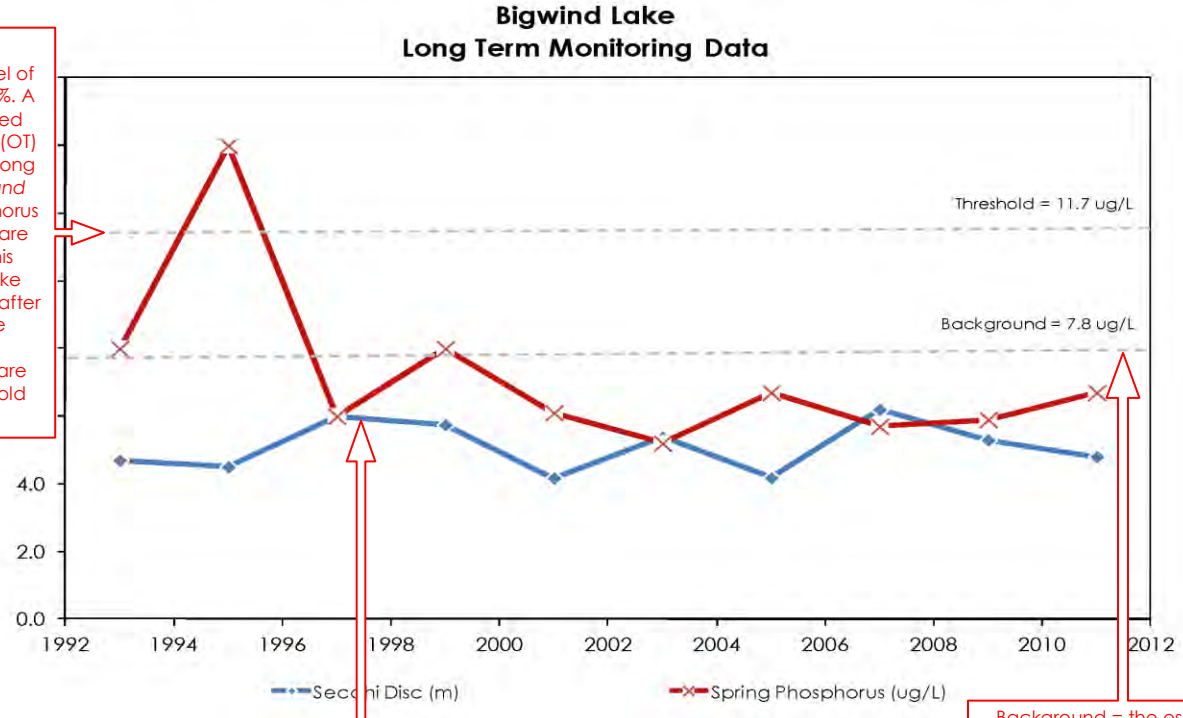
Current 10-year average for phosphorus. This value should remain below the Threshold Value shown on the graph below.

Sensitivity of the lake to phosphorus based on the lake's responsiveness to phosphorus inputs and the mobility of phosphorus within the watershed.



Thermocline – where the water temperature drops quickly.

Threshold = background level of phosphorus + 50%. A lake is considered "over threshold" (OT) if the measured long term average *and* modeled phosphorus concentrations are both above this value. An OT lake can be de-listed after 3 consecutive phosphorus measurements are below its threshold value.



Phosphorus and Secchi depth measurements over time. An increase in phosphorus usually results in a decrease in Secchi depth and vice versa.

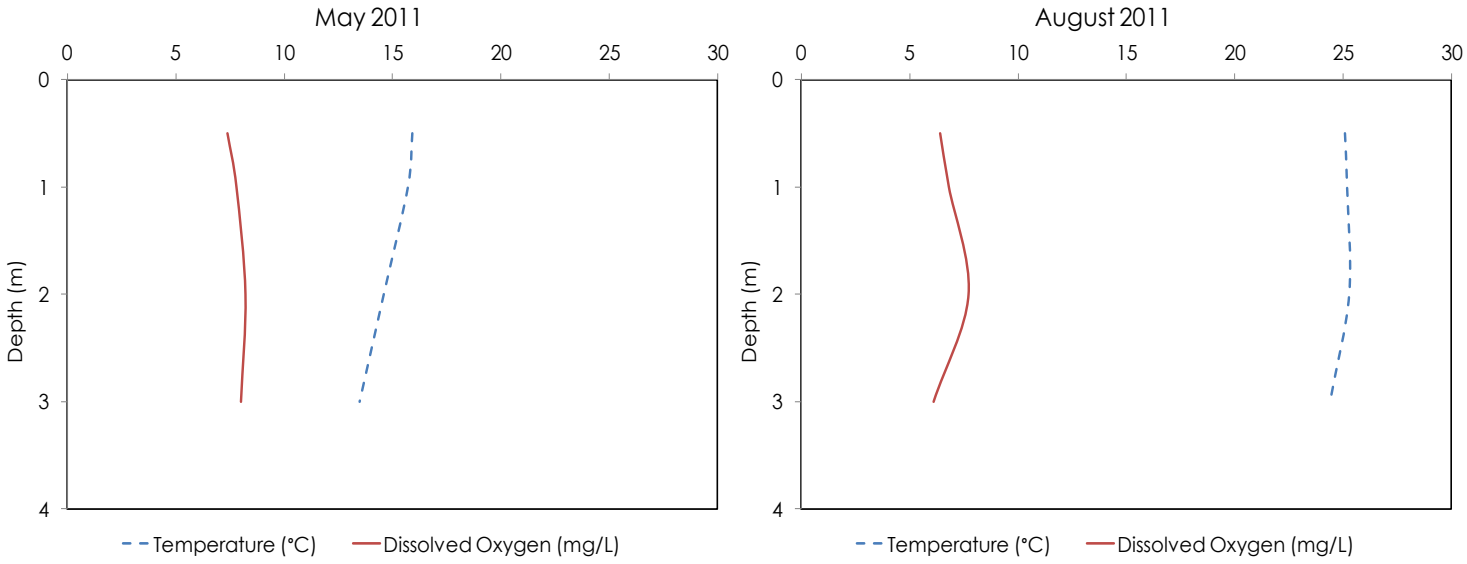
Background = the estimated concentration of phosphorus from natural sources i.e. the concentration of phosphorus present if there was no development on the lake.

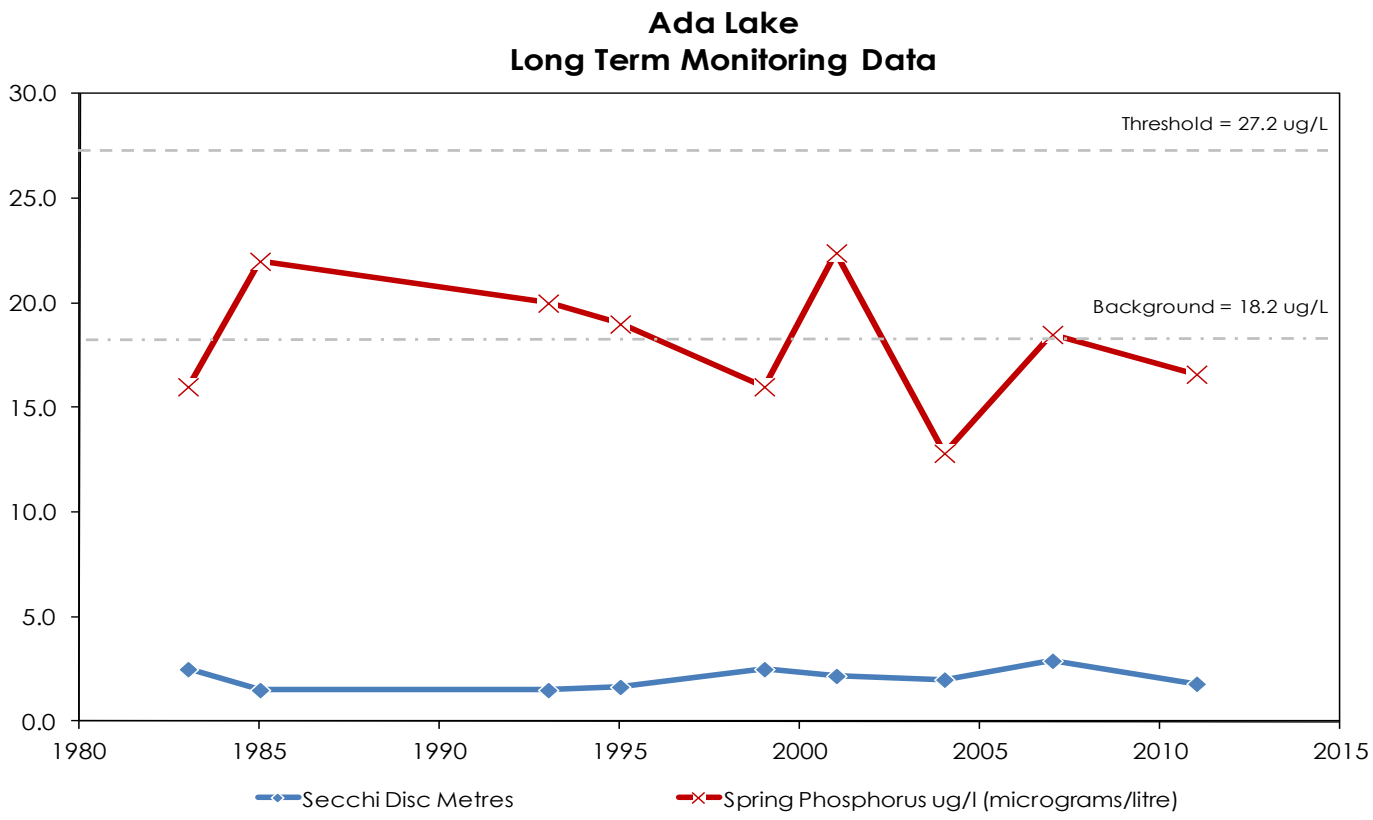
2011 Lake Data Sheets

The District Municipality of Muskoka

Ada Lake

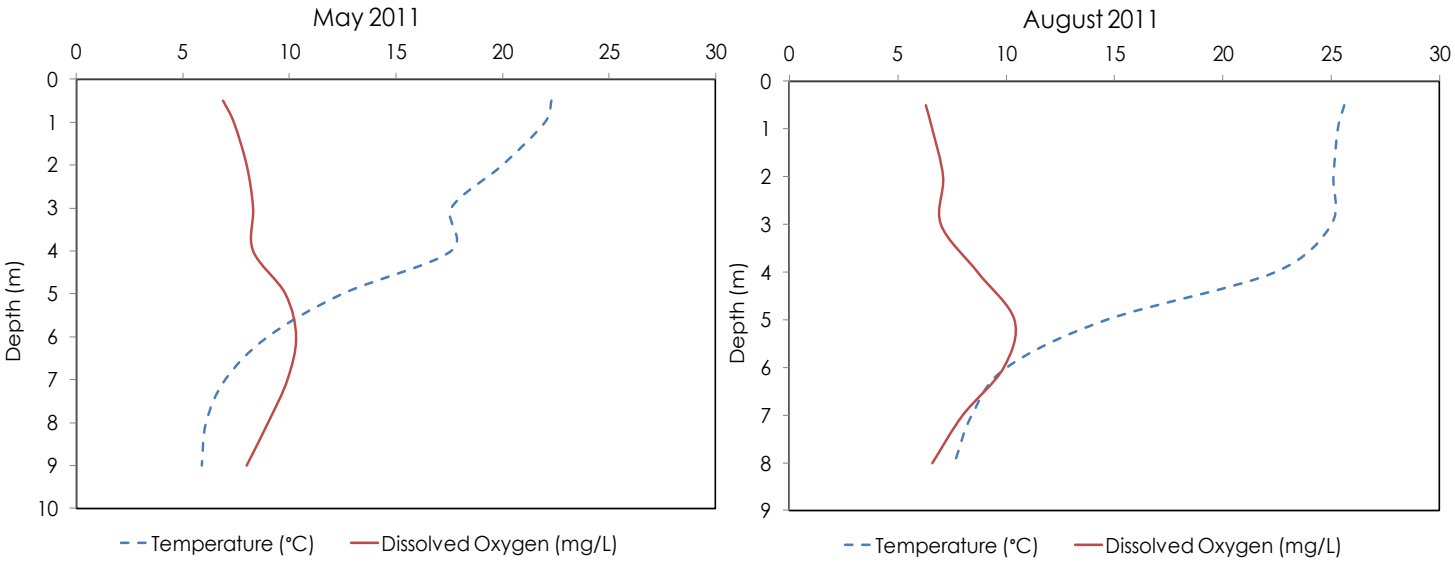
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**0.23 km²**	Watershed Area (excluding lake):	**0.85 km²**
Maximum Depth:	**3 m**	Lake Trout Lake?	**No**
Wetland Area:	**35 %**	Secchi Depth (10-year average):	**2.2 m**
Phosphorus (10-year average):	**16.0 µg/L**	Sensitivity:	**Moderate**

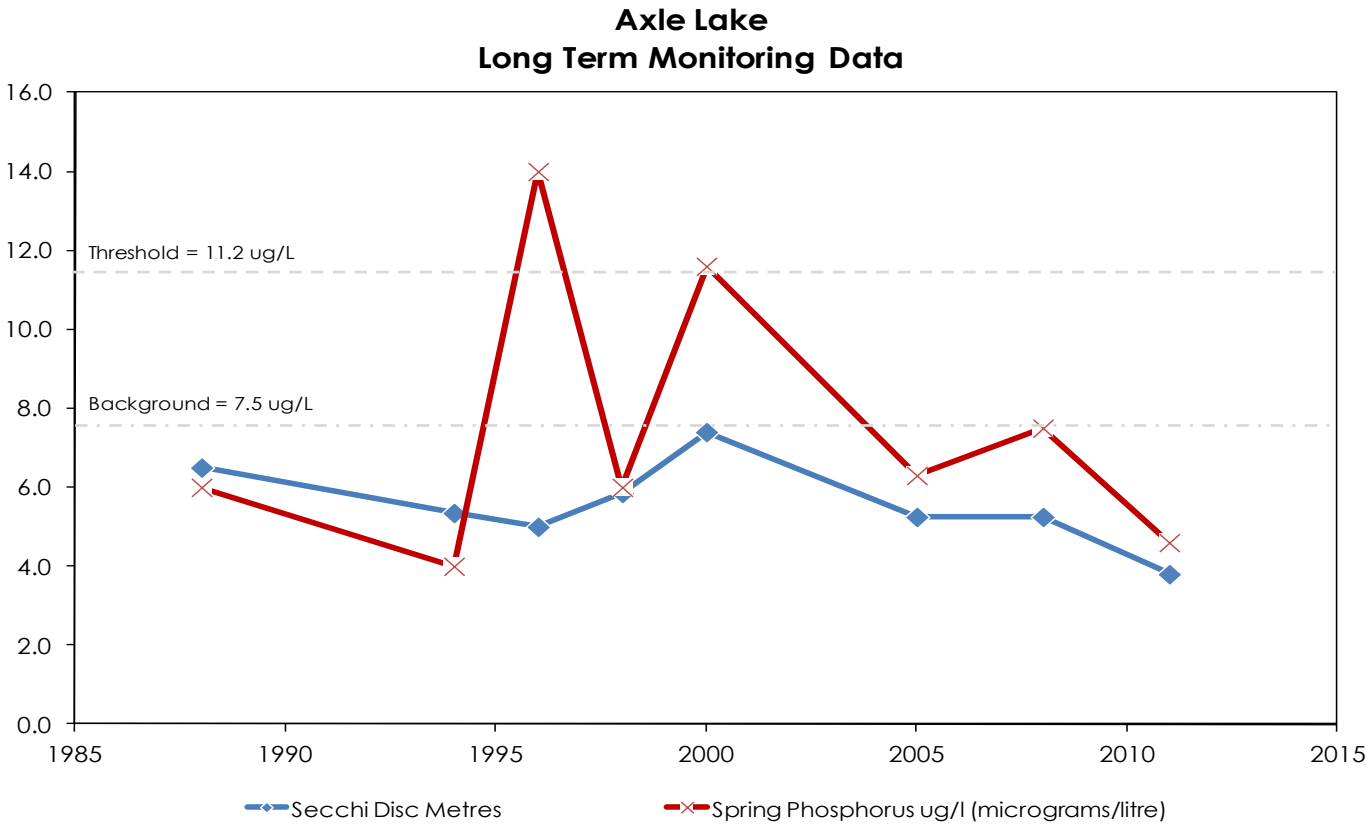




Axle Lake

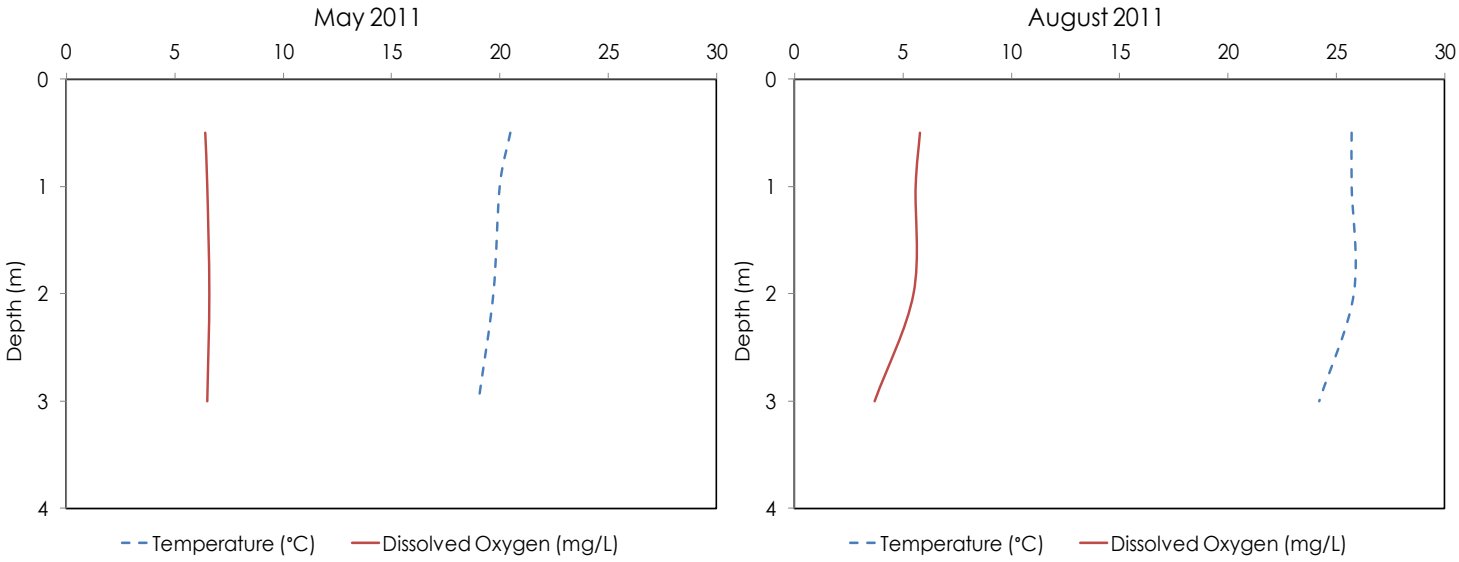
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**0.20 km²**	Watershed Area (excluding lake):	**0.39 km²**
Maximum Depth:	**10 m**	Cold Water Fishery?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**4.8 m**
Phosphorus (10-year average):	**6.1 µg/L**	Sensitivity:	**Moderate**

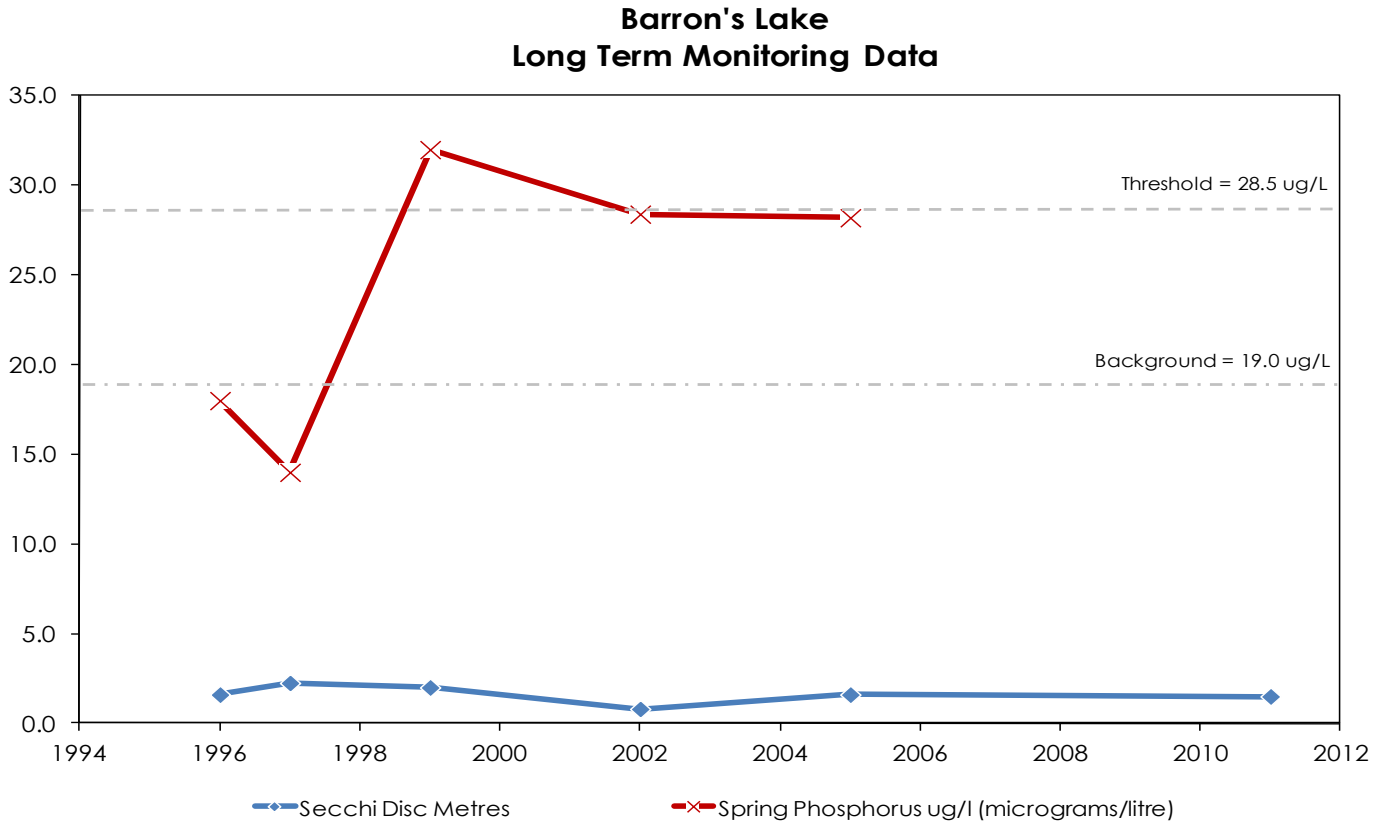




Barron's Lake

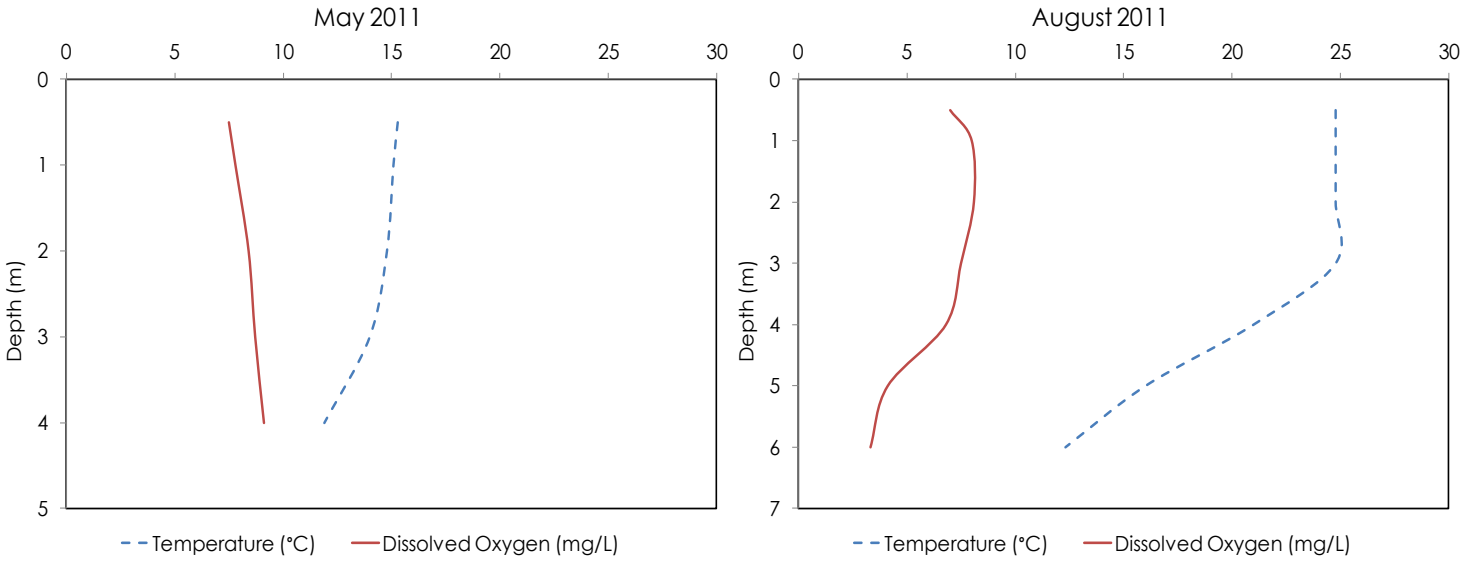
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**0.55 km²**	Watershed Area (excluding lake):	**7.35 km²**
Maximum Depth:	**4 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**1.3 m**
Phosphorus (10-year average):	**28.3 µg/L**	Sensitivity:	**Moderate**

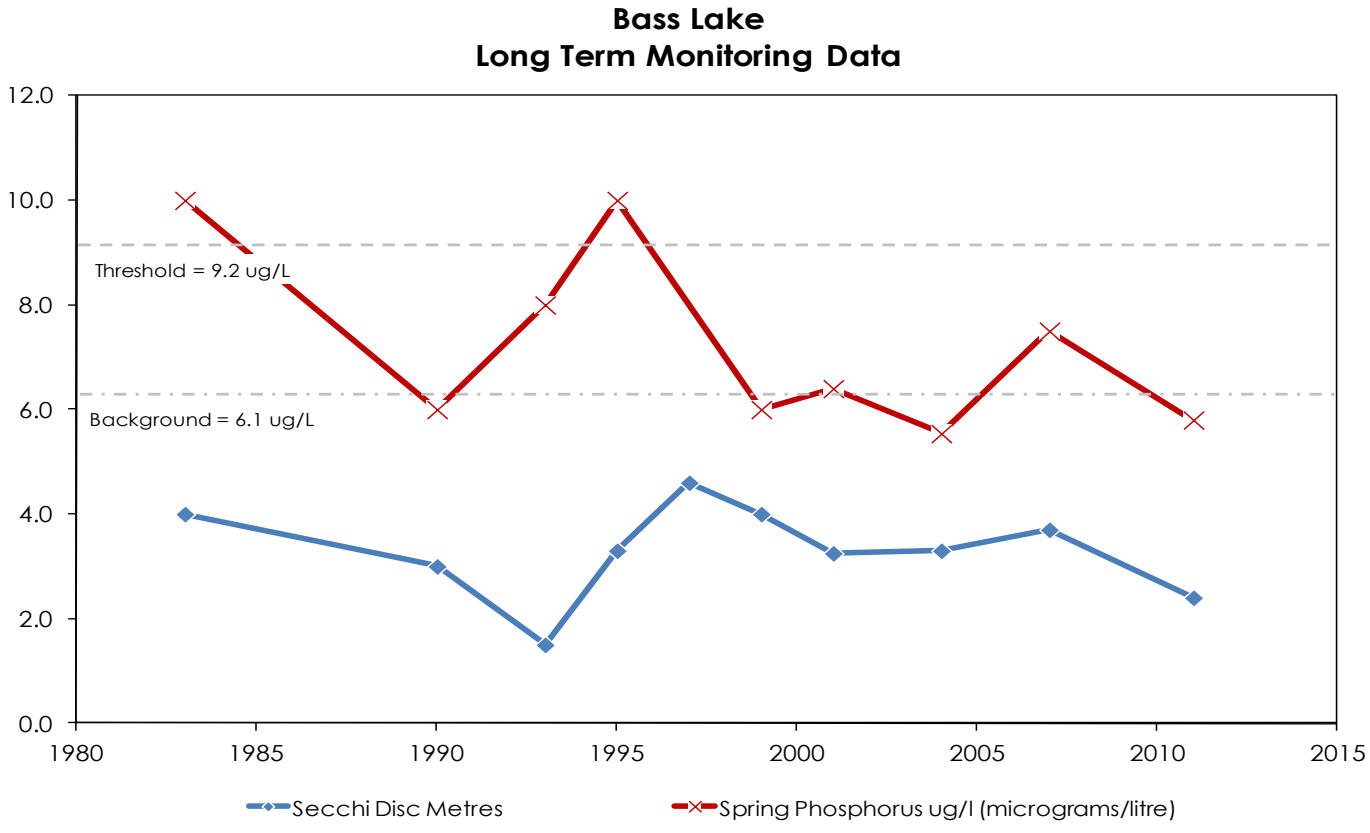




Bass Lake

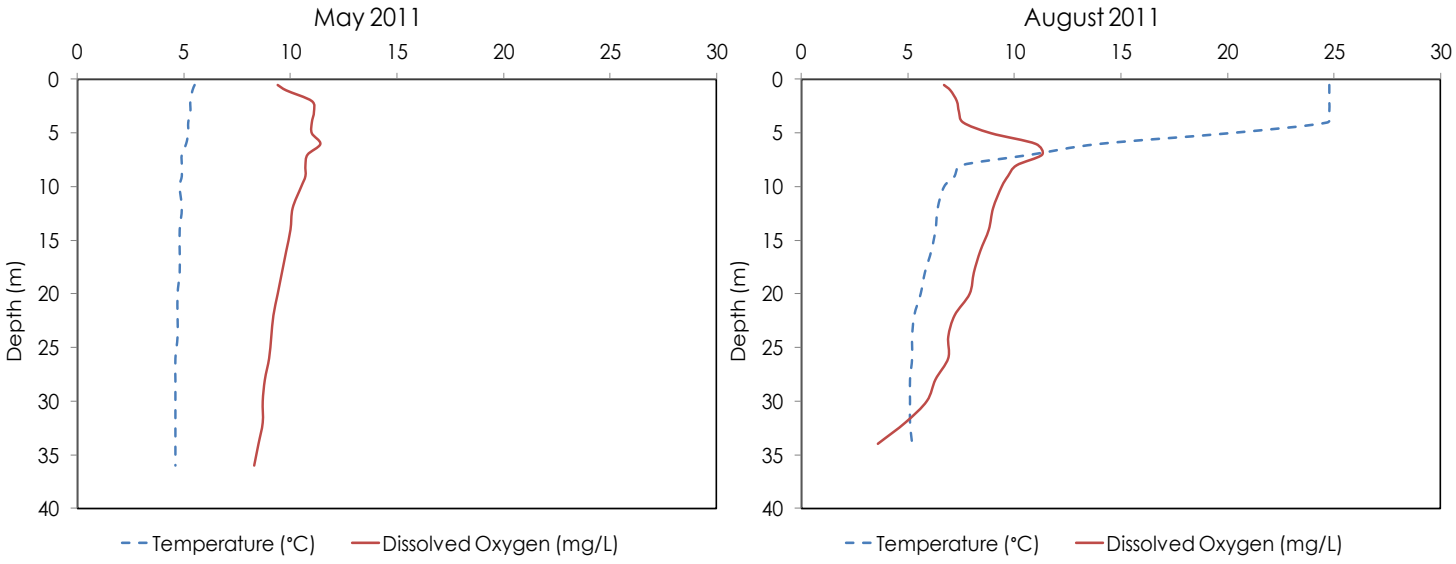
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**0.96 km²**	Watershed Area (excluding lake):	**3.94 km²**
Maximum Depth:	**8 m**	Lake Trout Lake?	**No**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**3.1 m**
Phosphorus (10-year average):	**6.3 µg/L**	Sensitivity:	**Moderate**

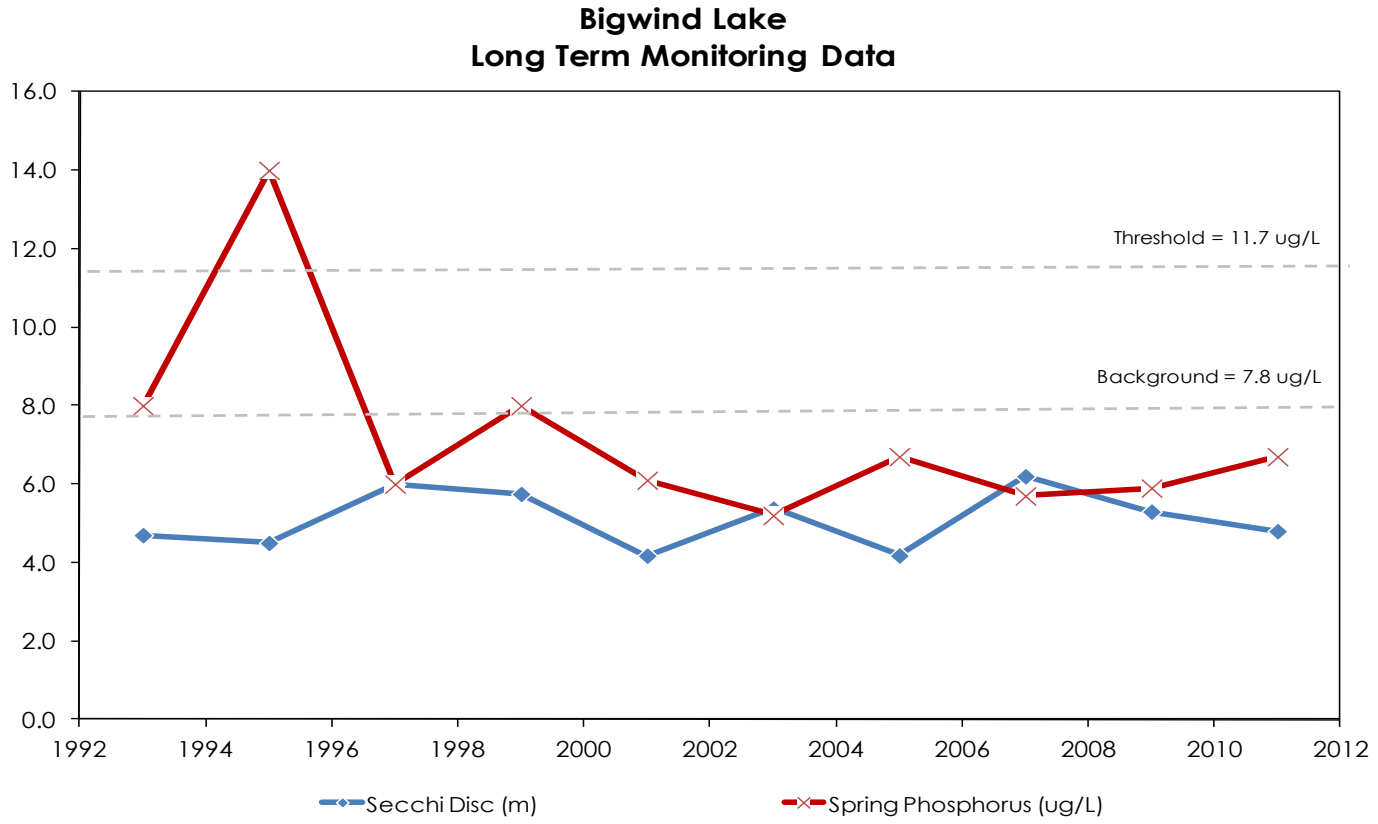




Bigwind Lake

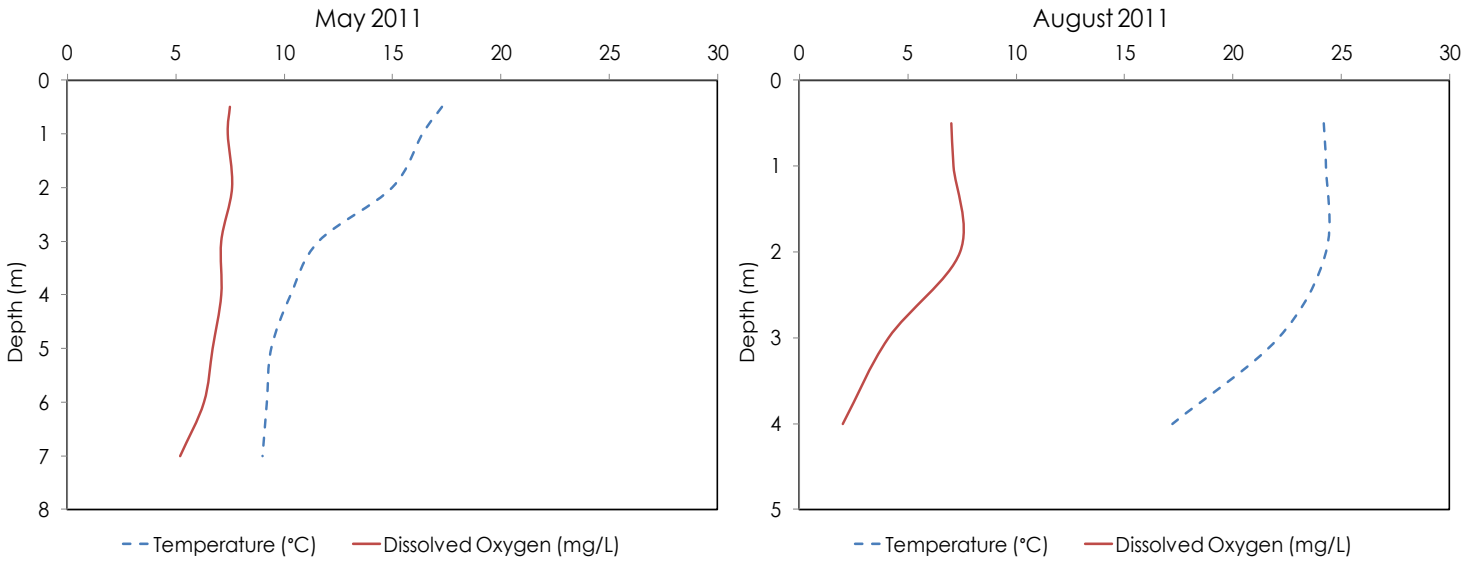
Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**1.09 km²**	Watershed Area (excluding lake):	**4.11 km²**
Maximum Depth:	**36 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**5.2 m**
Phosphorus (10-year average):	**6.0 µg/L**	Sensitivity:	**Moderate**

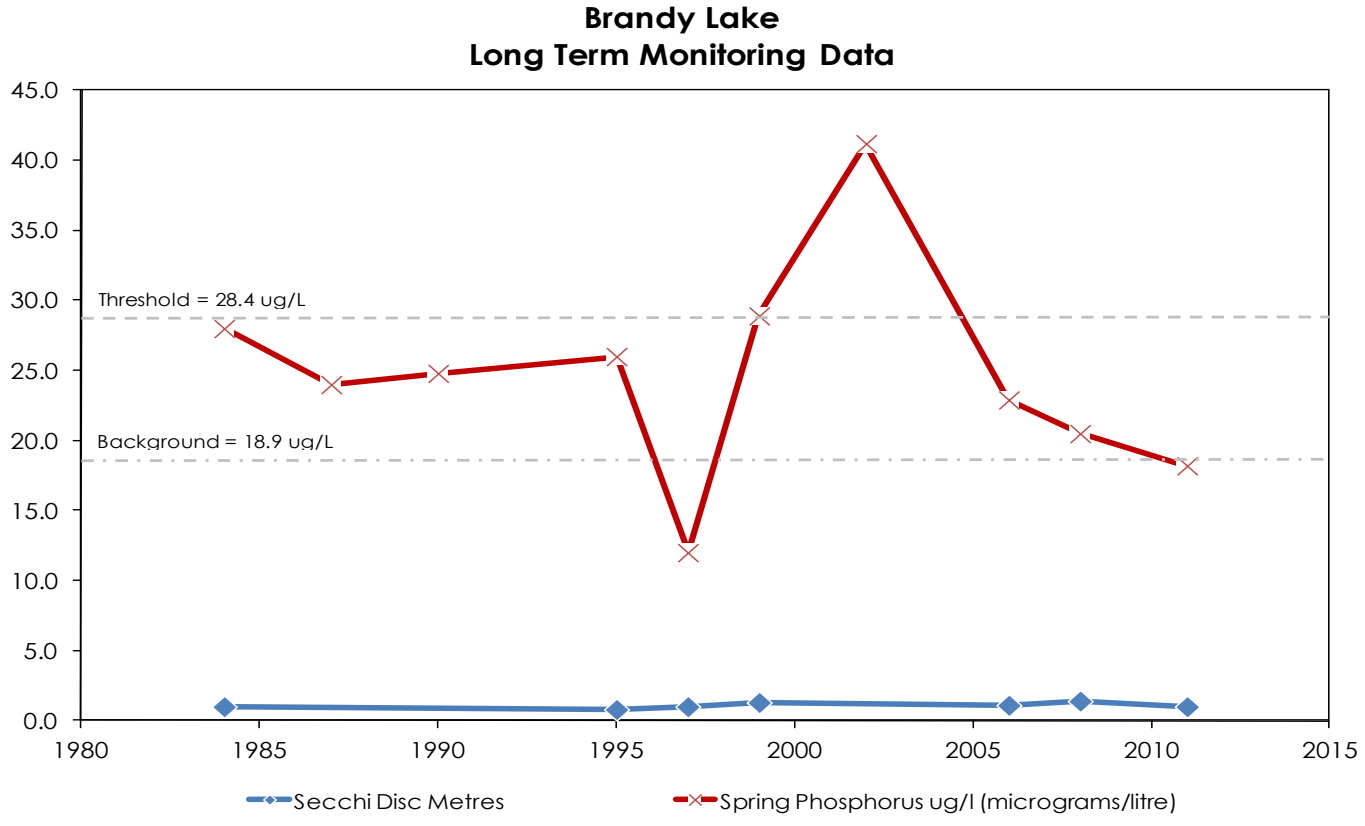




Brandy Lake

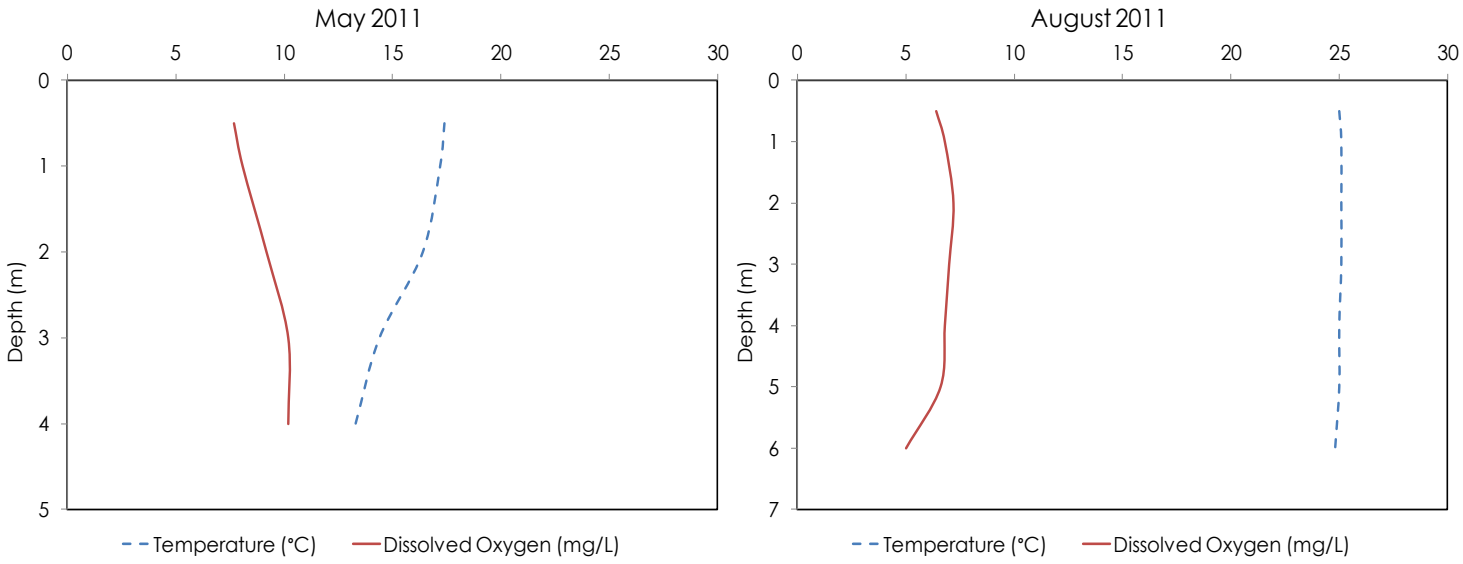
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Muskoka**
Surface Area:	**1.15 km²**	Watershed Area (excluding lake):	**39.85 km²**
Maximum Depth:	**8 m**	Cold Water Fishery?	**No**
Wetland Area:	**14 %**	Secchi Depth (10-year average):	**1.2 m**
Phosphorus (10-year average):	**25.7 µg/L**	Sensitivity:	**Moderate**

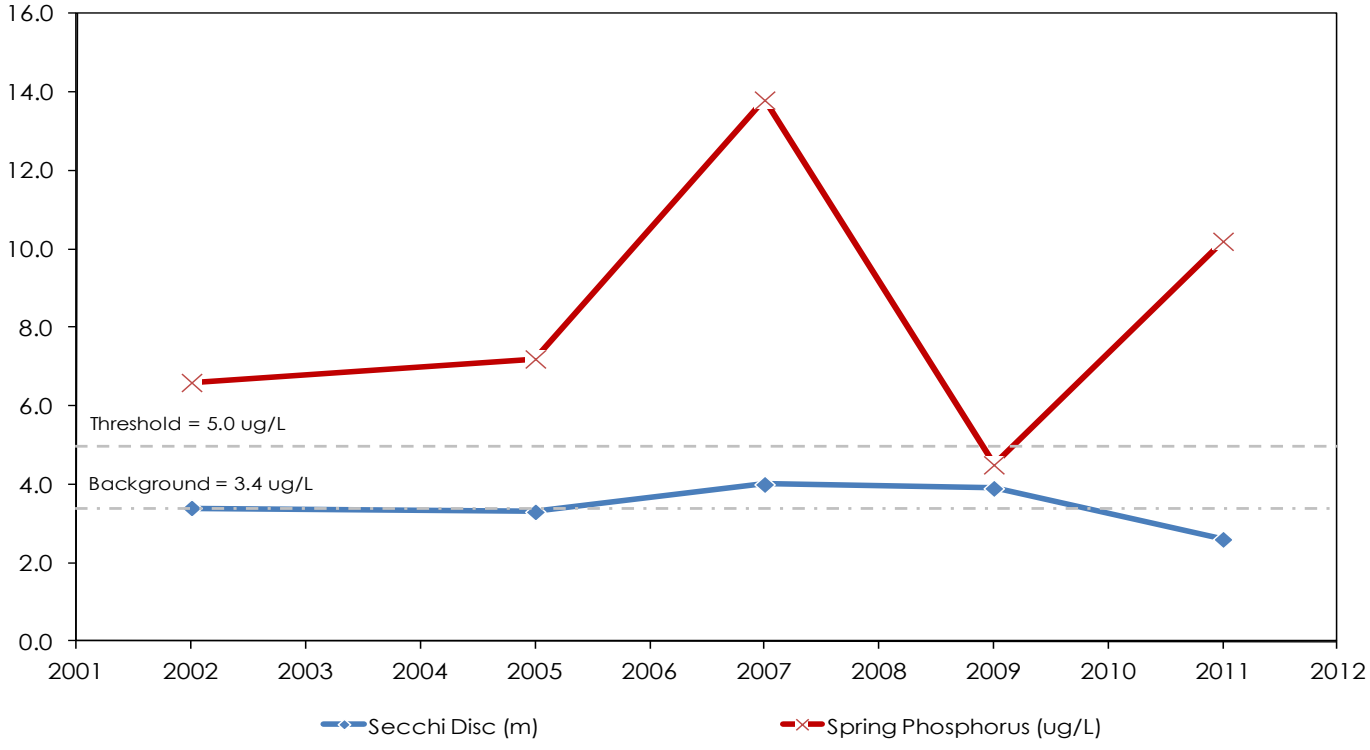




Brooks Lake

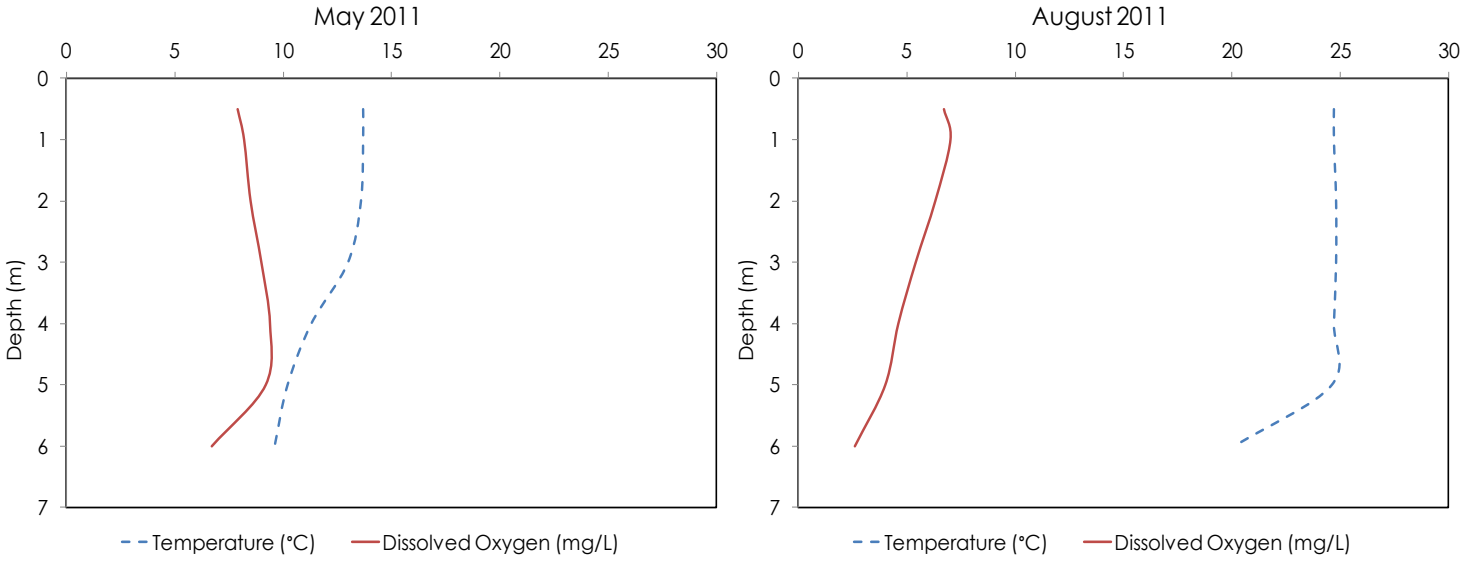
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.17 km²**	Watershed Area (excluding lake):	**0.48 km²**
Maximum Depth:	**5 m**	Lake Trout Lake?	**No**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**3.4 m**
Phosphorus (10-year average):	**8.5 µg/L**	Sensitivity:	**Moderate (OT)**

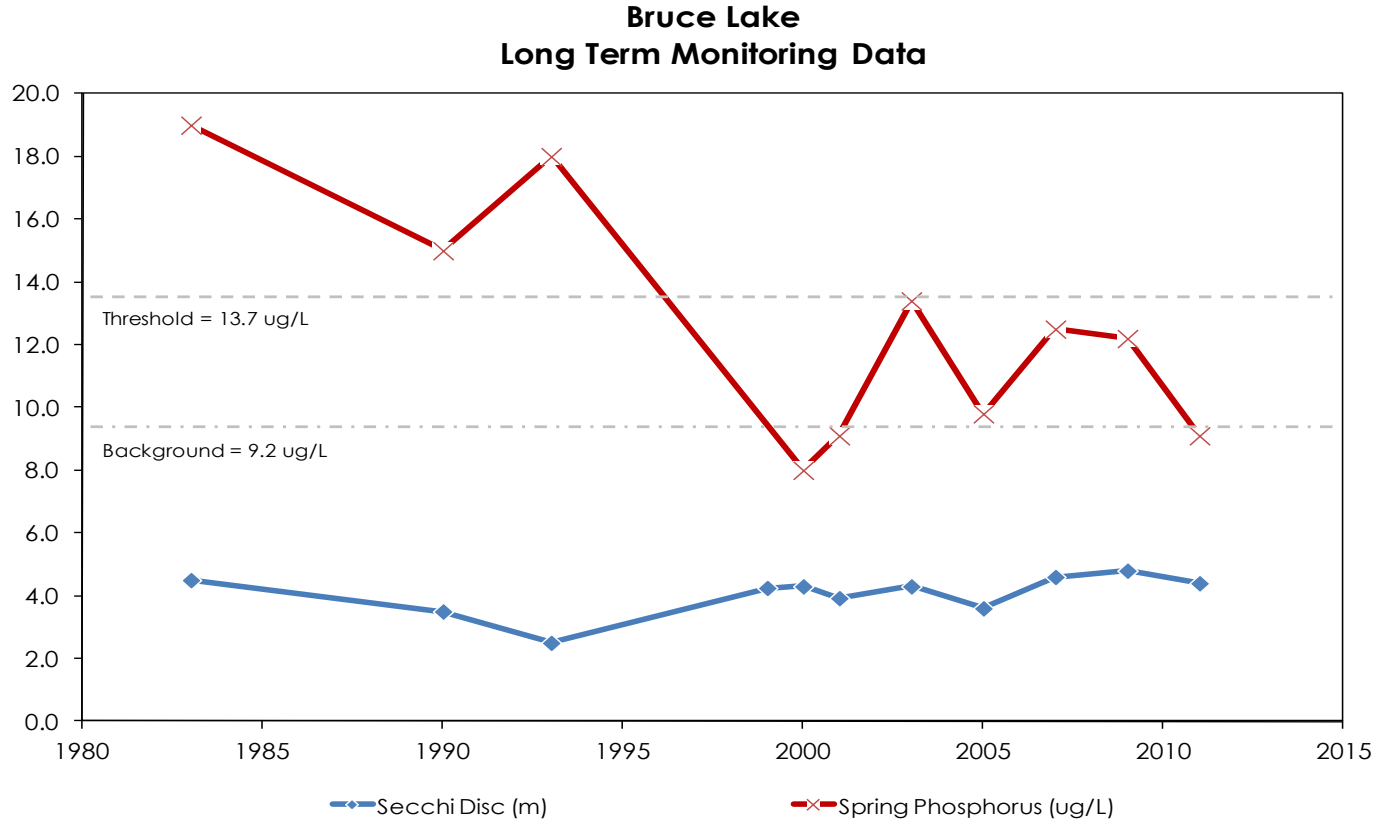




Bruce Lake

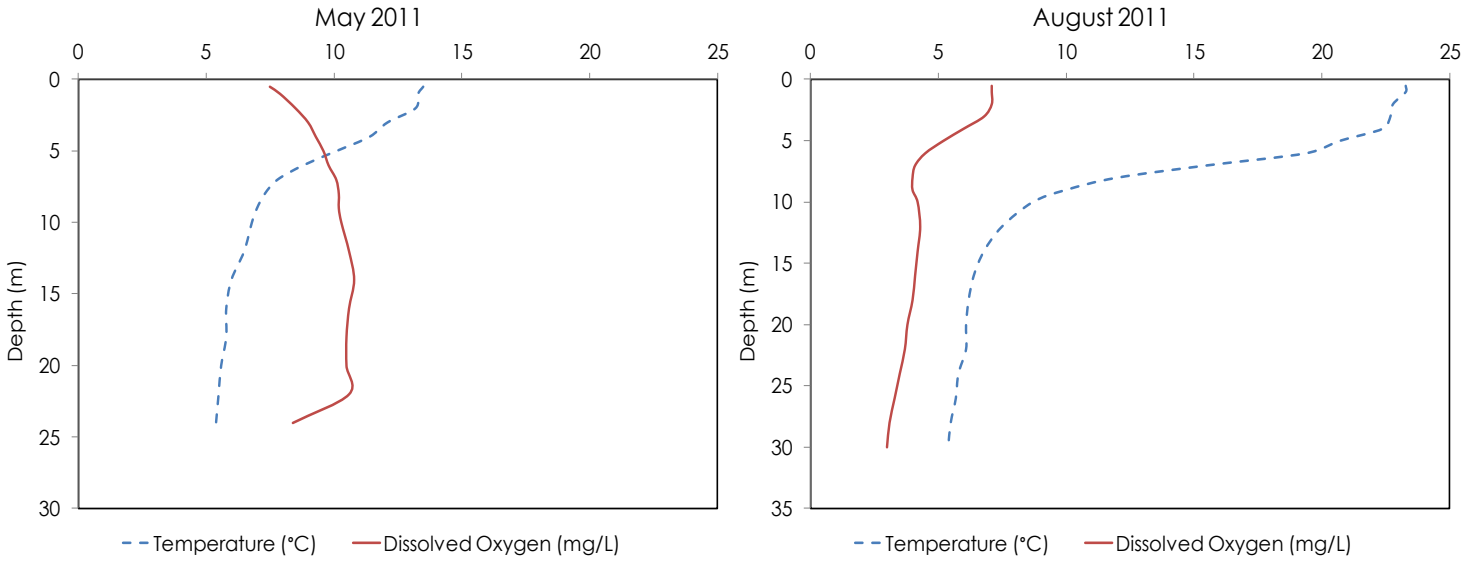
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**1.0 km²**	Watershed Area (excluding lake):	**3.36 km²**
Maximum Depth:	**6 m**	Lake Trout Lake?	**No**
Wetland Area:	**25 %**	Secchi Depth (10-year average):	**4.3 m**
Phosphorus (10-year average):	**11.4 µg/L**	Sensitivity:	**Moderate**

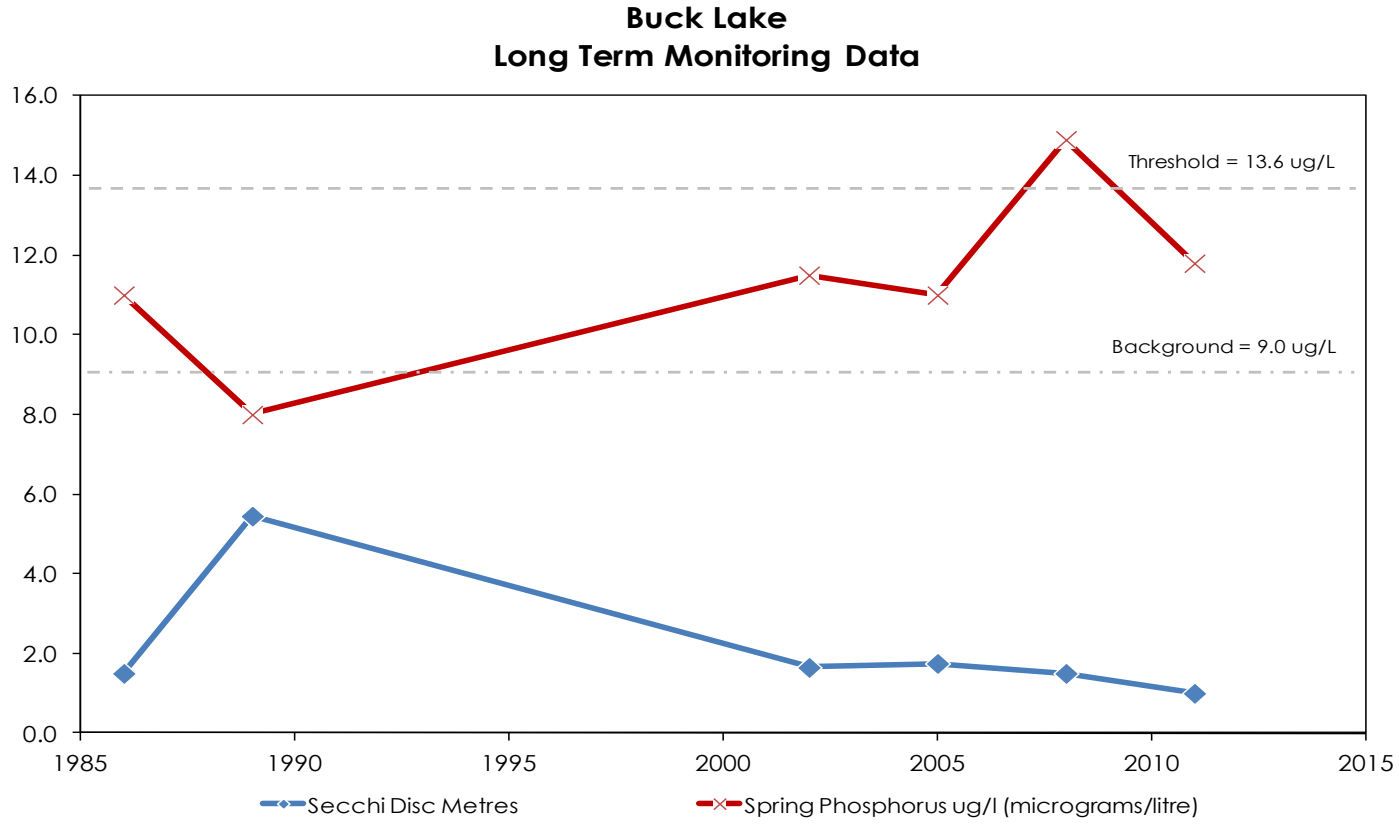




Buck Lake

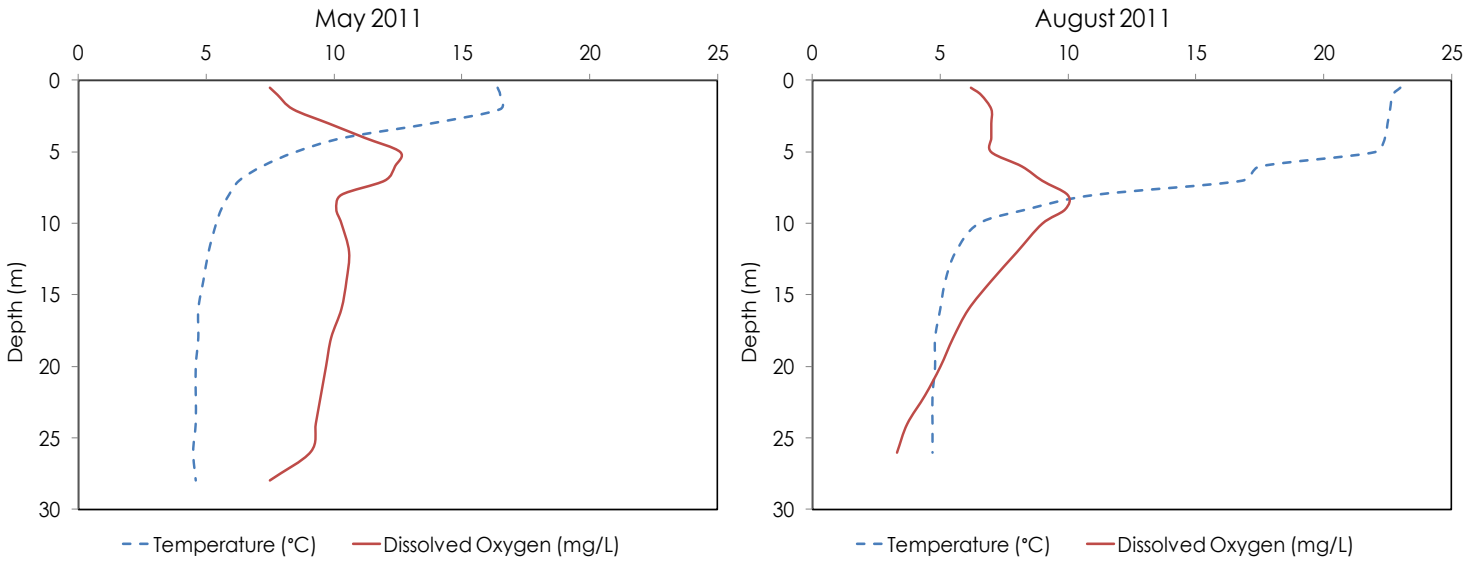
Municipality:	**Huntsville**	Watershed:	**Lake Vernon**
Surface Area:	**2.5 km²**	Watershed Area (excluding lake):	**73.25 km²**
Maximum Depth:	**25 m**	Cold Water Fishery?	**No**
Wetland Area:	**2 %**	Secchi Depth (10-year average):	**1.5 m**
Phosphorus (10-year average):	**12.3 µg/L**	Sensitivity:	**Moderate**

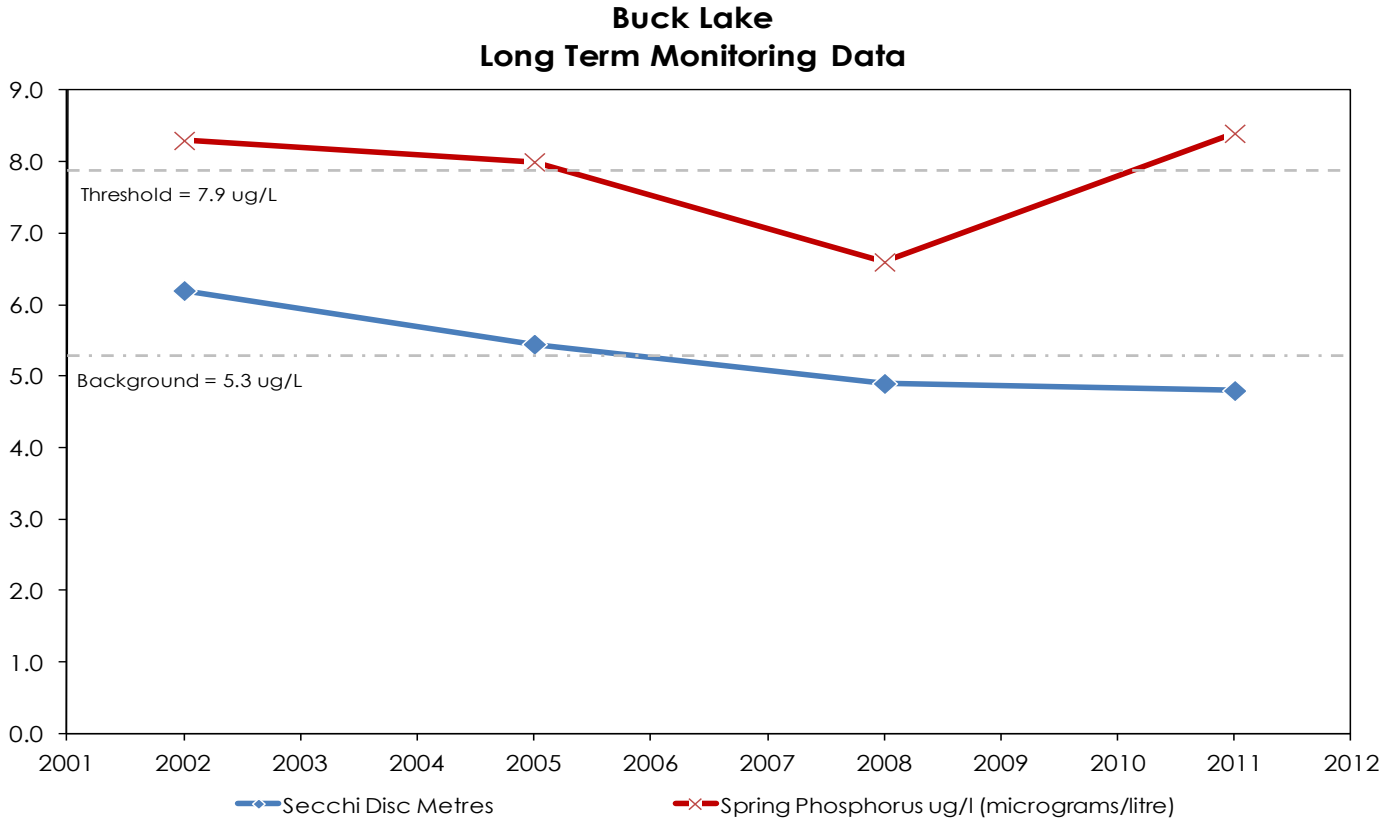




Buck Lake

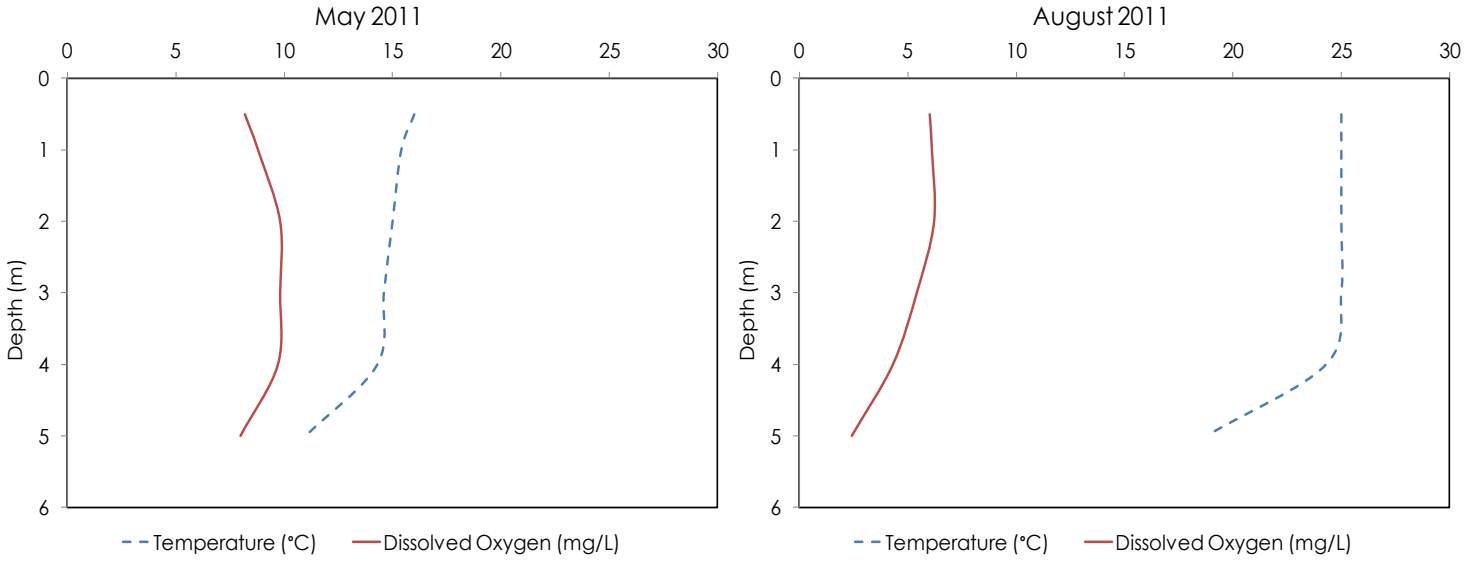
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.41 km²**	Watershed Area (excluding lake):	**1.57 km²**
Maximum Depth:	**32 m**	Cold Water Fishery?	**Yes**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**5.3 m**
Phosphorus (10-year average):	**7.8 µg/L**	Sensitivity:	**Moderate**

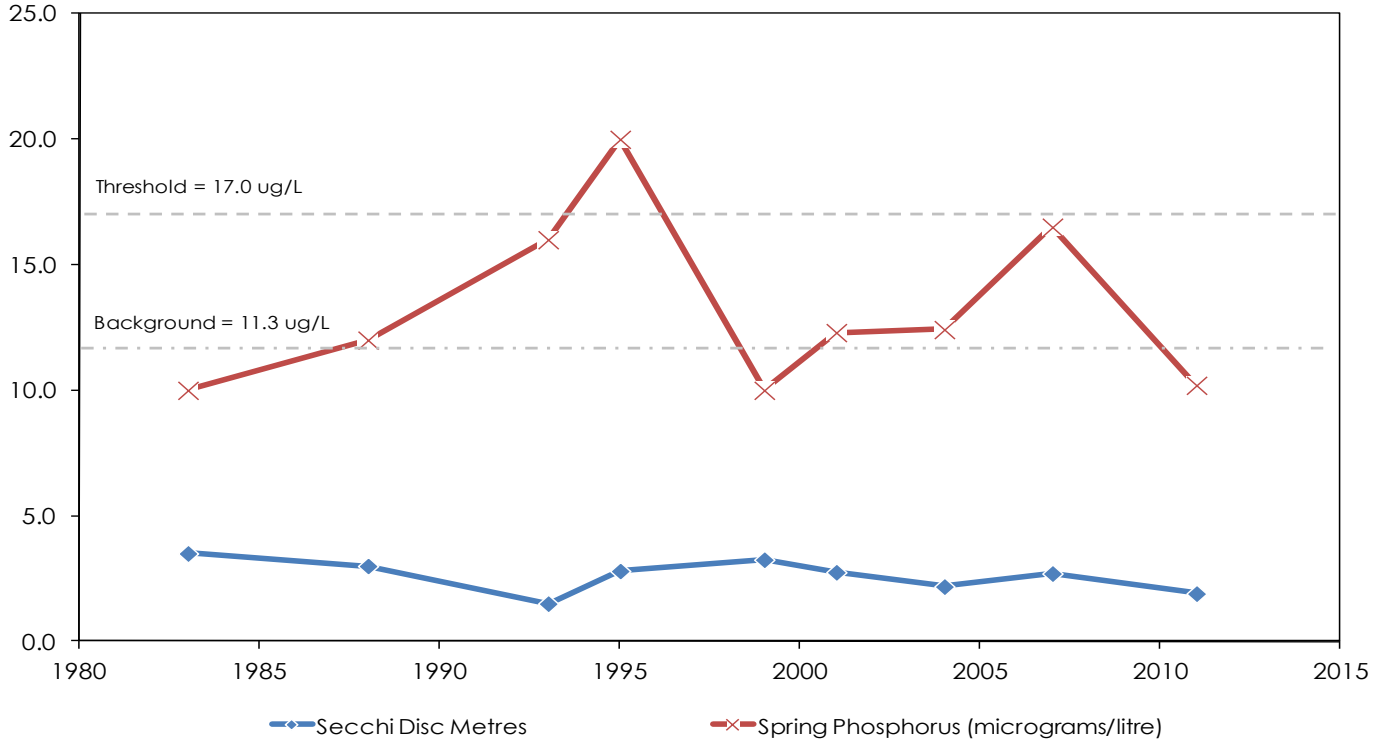




Butterfly Lake

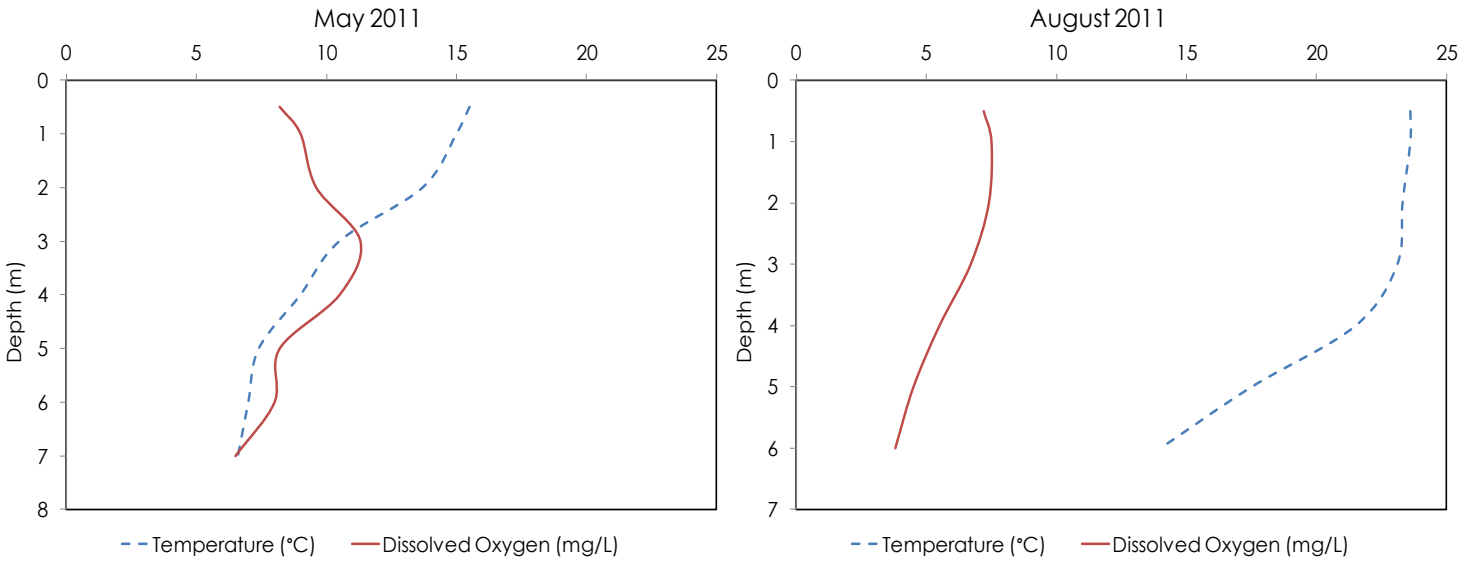
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**0.66 km²**	Watershed Area (excluding lake):	**2.54 km²**
Maximum Depth:	**5 m**	Lake Trout Lake?	**No**
Wetland Area:	**30 %**	Secchi Depth (10-year average):	**2.3 m**
Phosphorus (10-year average):	**13.0 µg/L**	Sensitivity:	**Low**

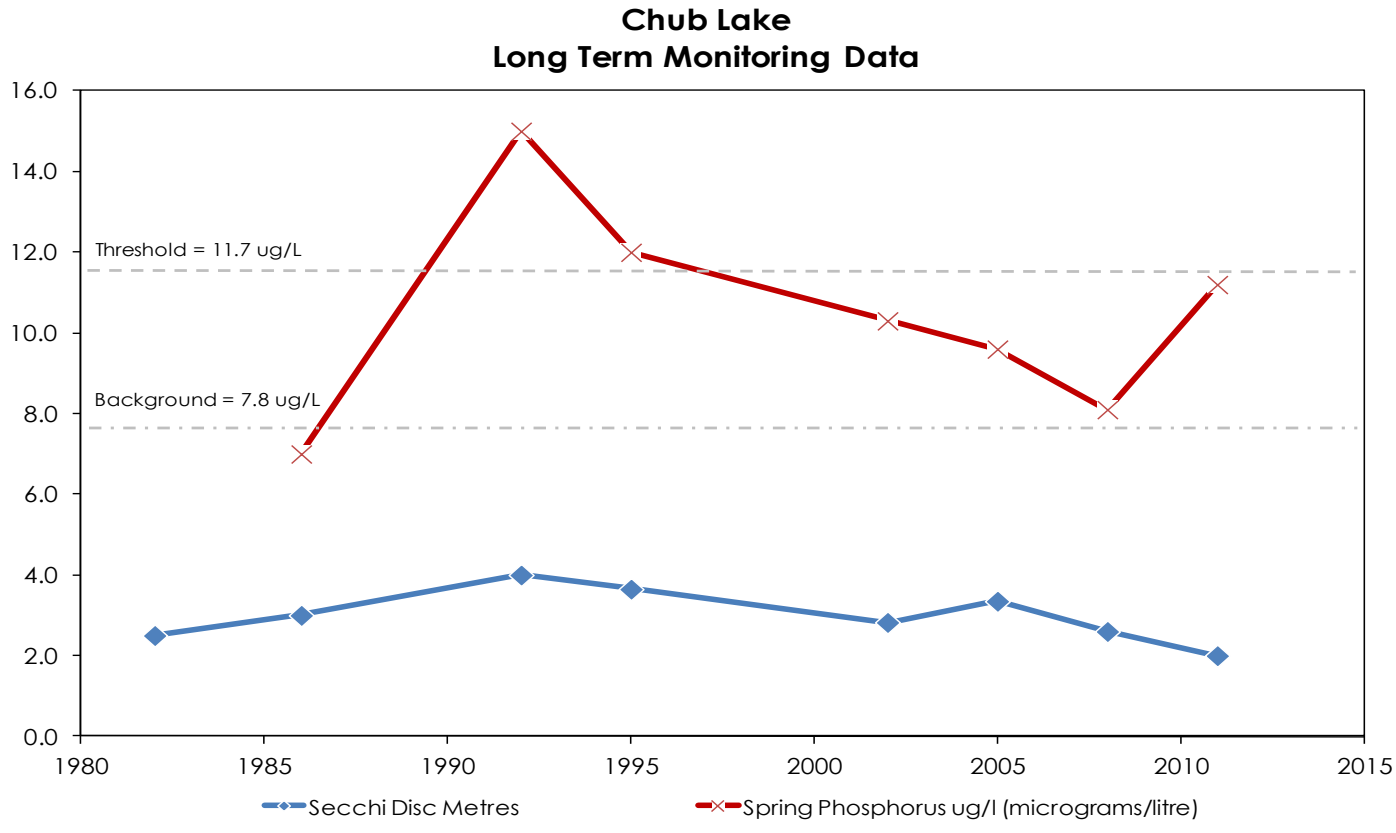




Chub Lake

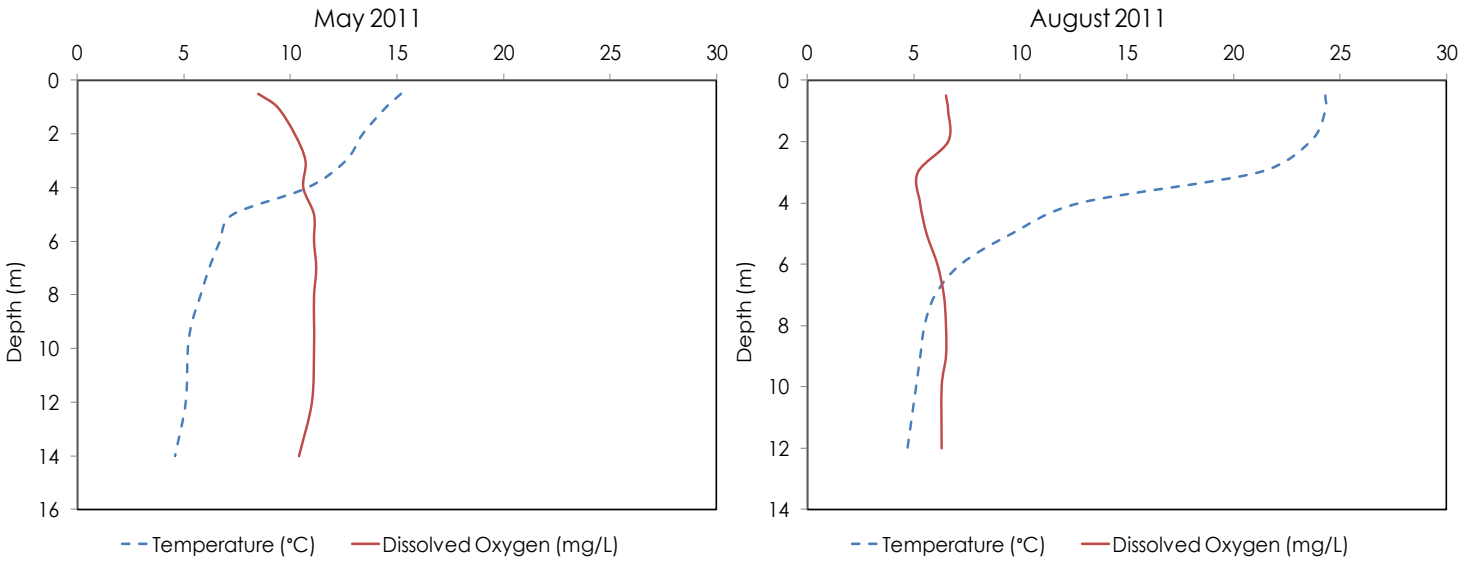
Municipality:	**Huntsville**	Watershed:	**Mary Lake**
Surface Area:	**0.27 km²**	Watershed Area (excluding lake):	**0.85 km²**
Maximum Depth:	**12 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**2.7 m**
Phosphorus (10-year average):	**9.8 µg/L**	Sensitivity:	**Moderate**

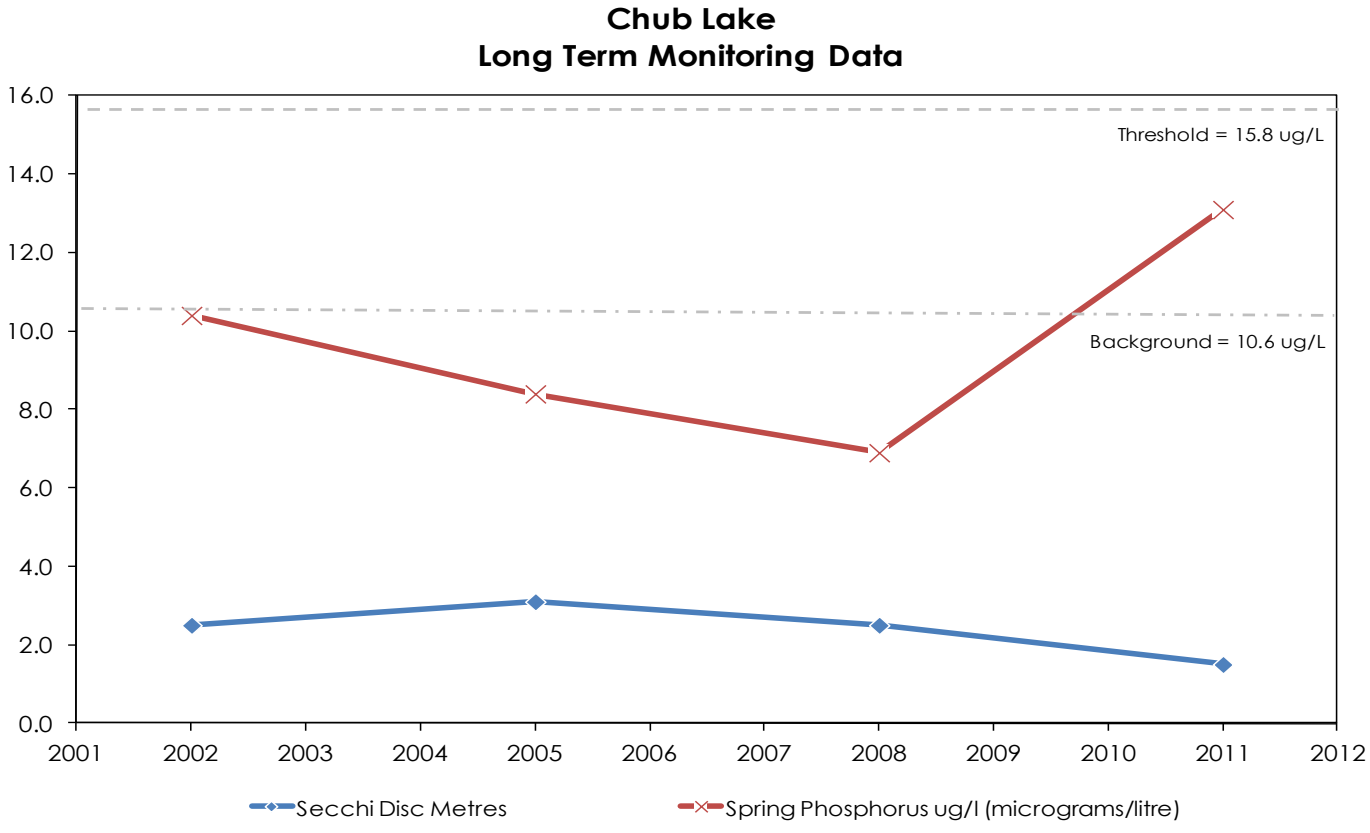




Chub Lake

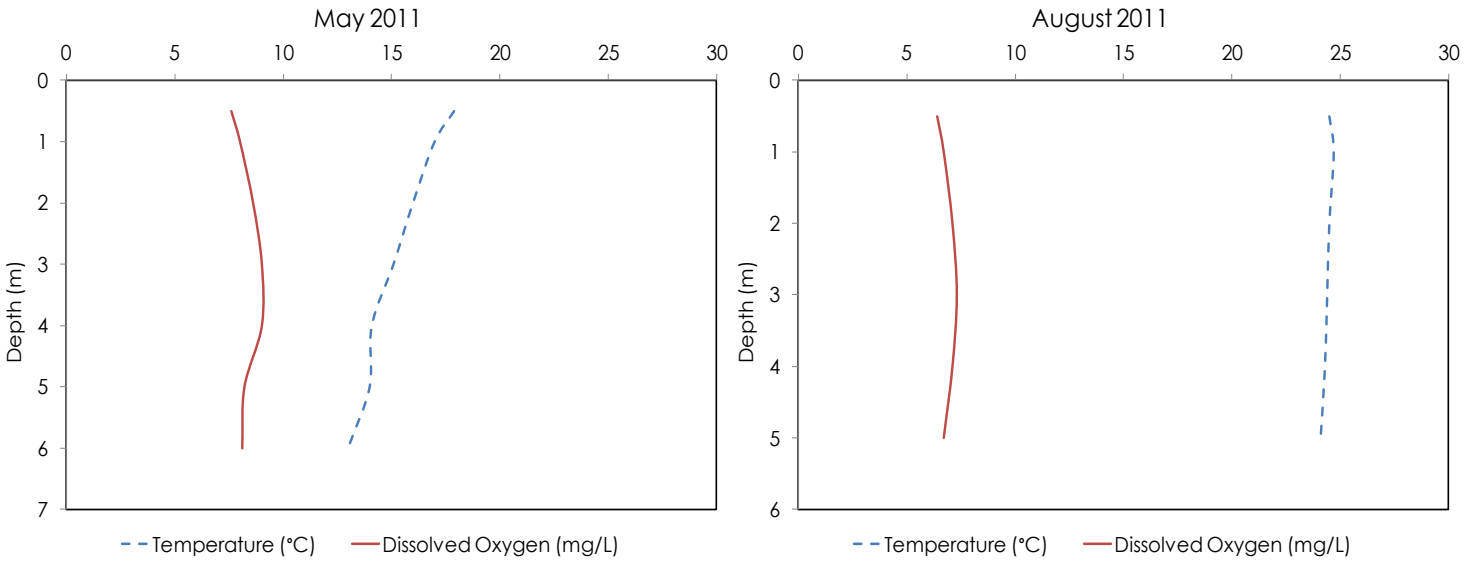
Municipality:	**Lake of Bays**	Watershed:	**Muskoka River**
Surface Area:	**0.34 km²**	Watershed Area (excluding lake):	**2.68 km²**
Maximum Depth:	**27 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**2.4 m**
Phosphorus (10-year average):	**9.7 µg/L**	Sensitivity:	**Moderate**

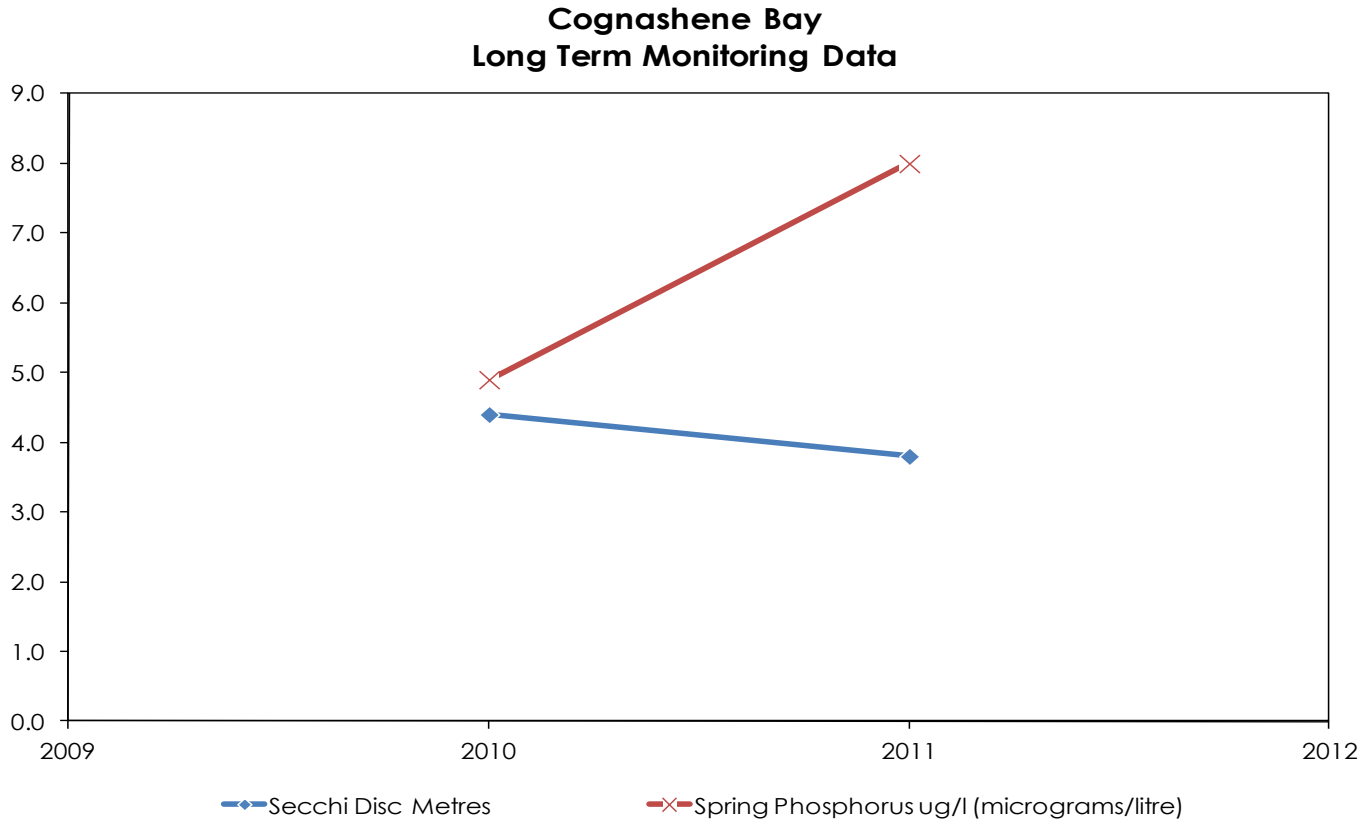




Cognashene Bay

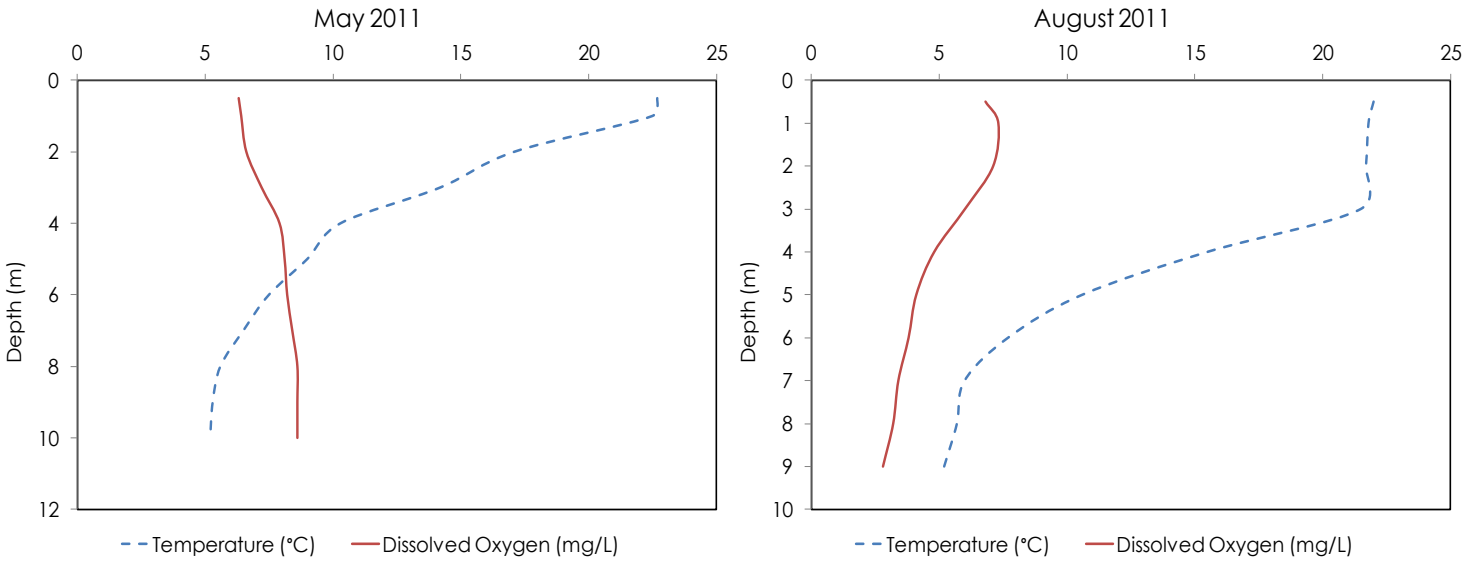
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**Not Available**	Watershed Area (excluding lake):	**Not Available**
Maximum Depth:	**12 m**	Lake Trout Lake?	**Not Applicable**
Wetland Area:	**Not Available**	Secchi Depth (10-year average):	**4.1 m**
Phosphorus (10-year average):	**6.5 µg/L**	Sensitivity:	**Not Available**

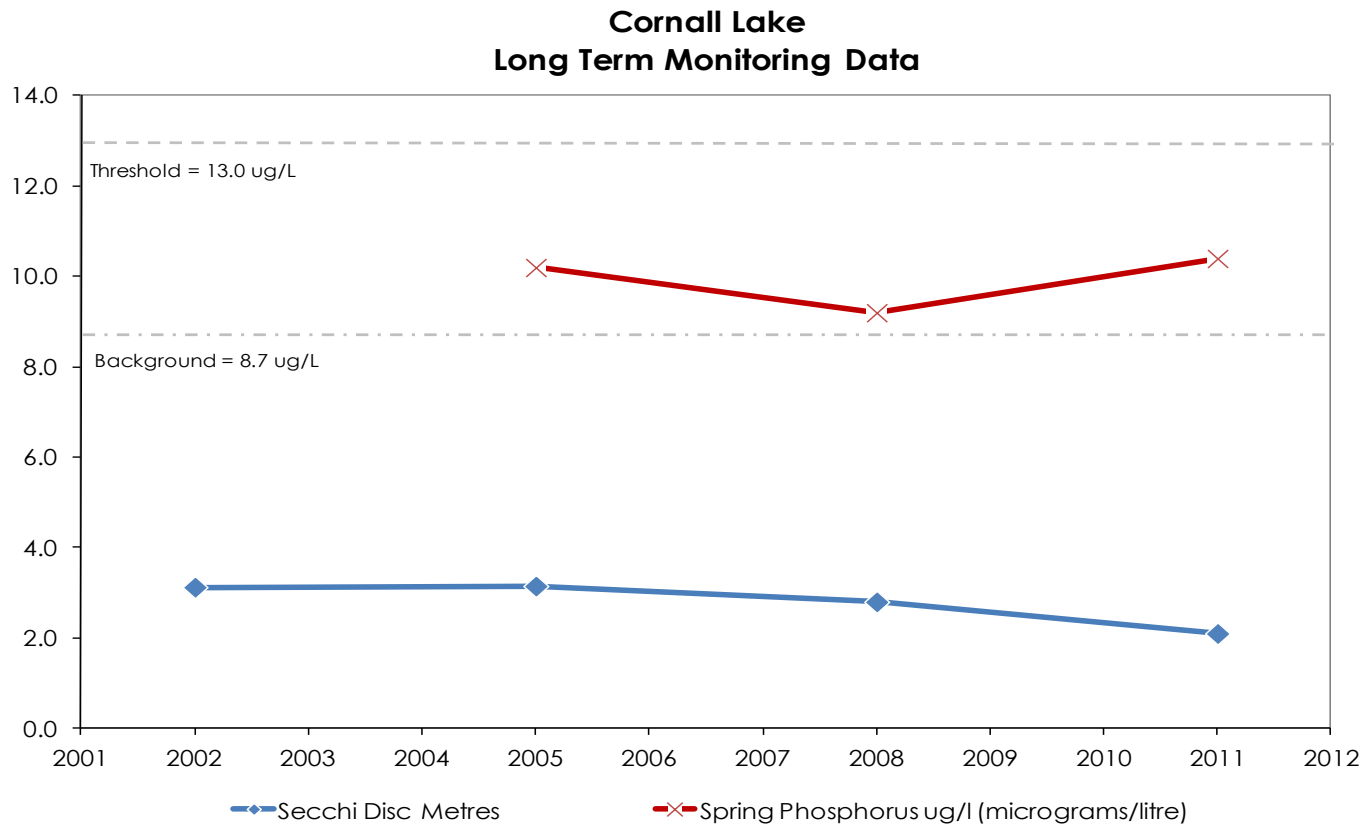




Cornall Lake

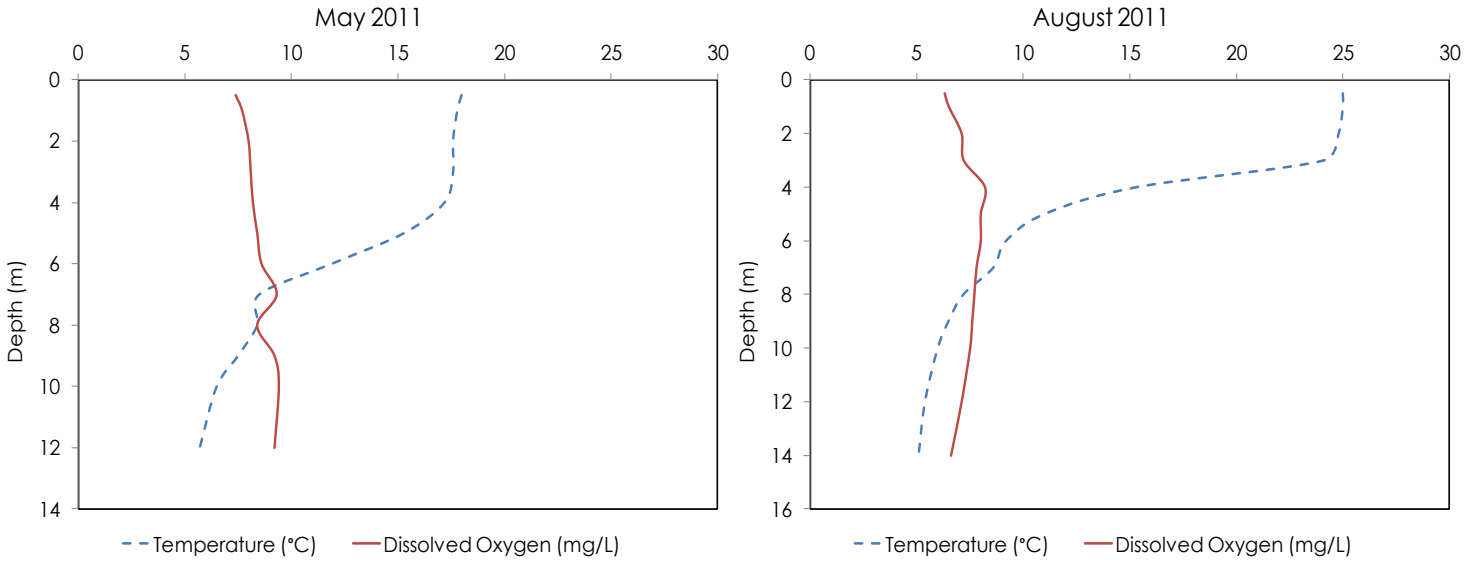
Municipality:	**Gravenhurst**	Watershed:	**Sparrow Lake**
Surface Area:	**0.25 km²**	Watershed Area (excluding lake):	**7.25 km²**
Maximum Depth:	**10 m**	Lake Trout Lake?	**No**
Wetland Area:	**4.44 %**	Secchi Depth (10-year average):	**2.8 m**
Phosphorus (10-year average):	**9.9 µg/L**	Sensitivity:	**Moderate**

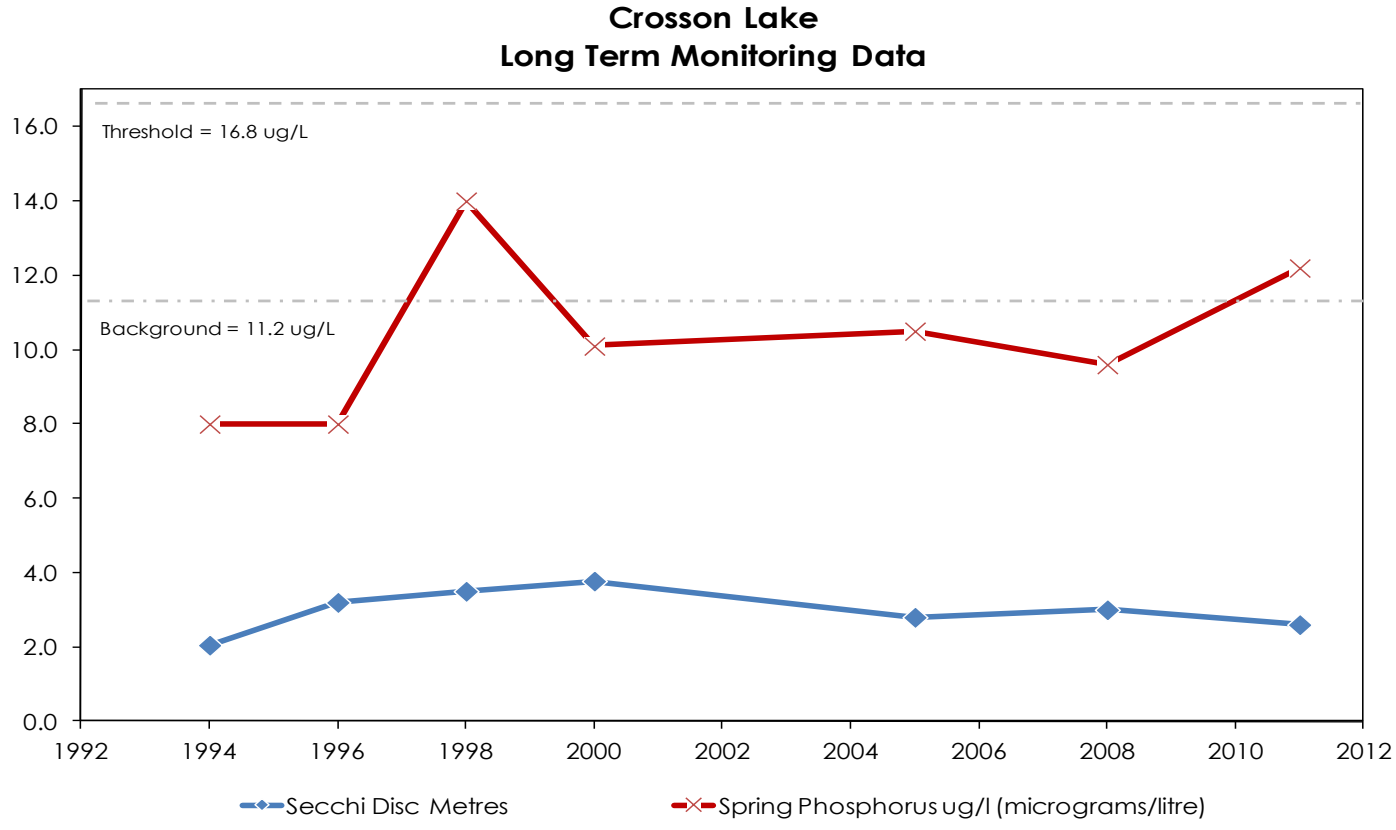




Crosson Lake

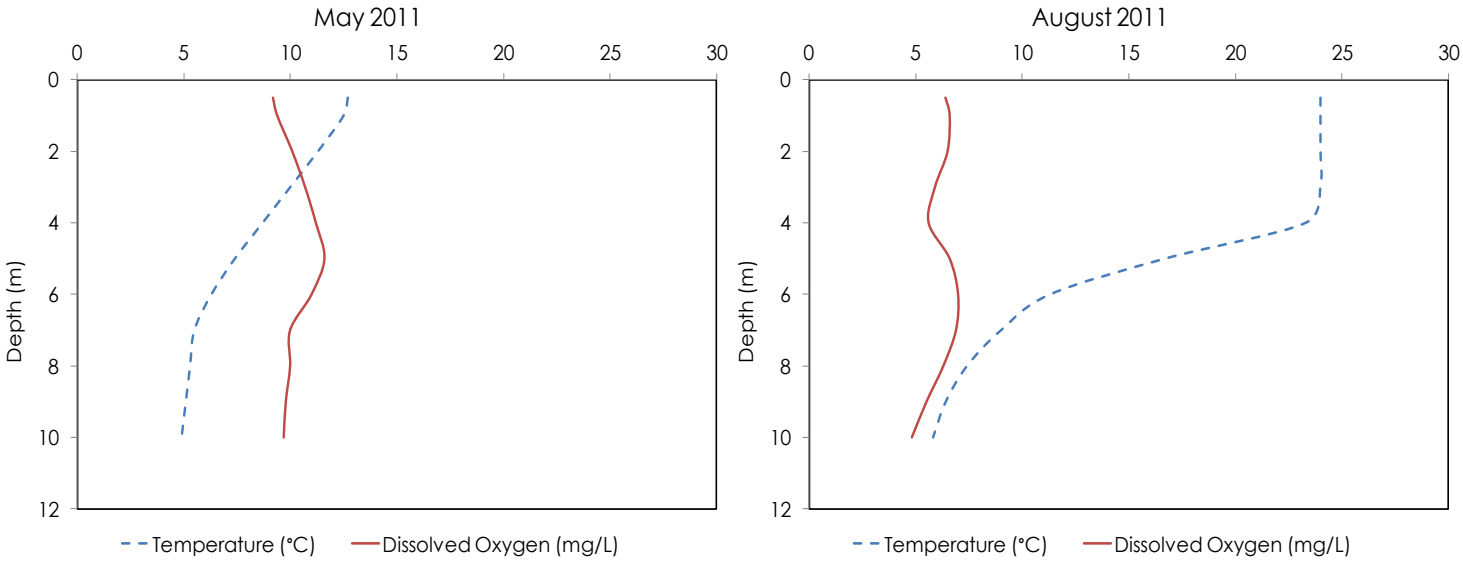
Municipality:	**Bracebridge**	Watershed:	**Black River**
Surface Area:	**0.57 km²**	Watershed Area (excluding lake):	**4.44 km²**
Maximum Depth:	**26 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**2.8 m**
Phosphorus (10-year average):	**10.8 µg/L**	Sensitivity:	**Moderate**

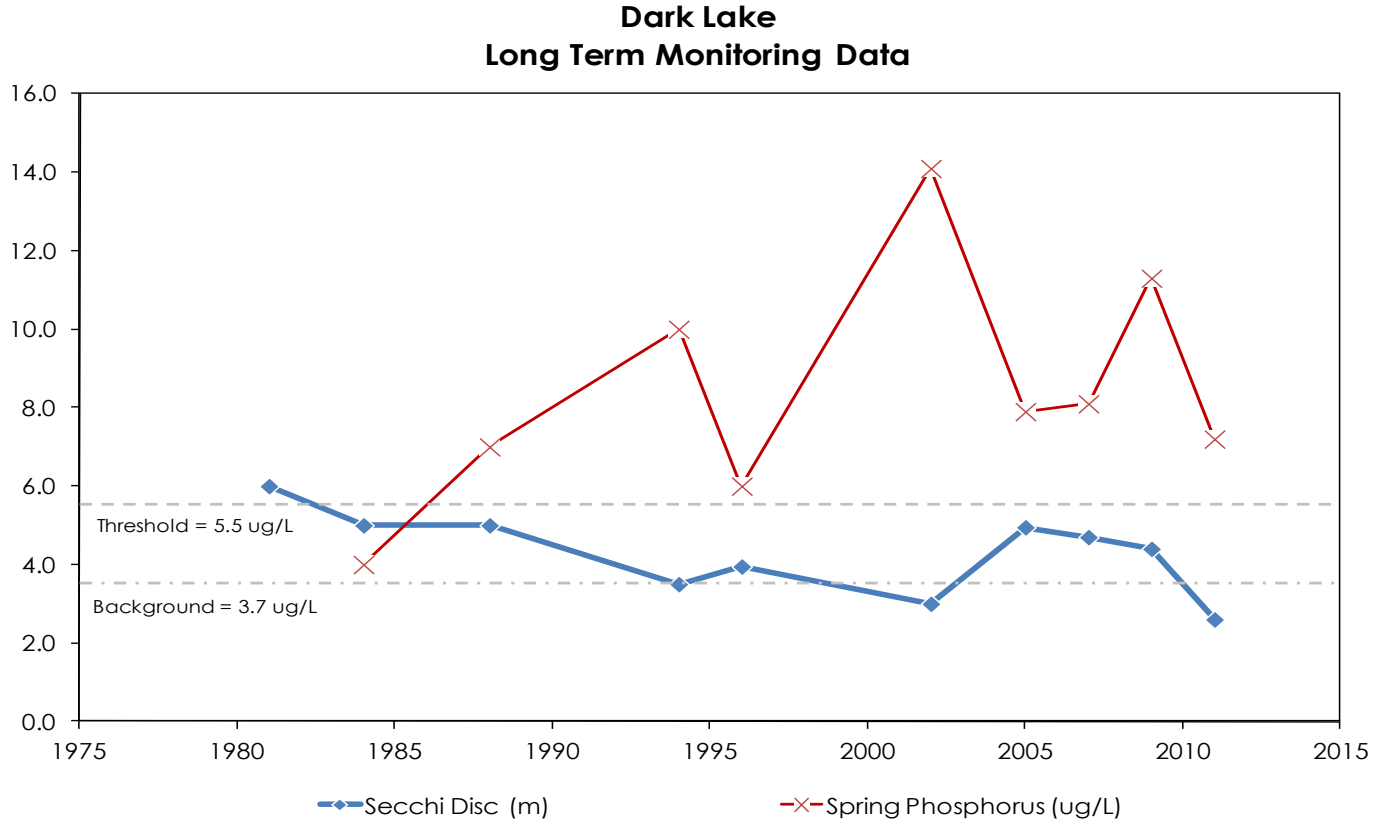




Dark Lake

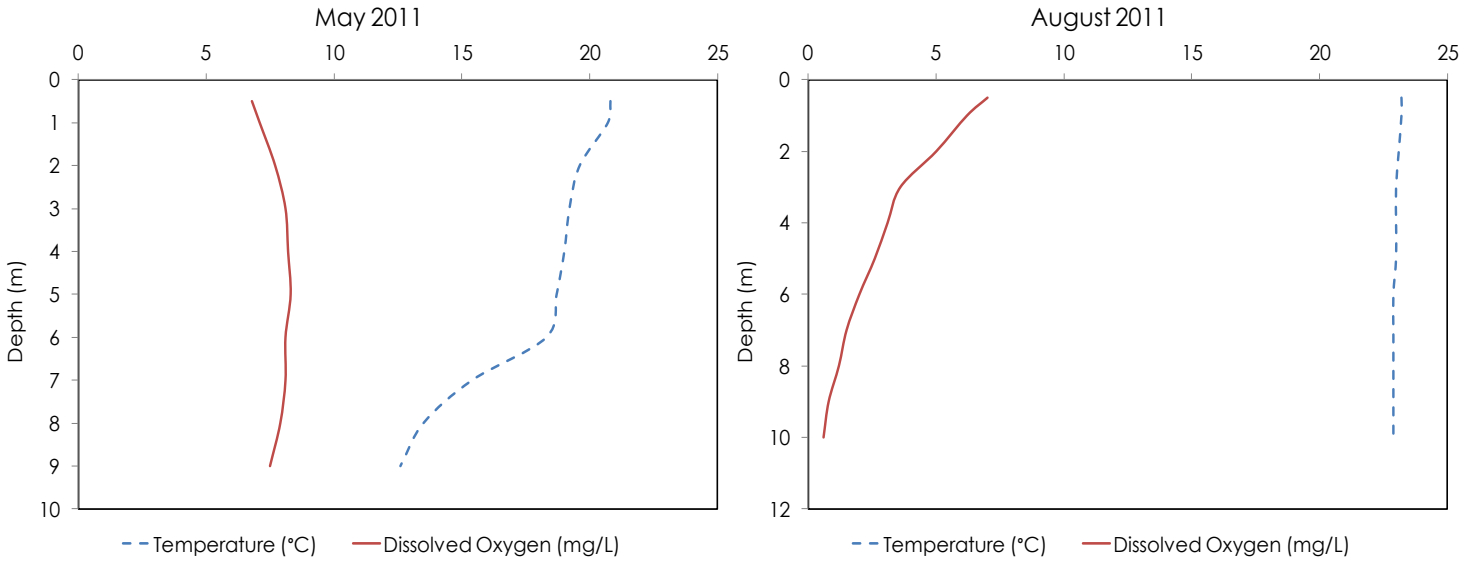
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Muskoka**
Surface Area:	**0.16 km²**	Watershed Area (excluding lake):	**0.22 km²**
Maximum Depth:	**11 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**3.9 m**
Phosphorus (10-year average):	**9.7 µg/L**	Sensitivity:	**Moderate (OT)**

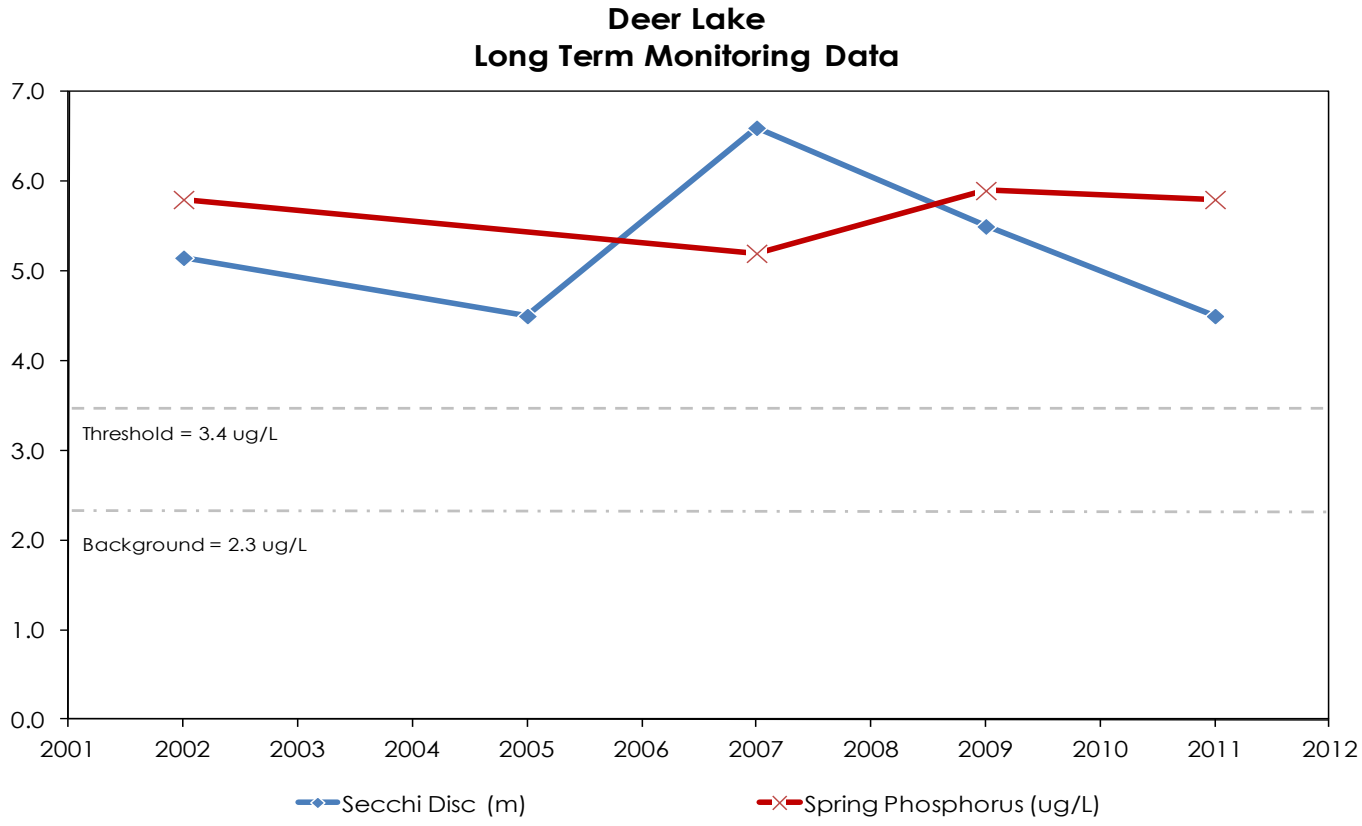




Deer Lake

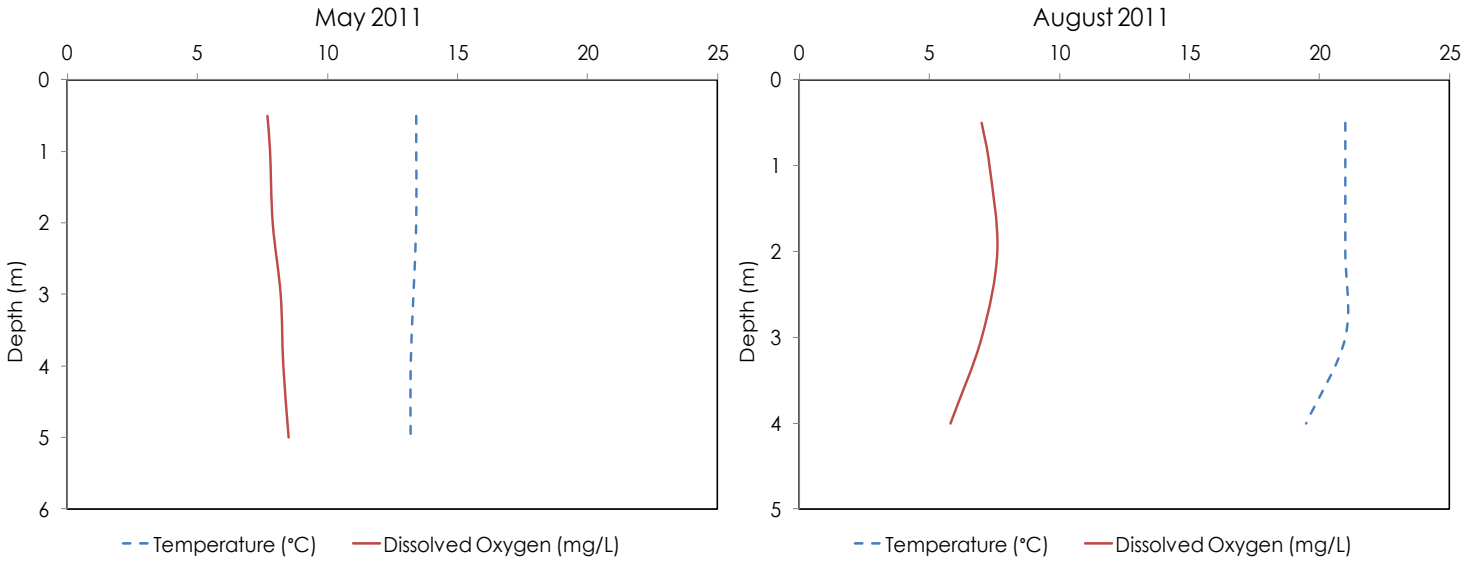
Municipality:	**Gravenhurst**	Watershed:	**Lake Muskoka**
Surface Area:	**1.61 km²**	Watershed Area (excluding lake):	**2.39 km²**
Maximum Depth:	**10 m**	Lake Trout Lake?	**No**
Wetland Area:	**3.72 %**	Secchi Depth (10-year average):	**5.3 m**
Phosphorus (10-year average):	**5.7 µg/L**	Sensitivity:	**High**

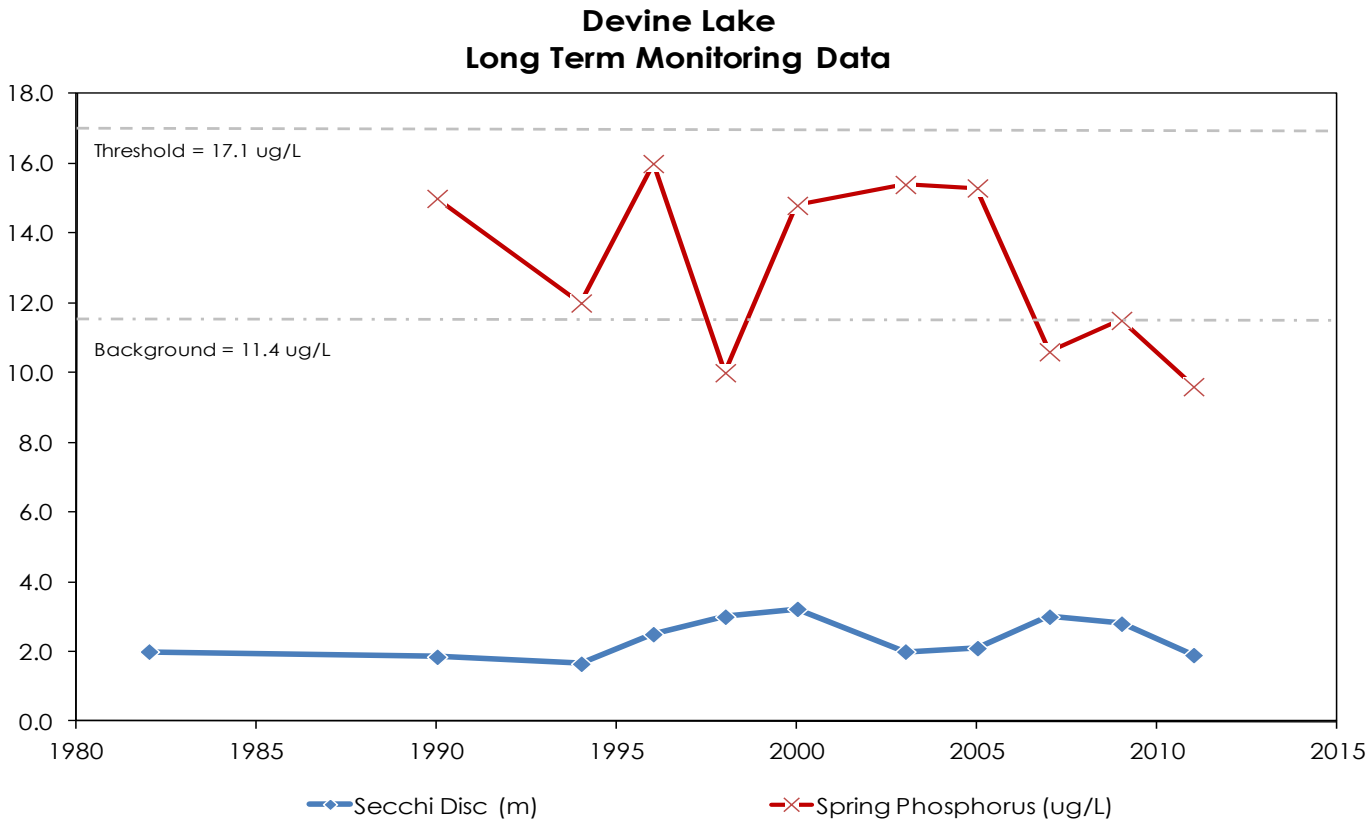




Devine Lake

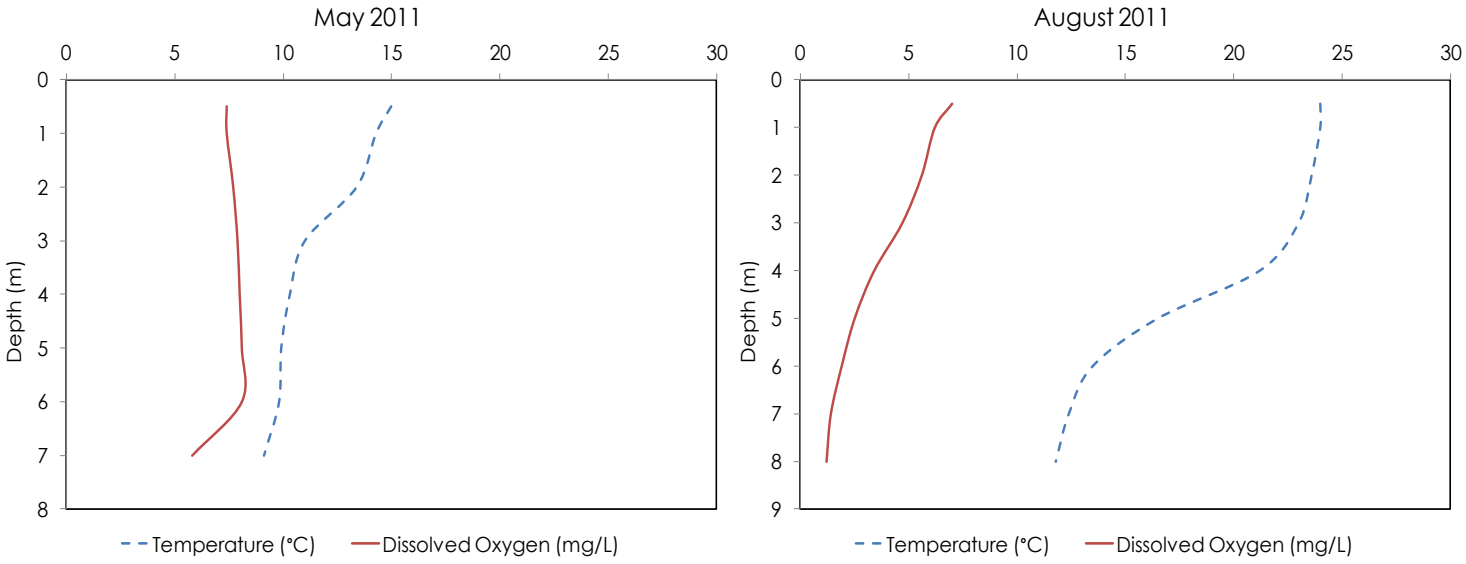
Municipality:	**Huntsville**	Watershed:	**Muskoka River**
Surface Area:	**0.39 km²**	Watershed Area (excluding lake):	**3.51 km²**
Maximum Depth:	**9 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**2.4 m**
Phosphorus (10-year average):	**12.5 µg/L**	Sensitivity:	**Moderate**

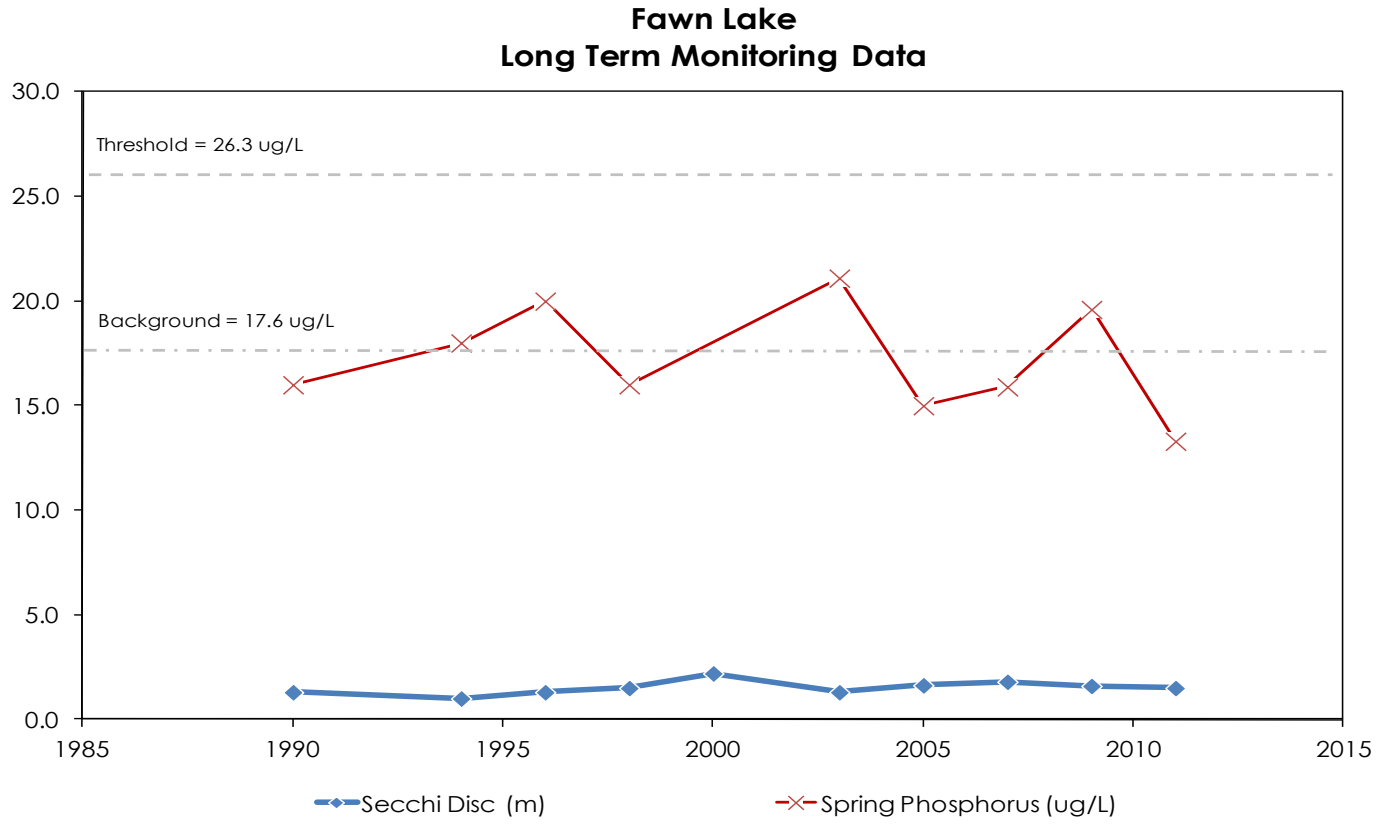




Fawn (Deer) Lake

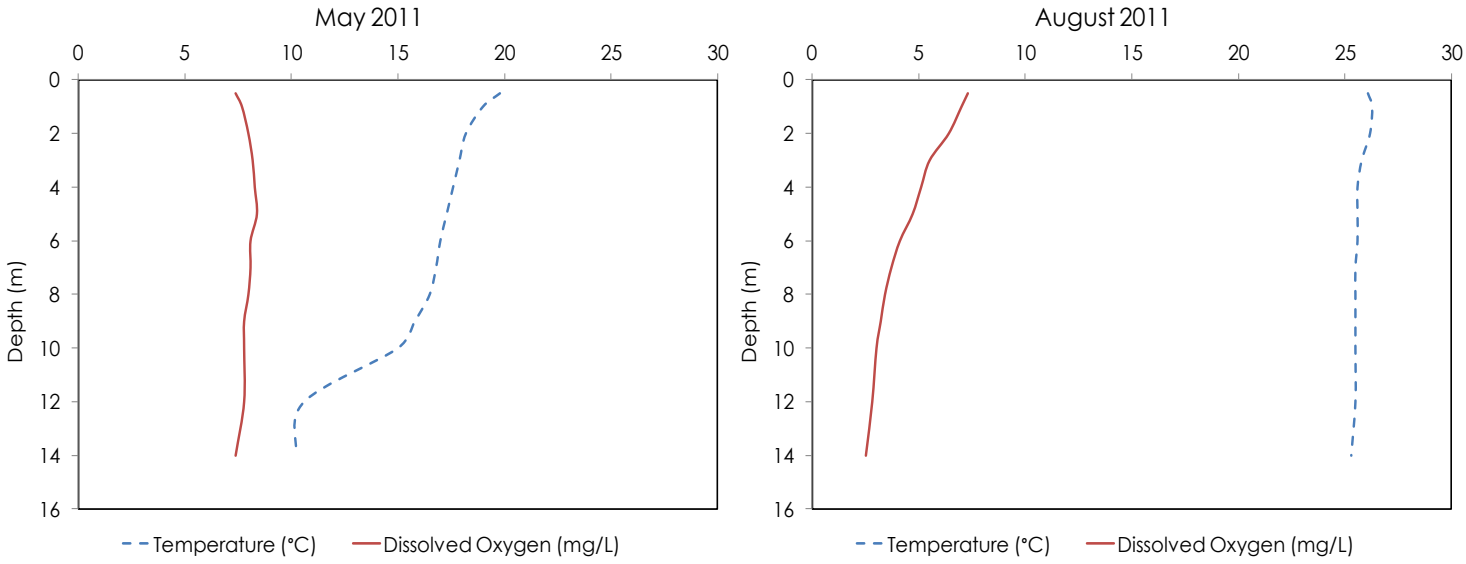
Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**0.88 km²**	Watershed Area (excluding lake):	**14.62 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**No**
Wetland Area:	**22 %**	Secchi Depth (10-year average):	**1.6 m**
Phosphorus (10-year average):	**17.0 µg/L**	Sensitivity:	**Moderate**

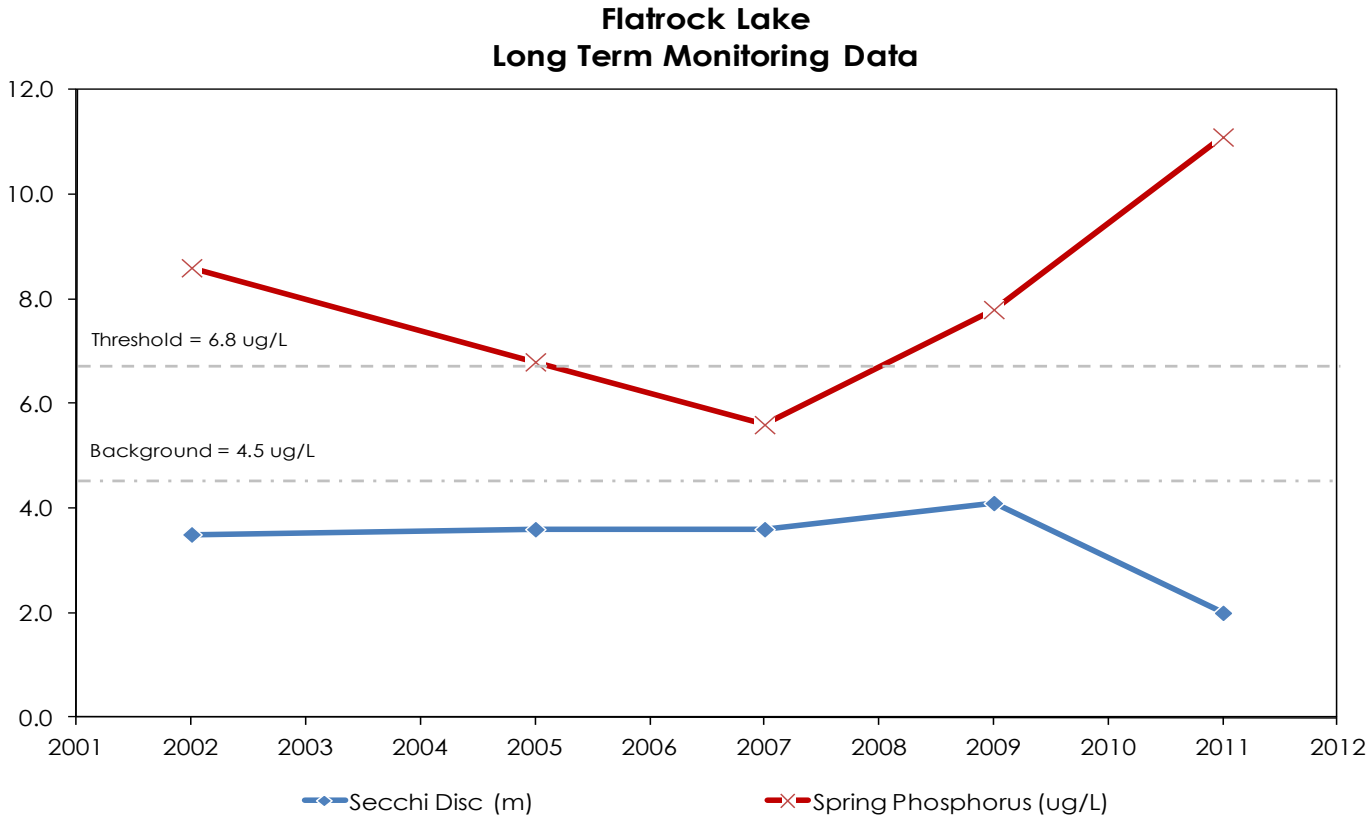




Flatrock Lake

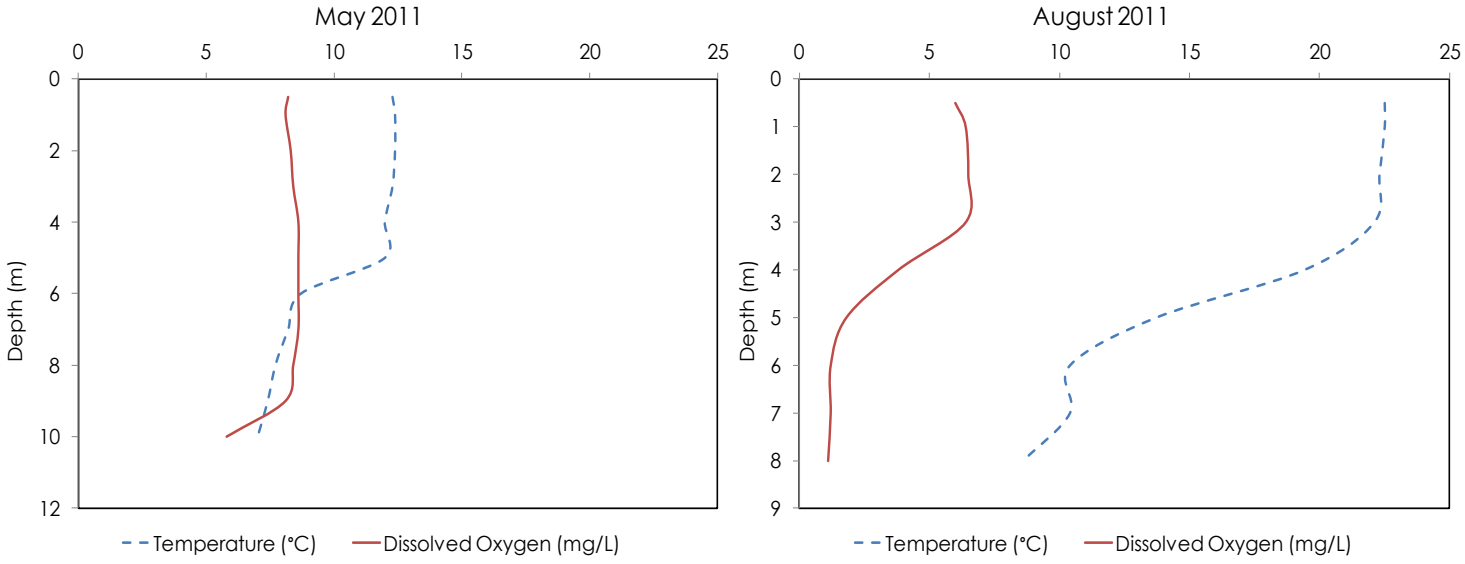
Municipality:	**Georgian Bay**	Watershed:	**Musquash River**
Surface Area:	**0.65 km²**	Watershed Area (excluding lake):	**7.89 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**6.61 %**	Secchi Depth (10-year average):	**3.4 m**
Phosphorus (10-year average):	**8.0 µg/L**	Sensitivity:	**Moderate (OT)**

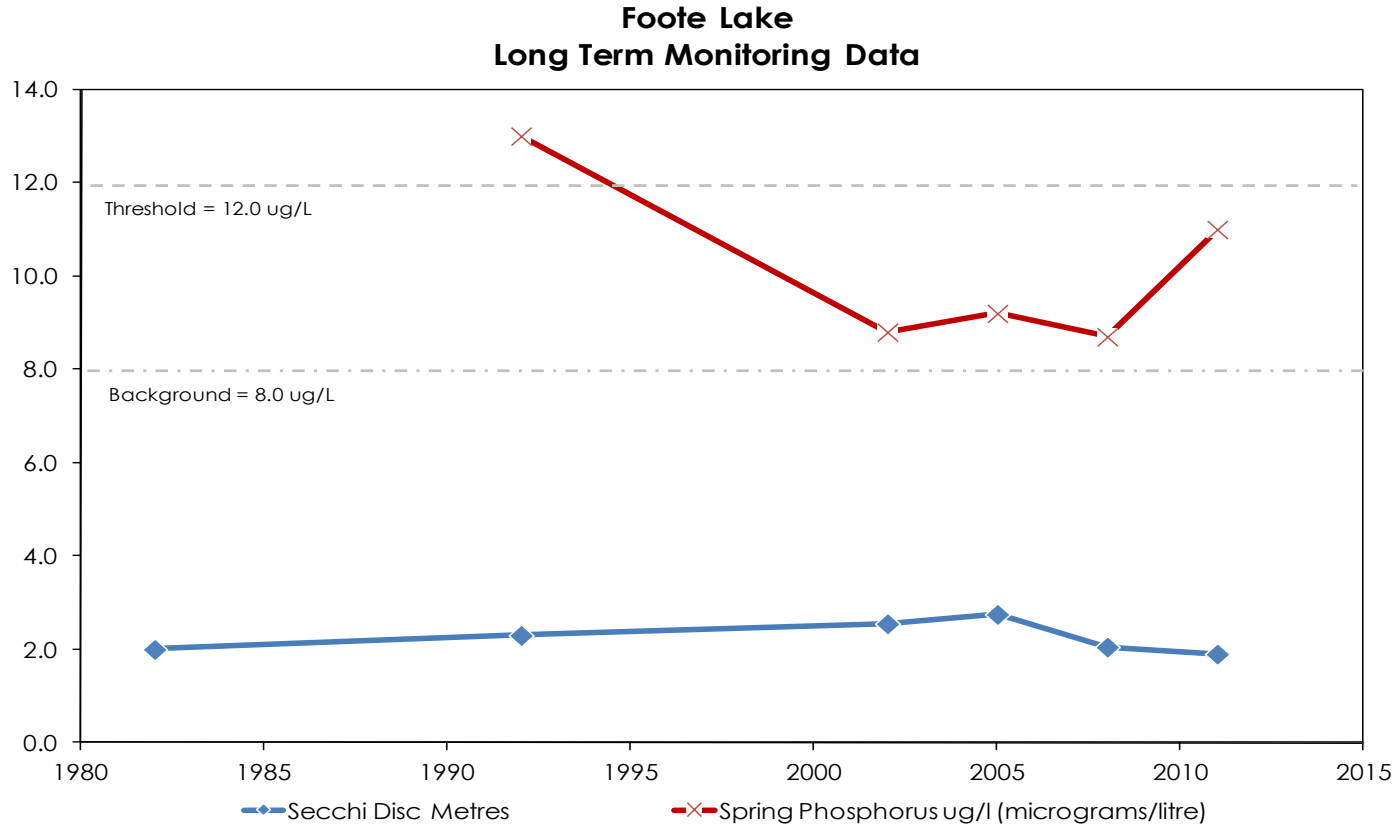




Foote Lake

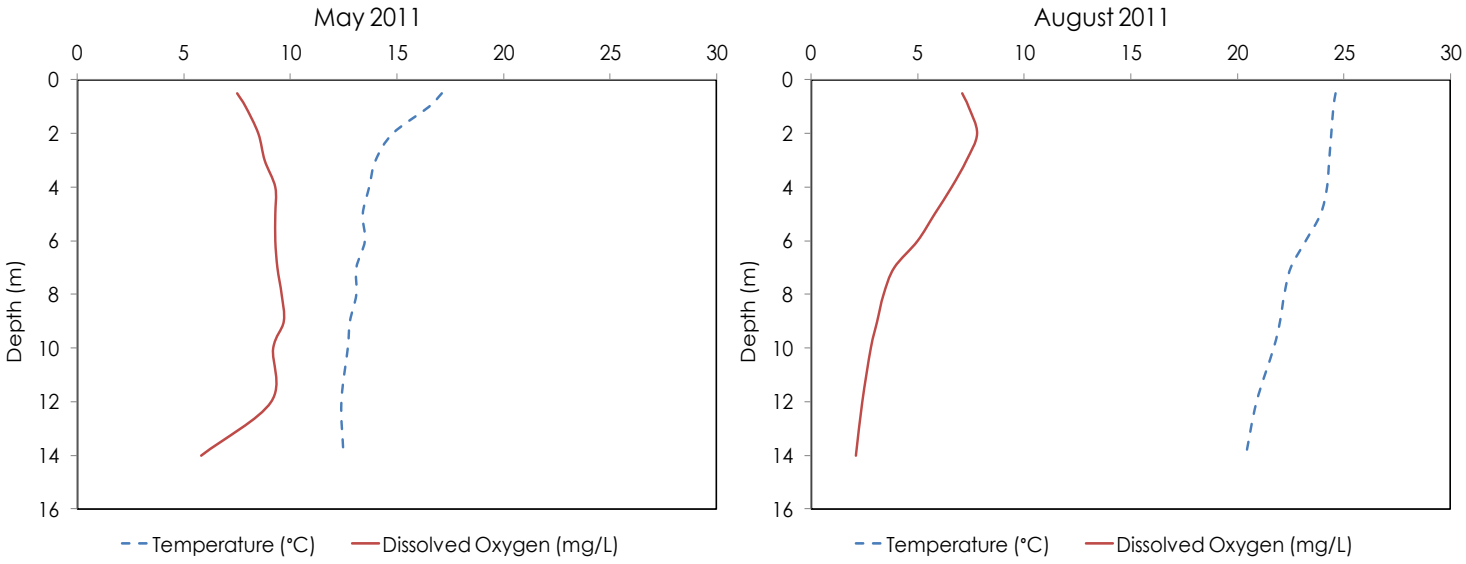
Municipality:	**Lake of Bays**	Watershed:	**Lake Vernon**
Surface Area:	**1.25 km²**	Watershed Area (excluding lake):	**9.4 km²**
Maximum Depth:	**11 m**	Lake Trout Lake?	**No**
Wetland Area:	**9.29 %**	Secchi Depth (10-year average):	**2.3 m**
Phosphorus (10-year average):	**9.4 µg/L**	Sensitivity:	**Moderate**

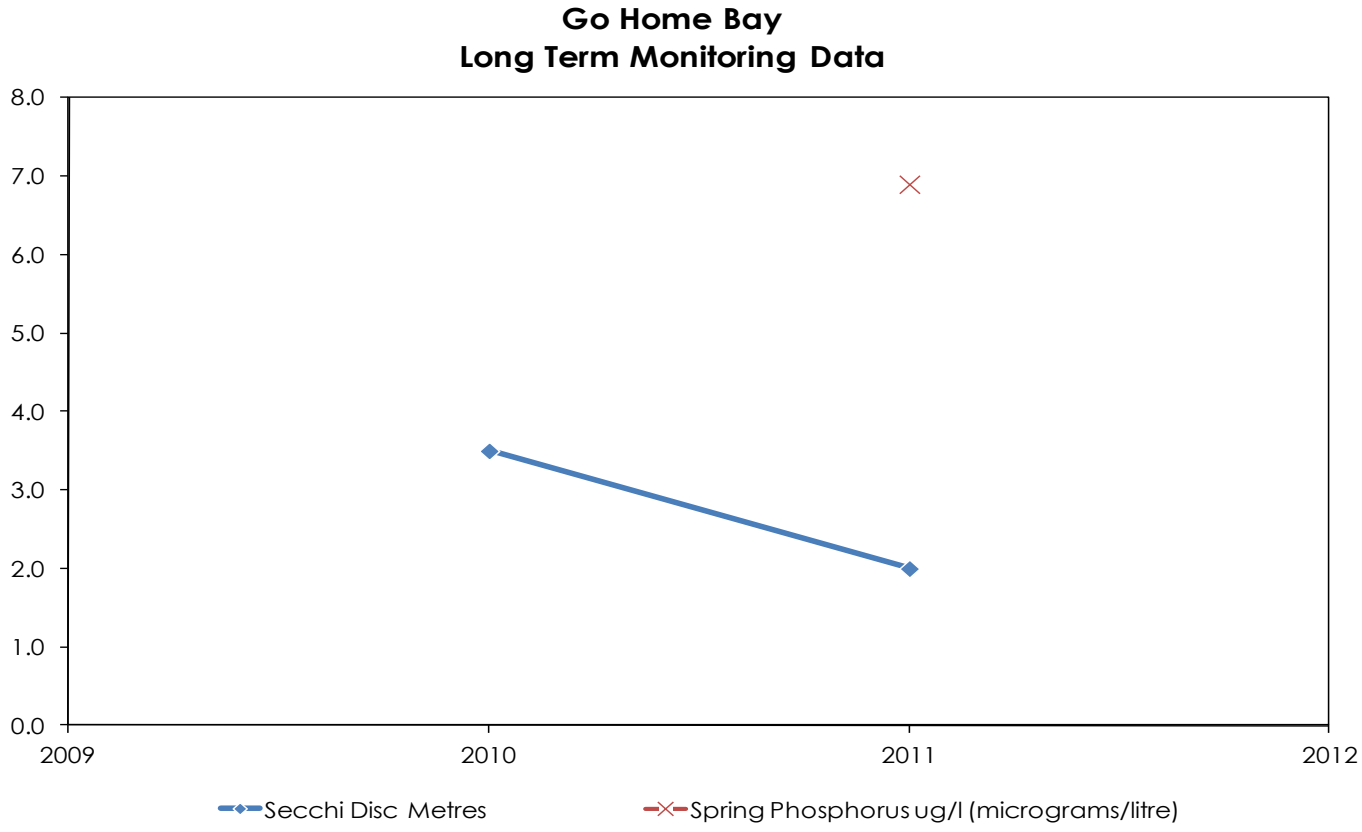




Go Home Bay

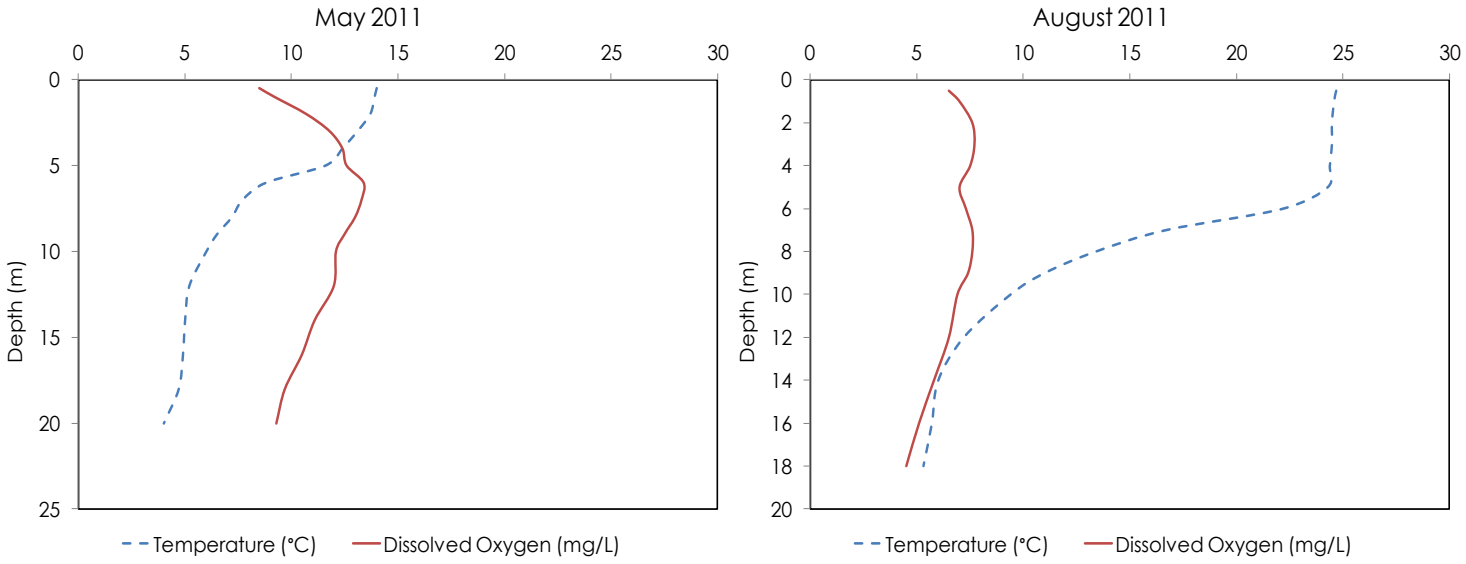
Municipality:	**Georgian Bay**	Watershed:	**Musquash River**
Surface Area:	**Not Available**	Watershed Area (excluding lake):	**Not Available**
Maximum Depth:	**12 m**	Lake Trout Lake?	**Not Applicable**
Wetland Area:	**Not Available**	Secchi Depth (10-year average):	**2.8 m**
Phosphorus (10-year average):	**6.9 µg/L**	Sensitivity:	**Not Available**

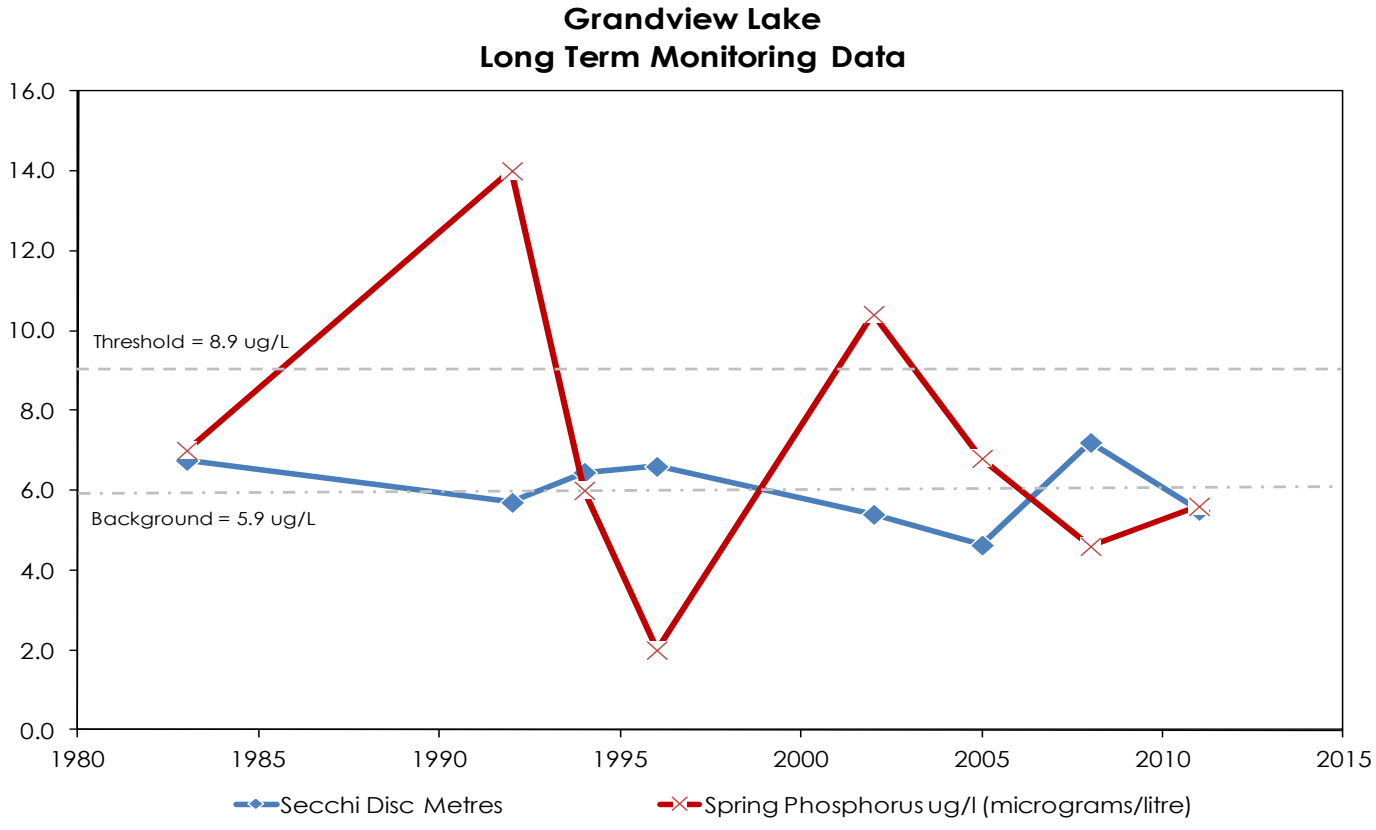




Grandview Lake

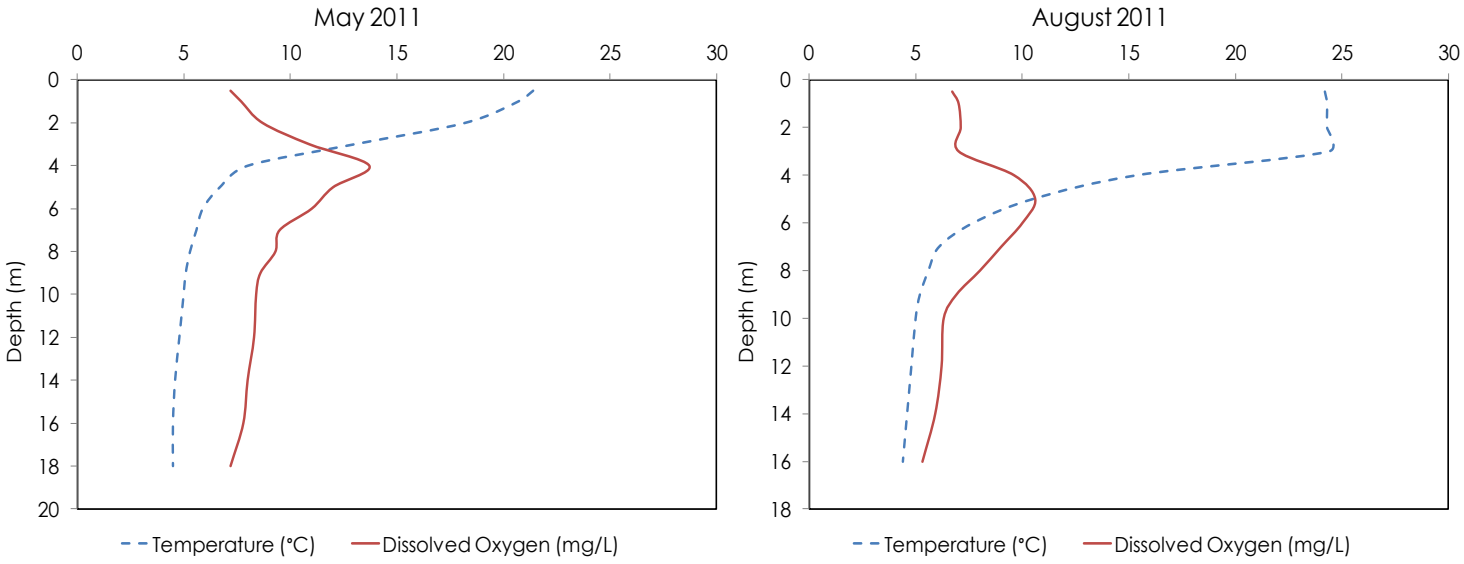
Municipality:	**Lake of Bays**	Watershed:	**Muskoka River**
Surface Area:	**0.75 km²**	Watershed Area (excluding lake):	**1.56 km²**
Maximum Depth:	**26 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**5.7 m**
Phosphorus (10-year average):	**6.9 µg/L**	Sensitivity:	**Moderate**

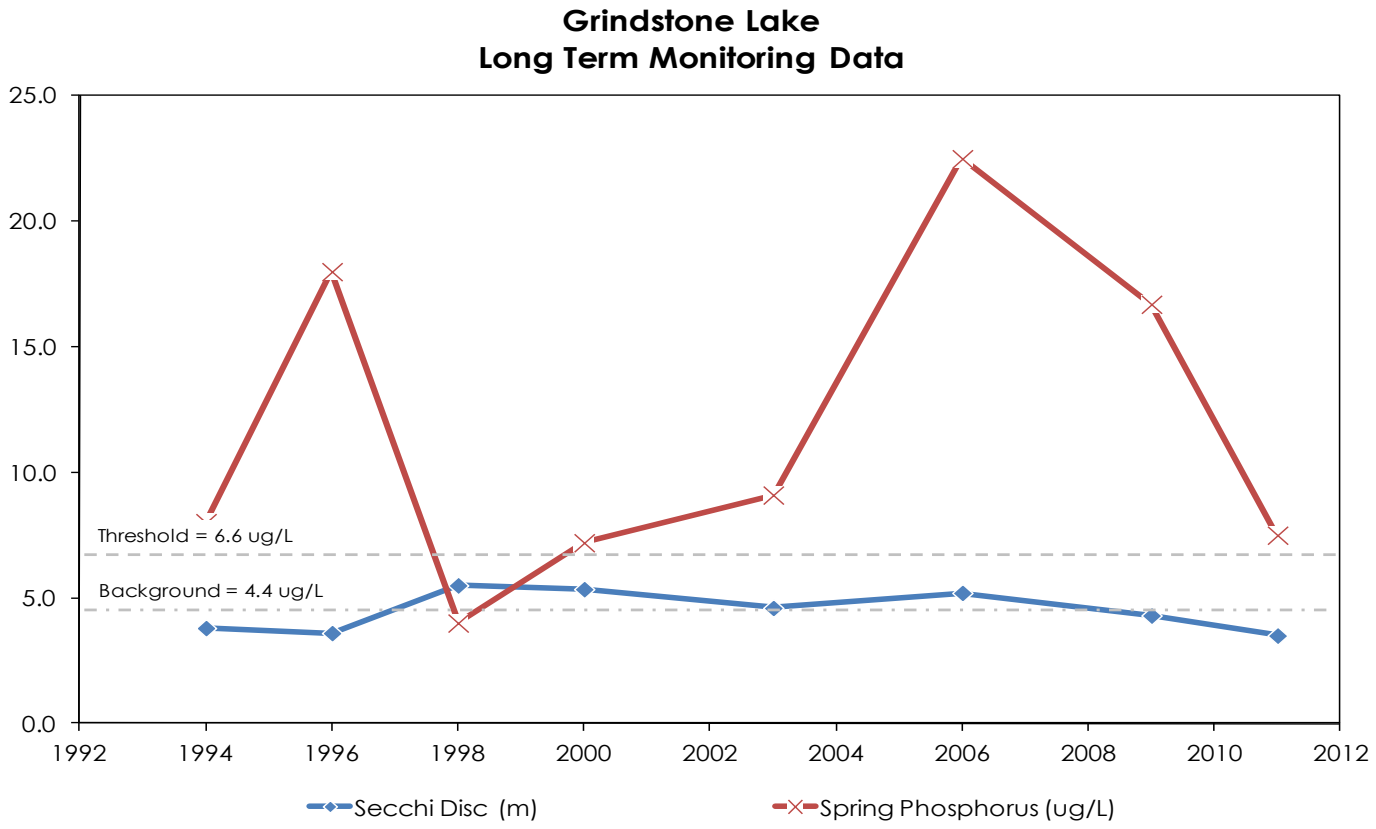




Grindstone Lake

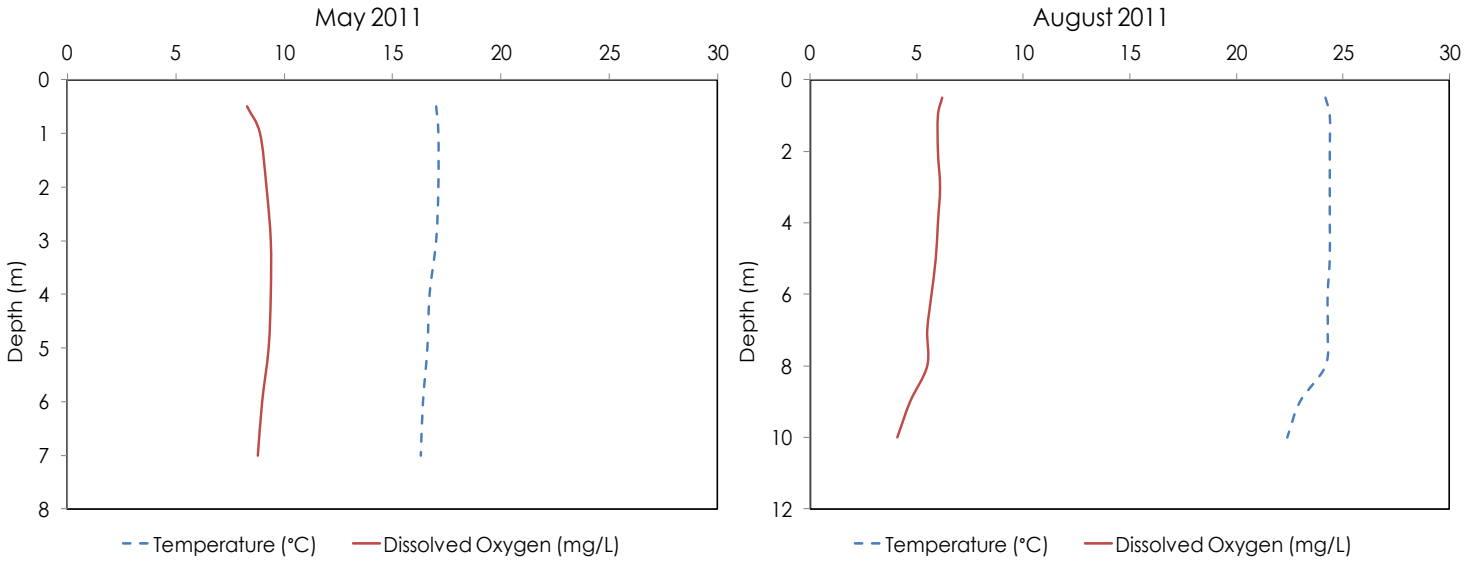
Municipality:	**Lake of Bays**	Watershed:	**Black River**
Surface Area:	**0.32 km²**	Watershed Area (excluding lake):	**2.35 km²**
Maximum Depth:	**26 m**	Lake Trout Lake?	**No**
Wetland Area:	**5.31 %**	Secchi Depth (10-year average):	**4.4 m**
Phosphorus (10-year average):	**14.0 µg/L**	Sensitivity:	**Moderate**

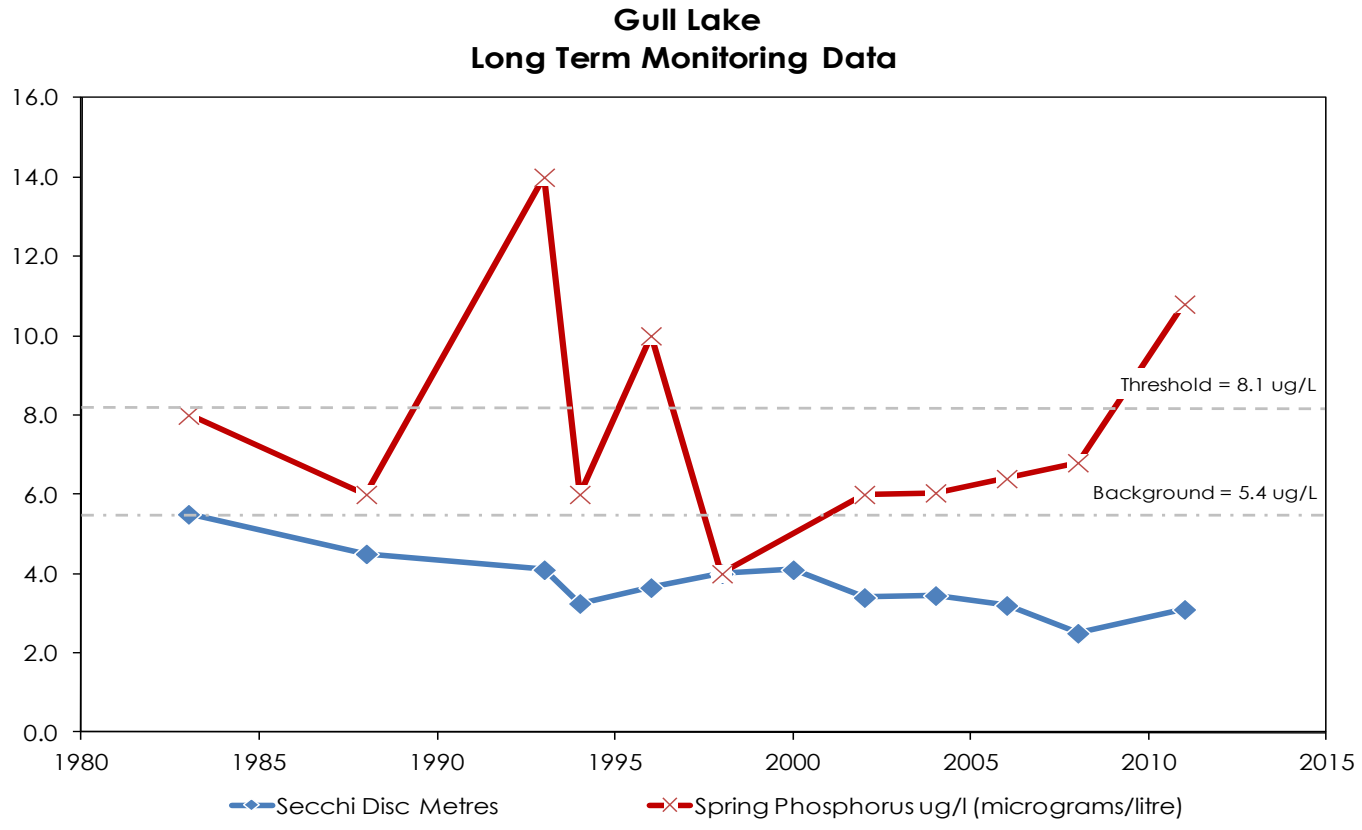




Gull Lake

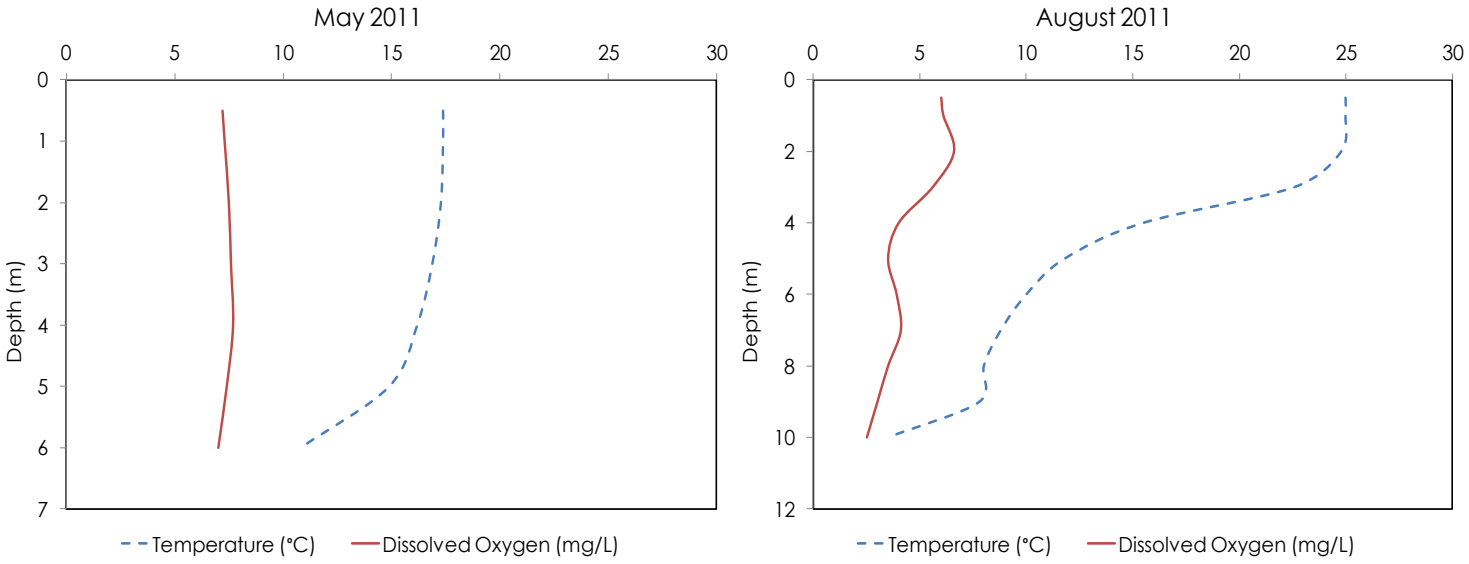
Municipality:	**Gravenhurst**	Watershed:	**Lake Muskoka**
Surface Area:	**1.35 km²**	Watershed Area (excluding lake):	**3.6 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**3.1 m**
Phosphorus (10-year average):	**7.2 µg/L**	Sensitivity:	**Moderate**

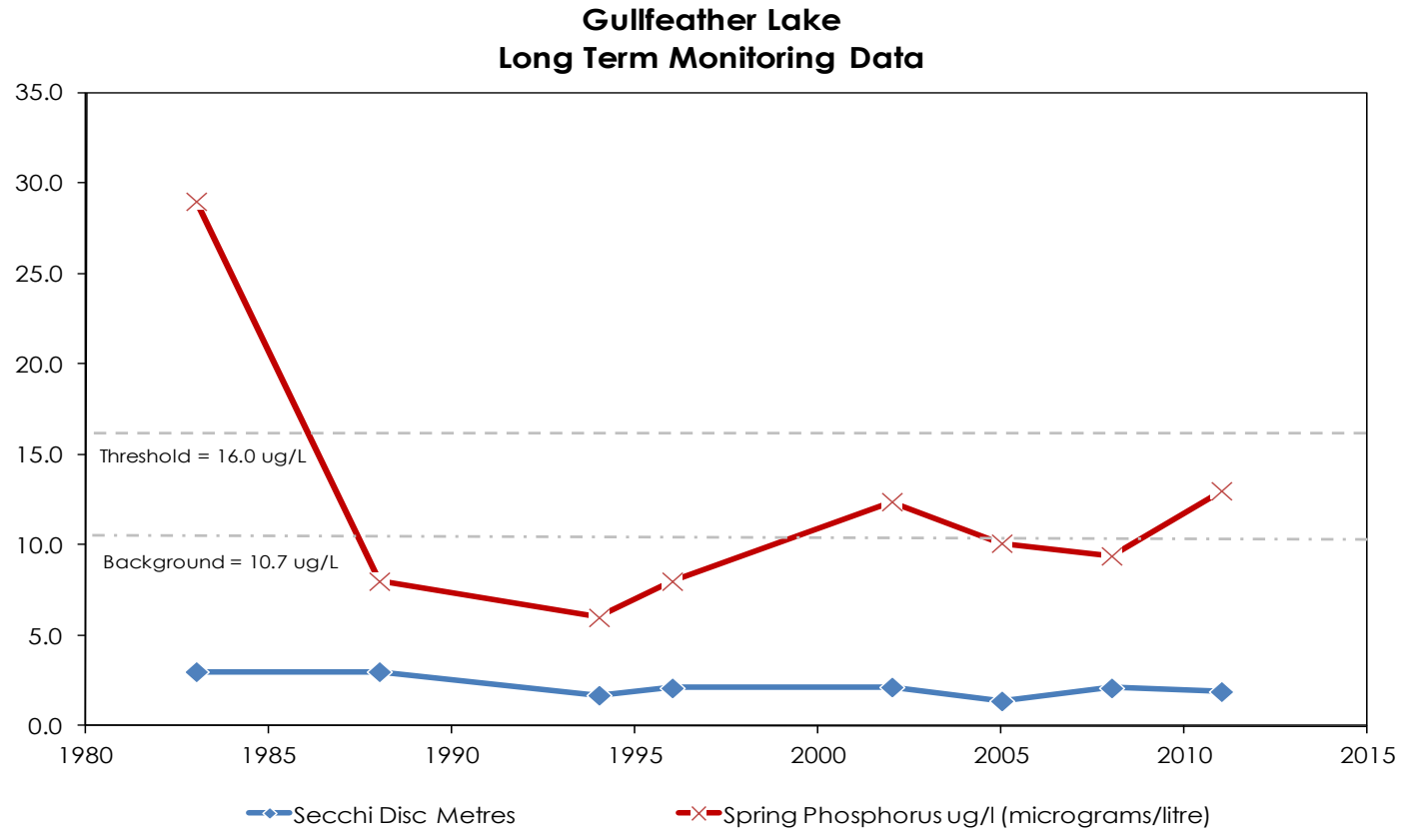




Gullfeather Lake

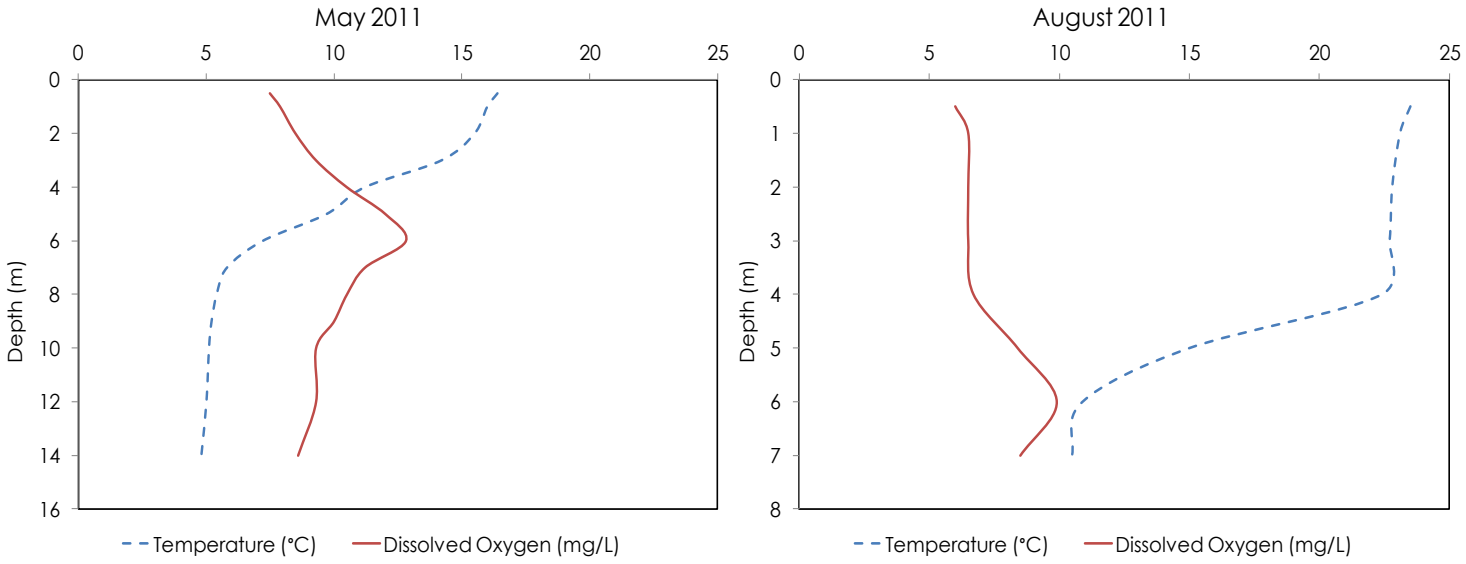
Municipality:	**Bracebridge**	Watershed:	**Black River**
Surface Area:	**0.67 km²**	Watershed Area (excluding lake):	**9.93 km²**
Maximum Depth:	**11 m**	Lake Trout Lake?	**No**
Wetland Area:	**9 %**	Secchi Depth (10-year average):	**1.9 m**
Phosphorus (10-year average):	**11.2 µg/L**	Sensitivity:	**Moderate**

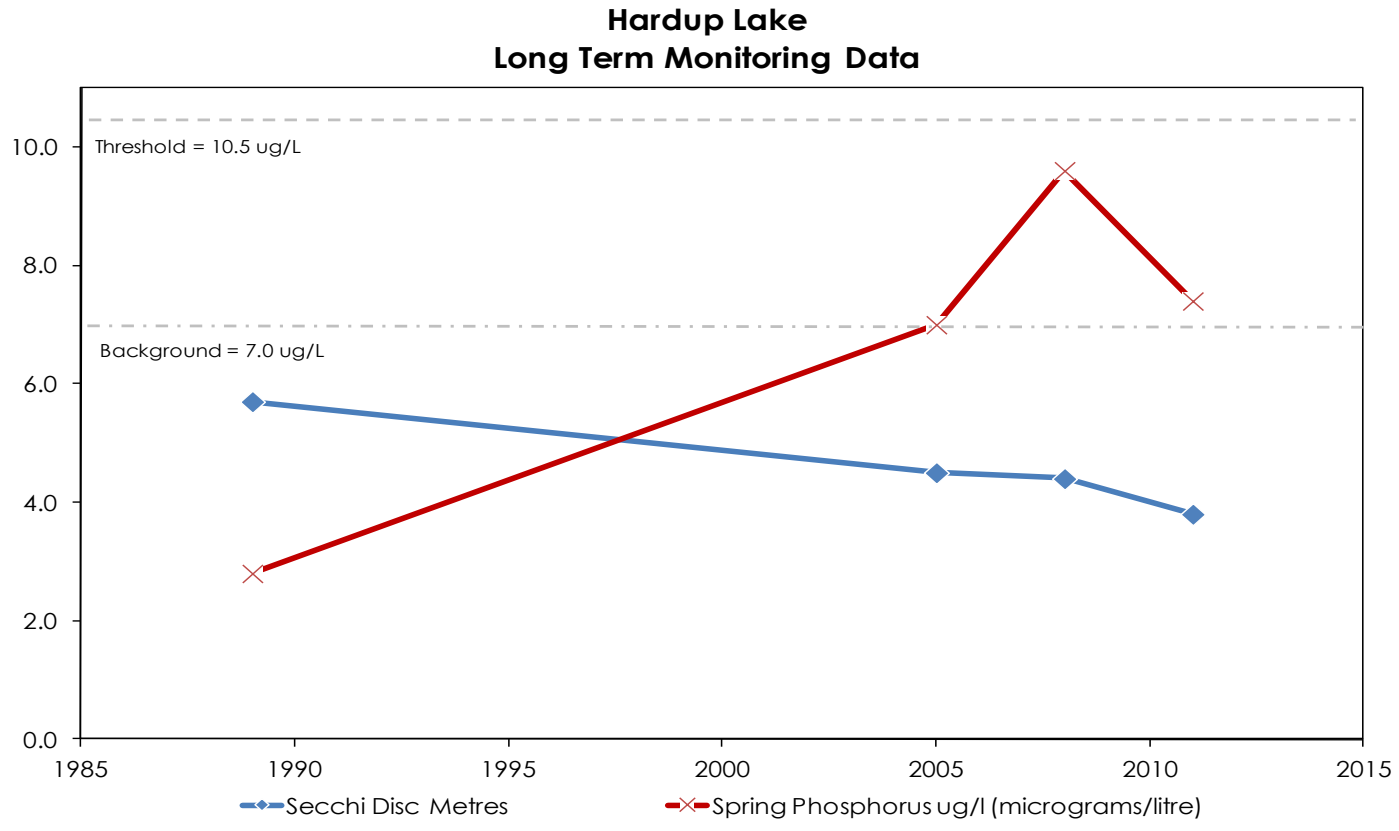




Hardup Lake

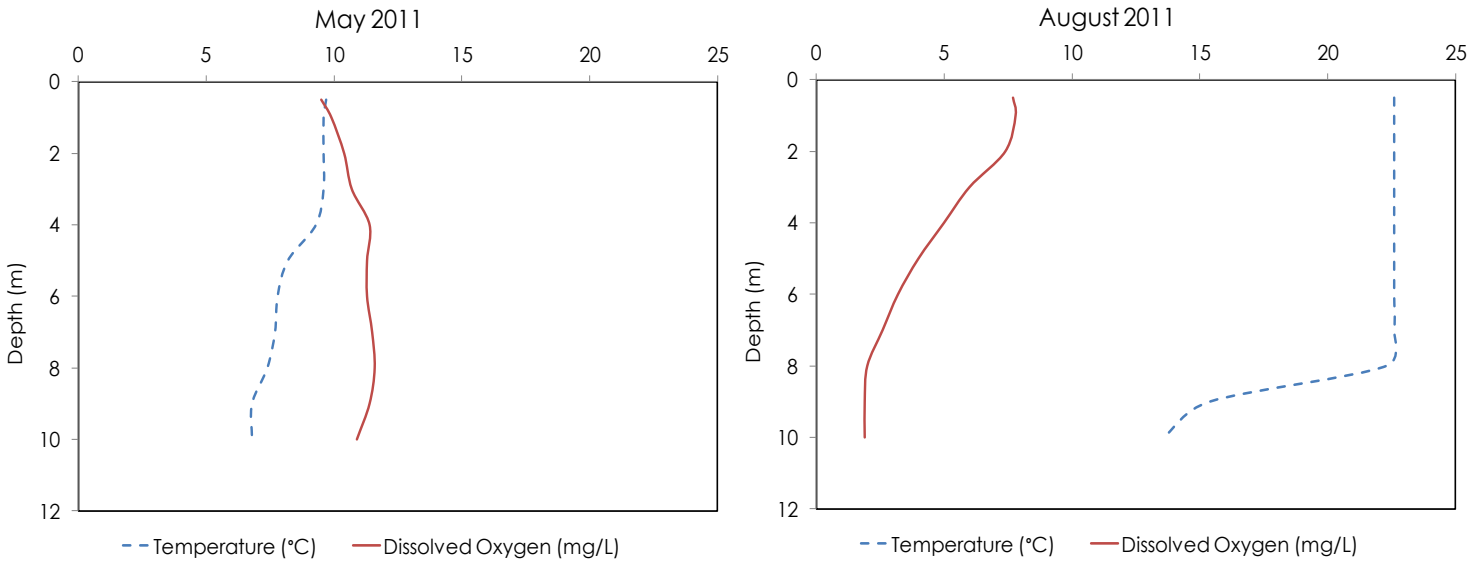
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.22 km²**	Watershed Area (excluding lake):	**0.72 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**18 %**	Secchi Depth (10-year average):	**4.2 m**
Phosphorus (10-year average):	**8.0 µg/L**	Sensitivity:	**Moderate**

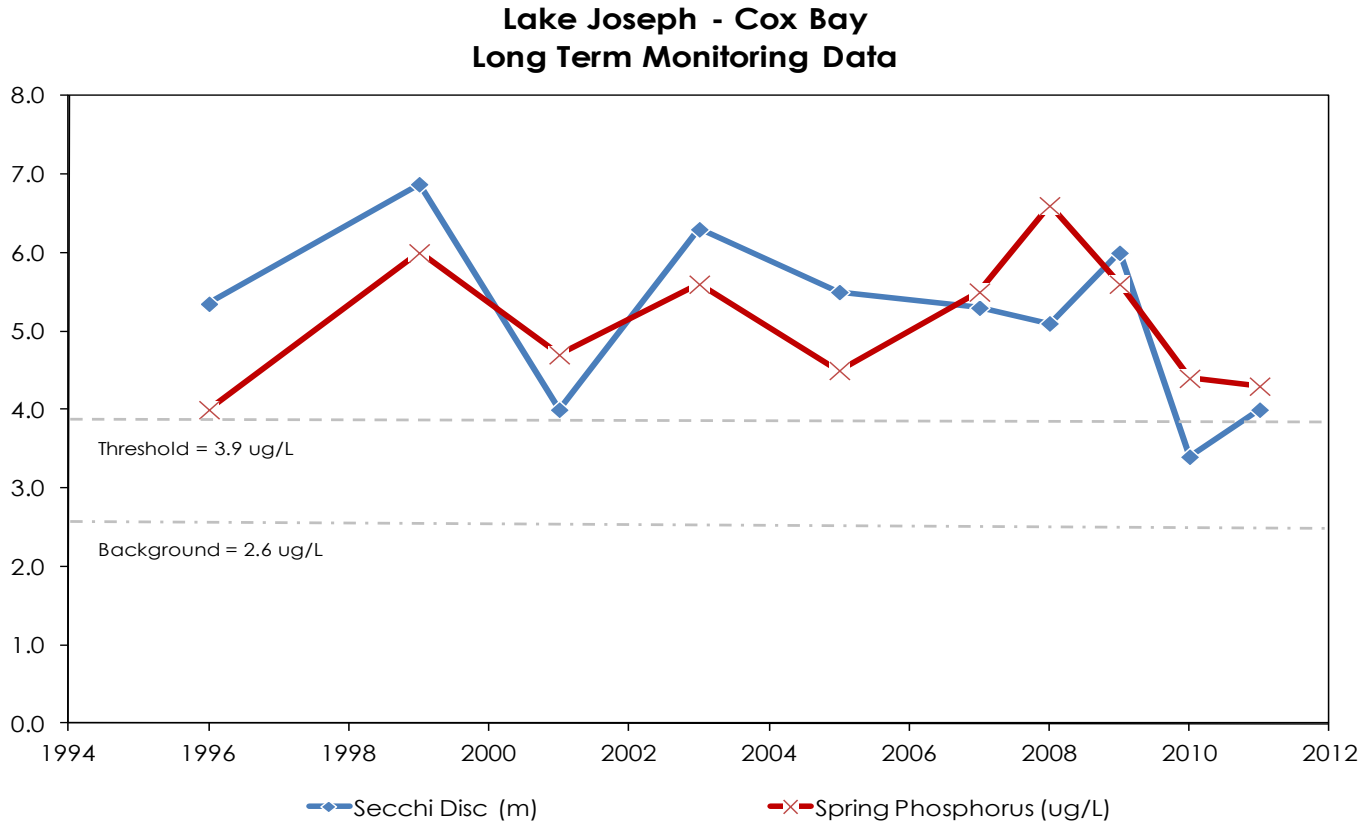




Lake Joseph – Cox Bay

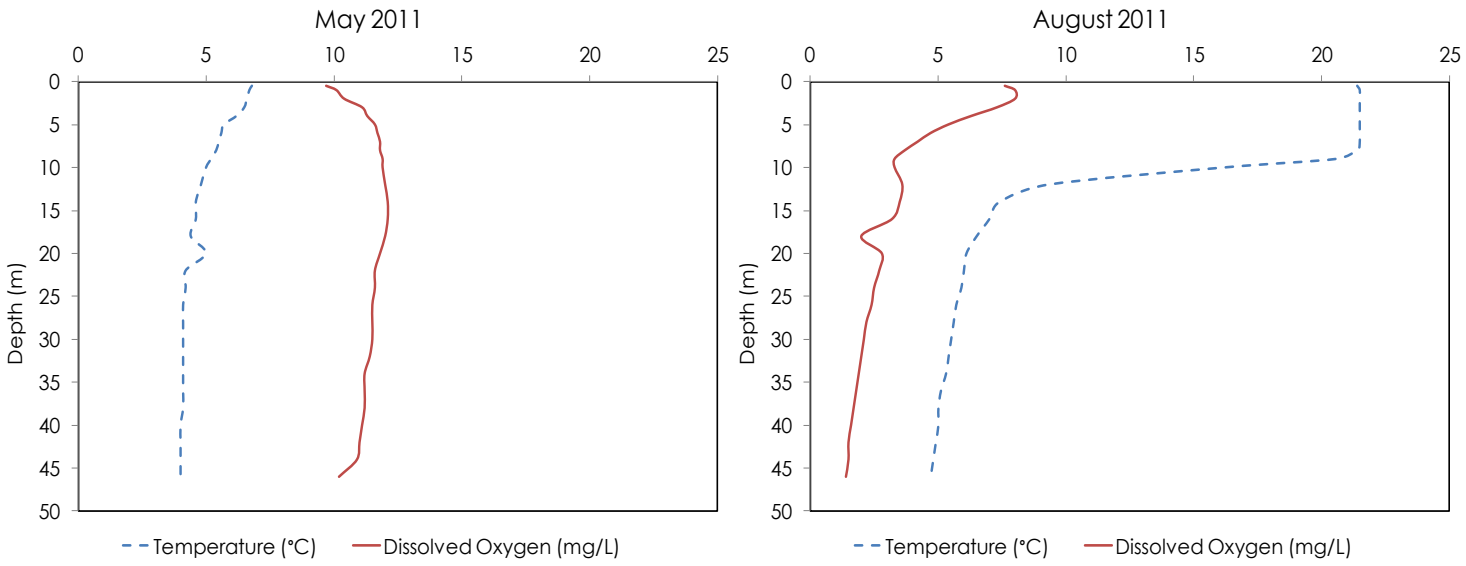
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph/Lake Rosseau**
Surface Area:	**1.9 km²**	Watershed Area (excluding lake):	**4.2 km²**
Maximum Depth:	**14 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**4.07 %**	Secchi Depth (10-year average):	**5.1 m**
Phosphorus (10-year average):	**5.2 µg/L**	Sensitivity:	**Moderate (OT)**

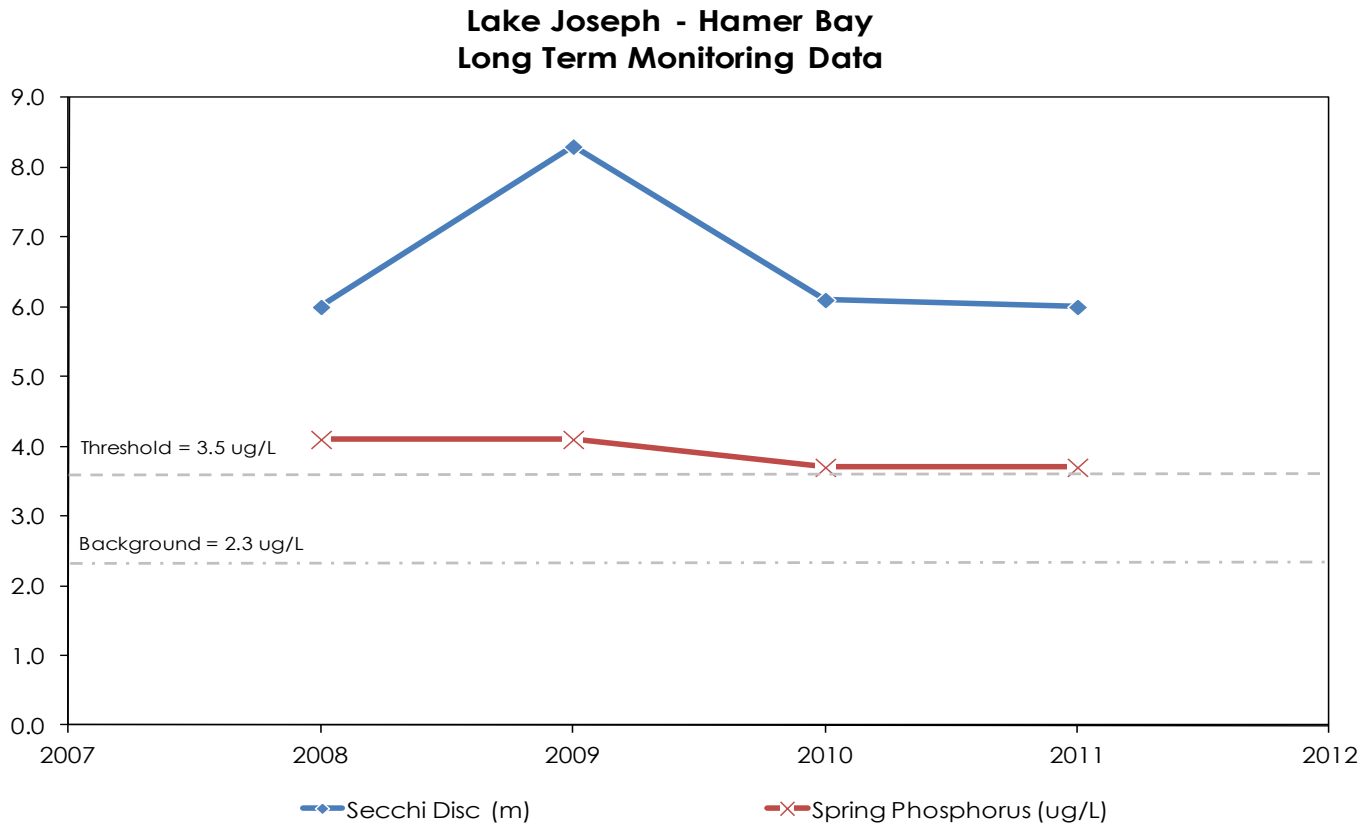




Lake Joseph – Hamer Bay

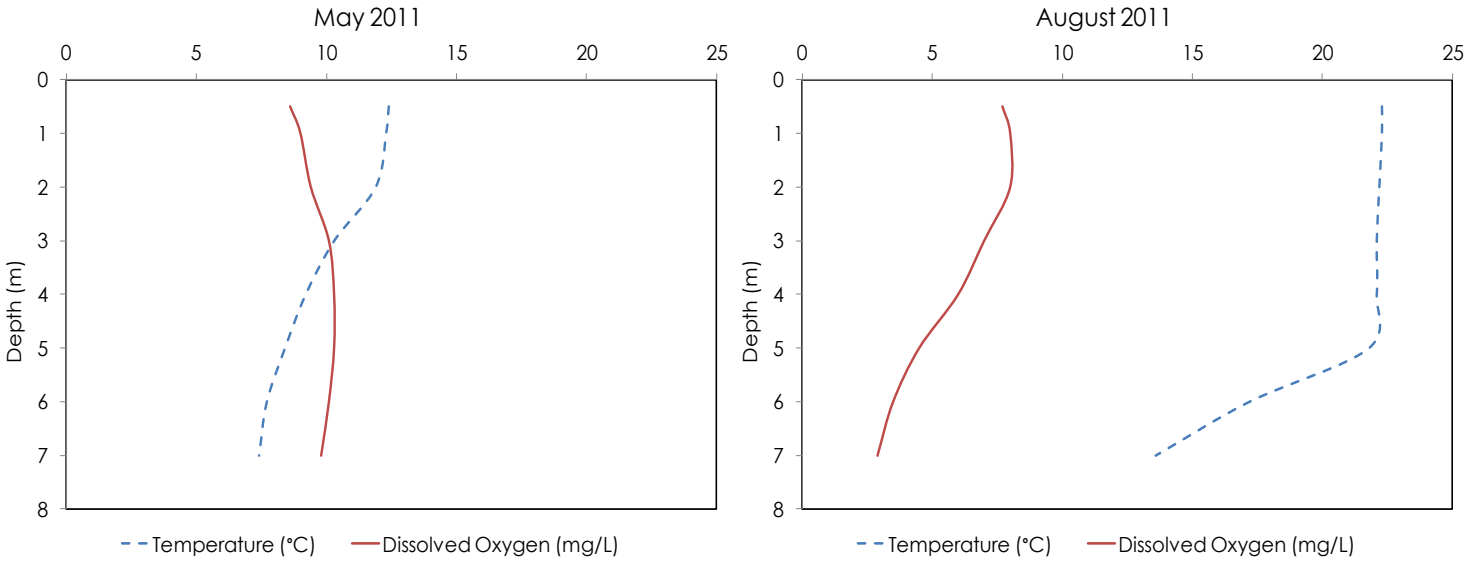
Municipality:	**Seguin**	Watershed:	**Lake Joseph**
Surface Area:	**1.2 km²**	Watershed Area (excluding lake):	**3.8 km²**
Maximum Depth:	**47 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**6.6 m**
Phosphorus (10-year average):	**3.9 µg/L**	Sensitivity:	**High**

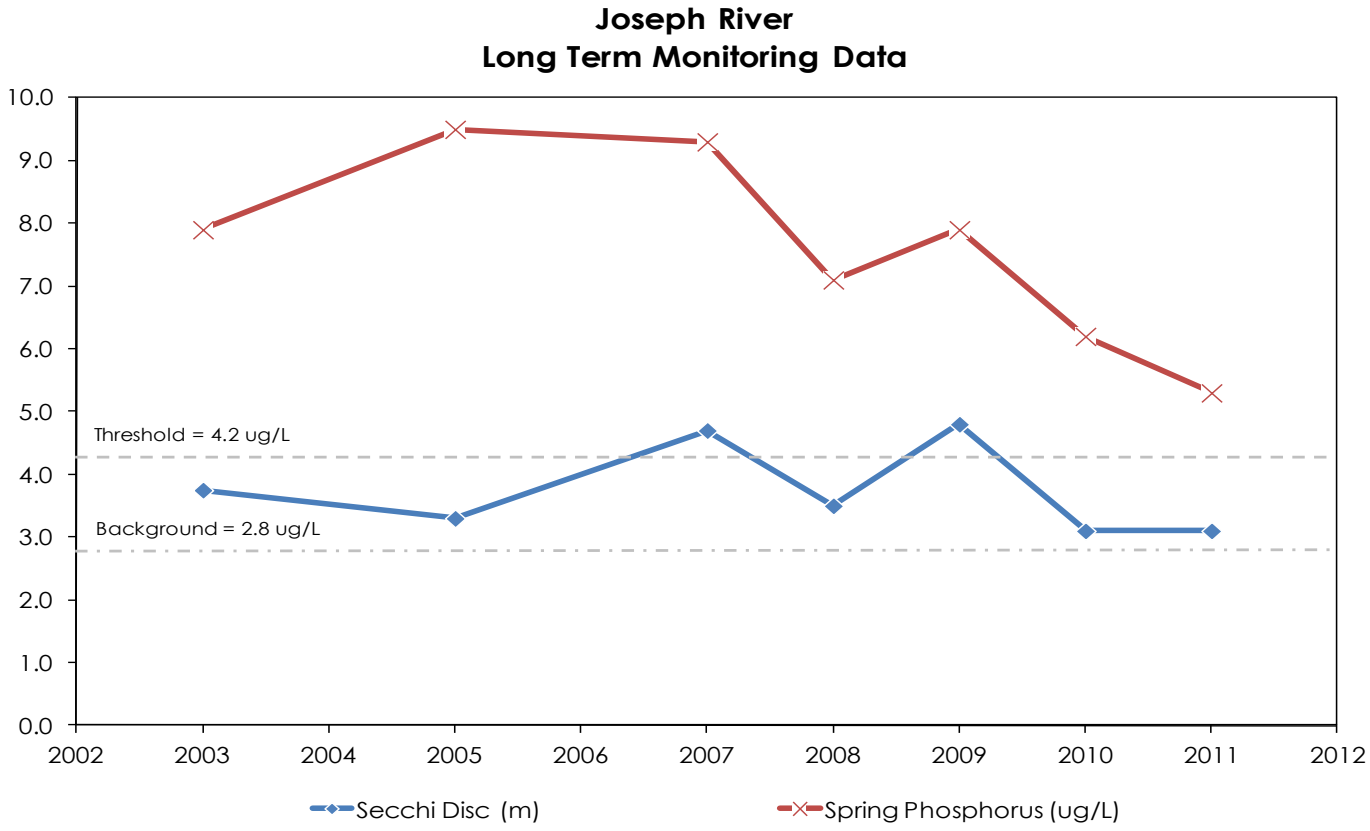




Lake Joseph – Joseph River

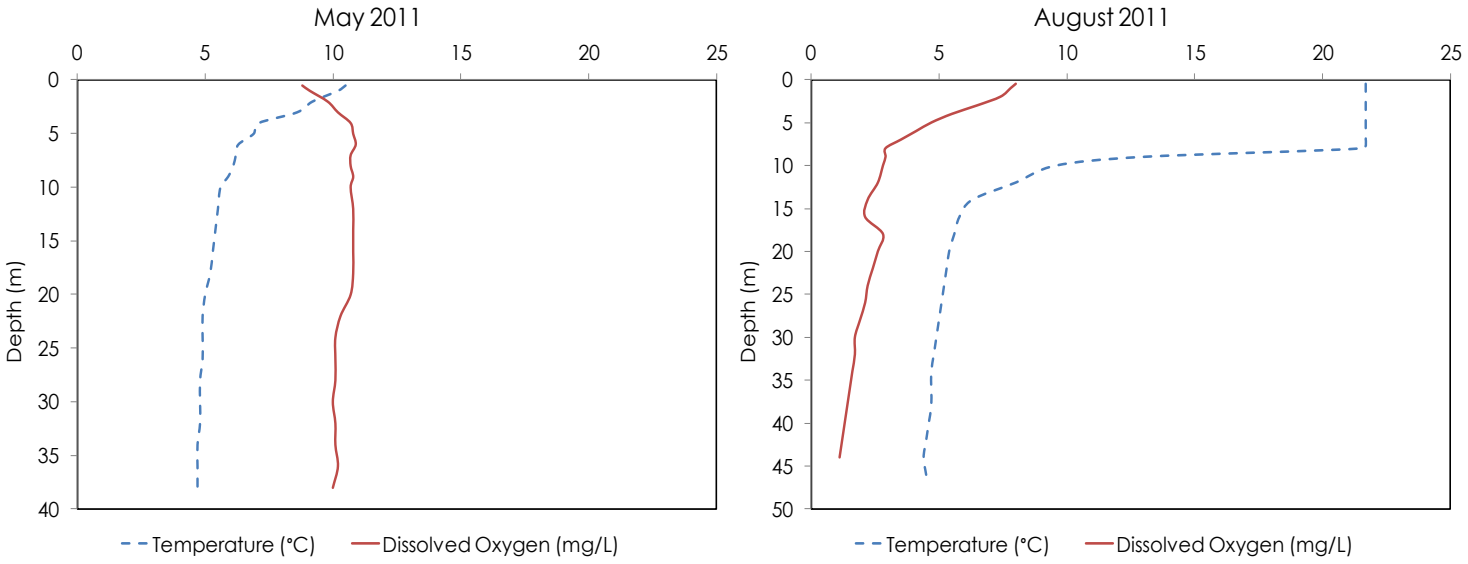
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph/Lake Rosseau**
Surface Area:	**1.37 km²**	Watershed Area (excluding lake):	**7.93 km²**
Maximum Depth:	**8 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5.73 %**	Secchi Depth (10-year average):	**3.8 m**
Phosphorus (10-year average):	**7.6 µg/L**	Sensitivity:	**Moderate**

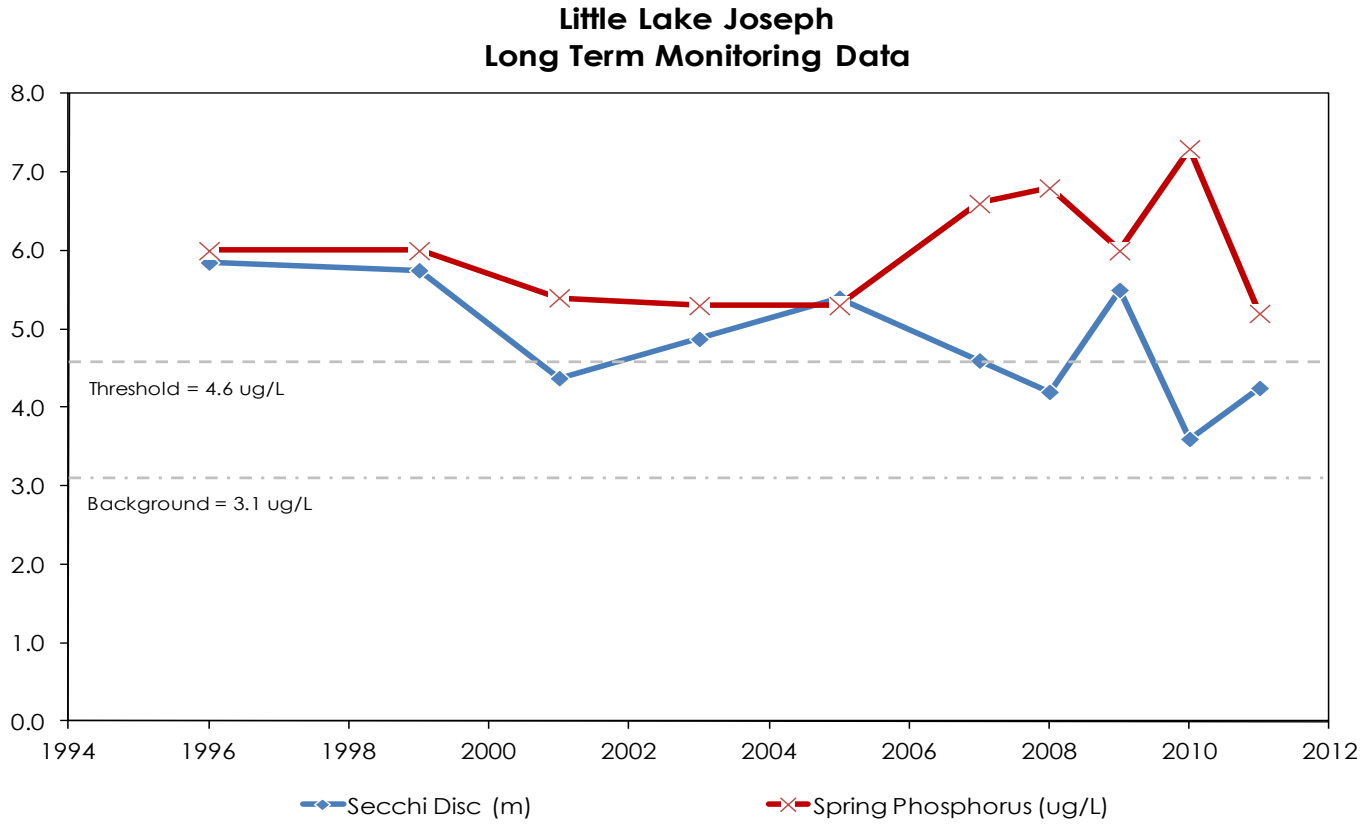




Lake Joseph – Little Lake Joseph

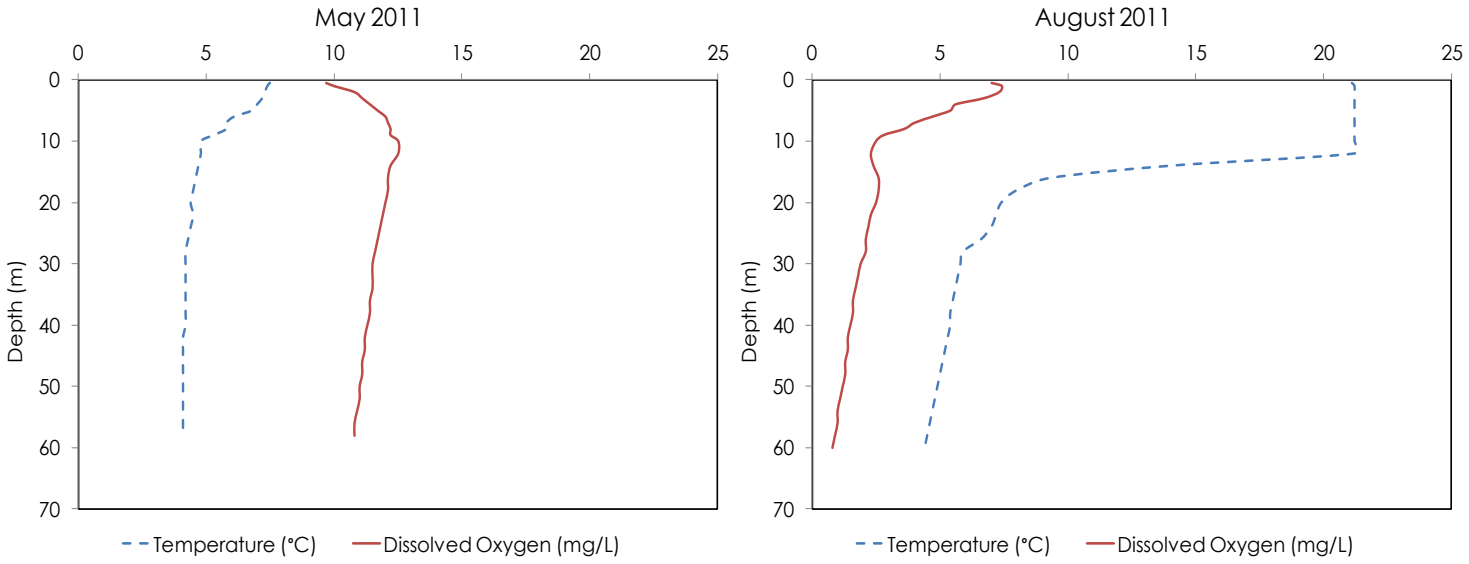
Municipality:	**Seguin**	Watershed:	**Lake Joseph**
Surface Area:	**2.8 km²**	Watershed Area (excluding lake):	**6.5 km²**
Maximum Depth:	**40 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**4.96 %**	Secchi Depth (10-year average):	**4.6 m**
Phosphorus (10-year average):	**6.1 µg/L**	Sensitivity:	**Moderate**

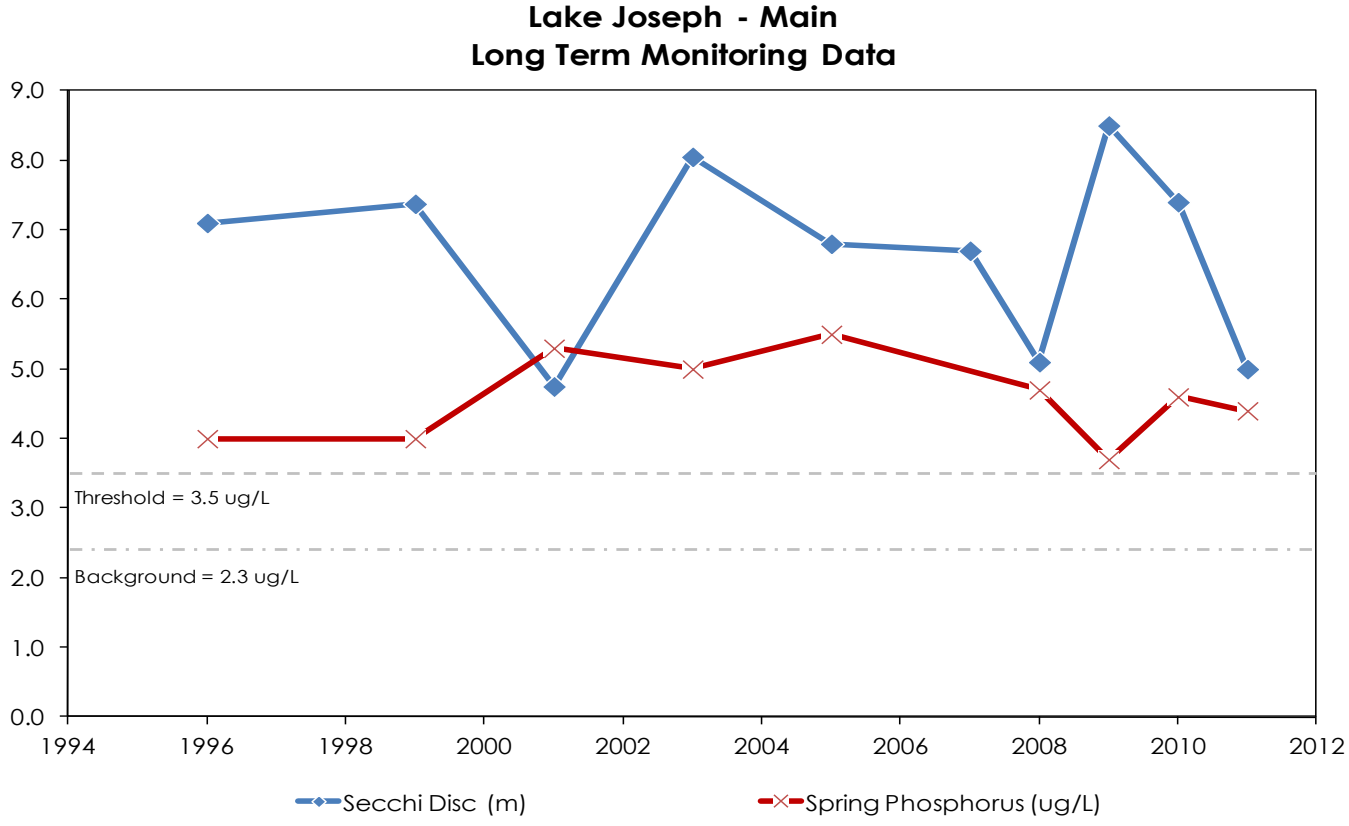




Lake Joseph – Main

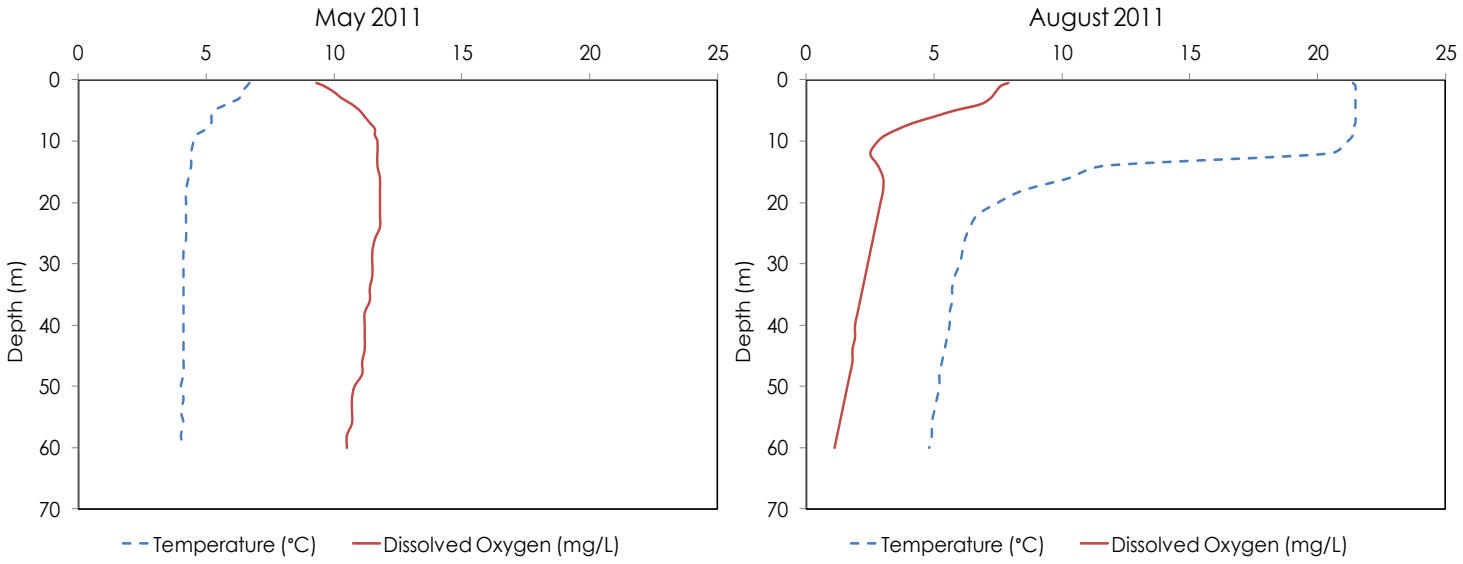
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**28.1 km²**	Watershed Area (excluding lake):	**89.6 km²**
Maximum Depth:	**89 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**6.8 m**
Phosphorus (10-year average):	**4.7 µg/L**	Sensitivity:	**High**

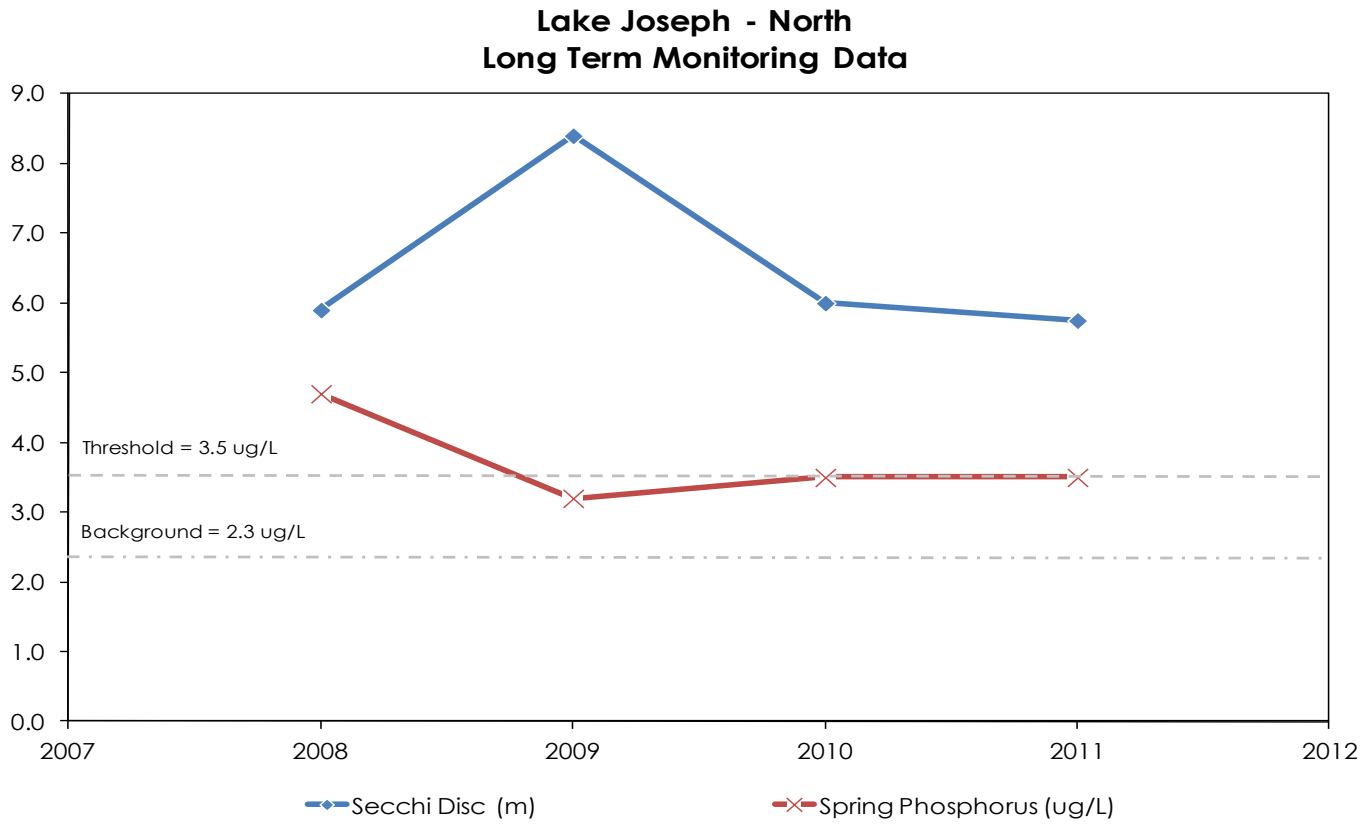




Lake Joseph – North

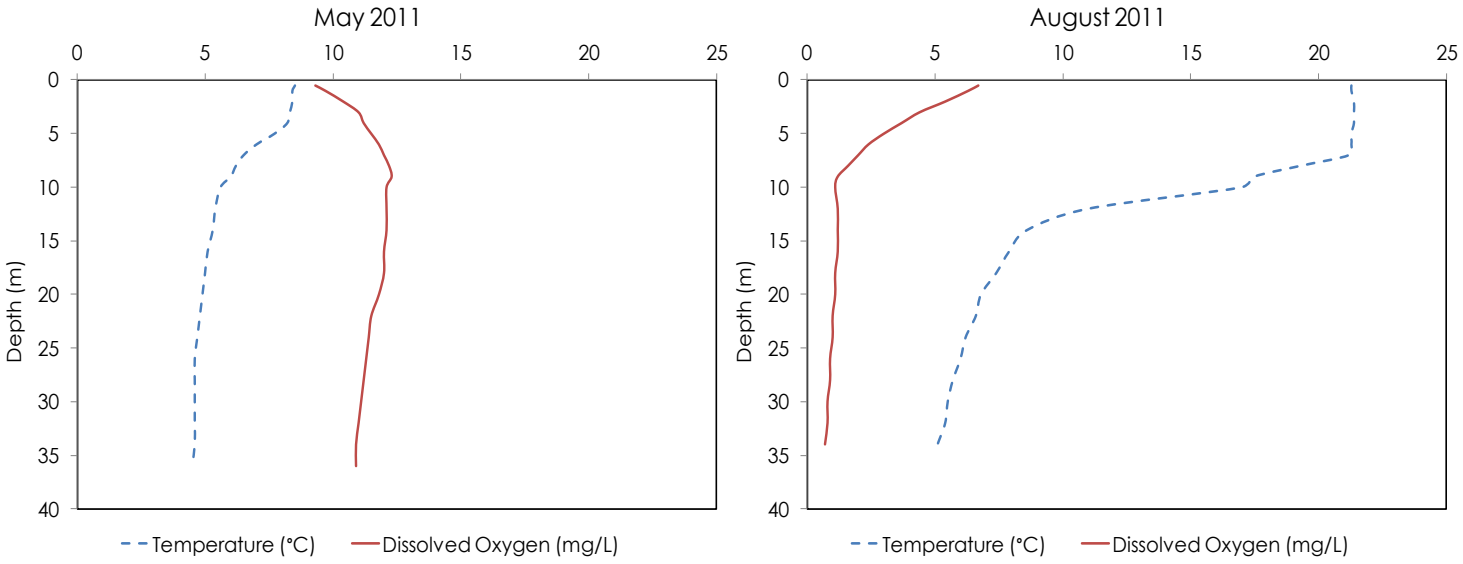
Municipality:	**Seguin**	Watershed:	**Lake Joseph**
Surface Area:	**5.3 km²**	Watershed Area (excluding lake):	**15.4 km²**
Maximum Depth:	**94 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**6.5 m**
Phosphorus (10-year average):	**3.7 µg/L**	Sensitivity:	**High**

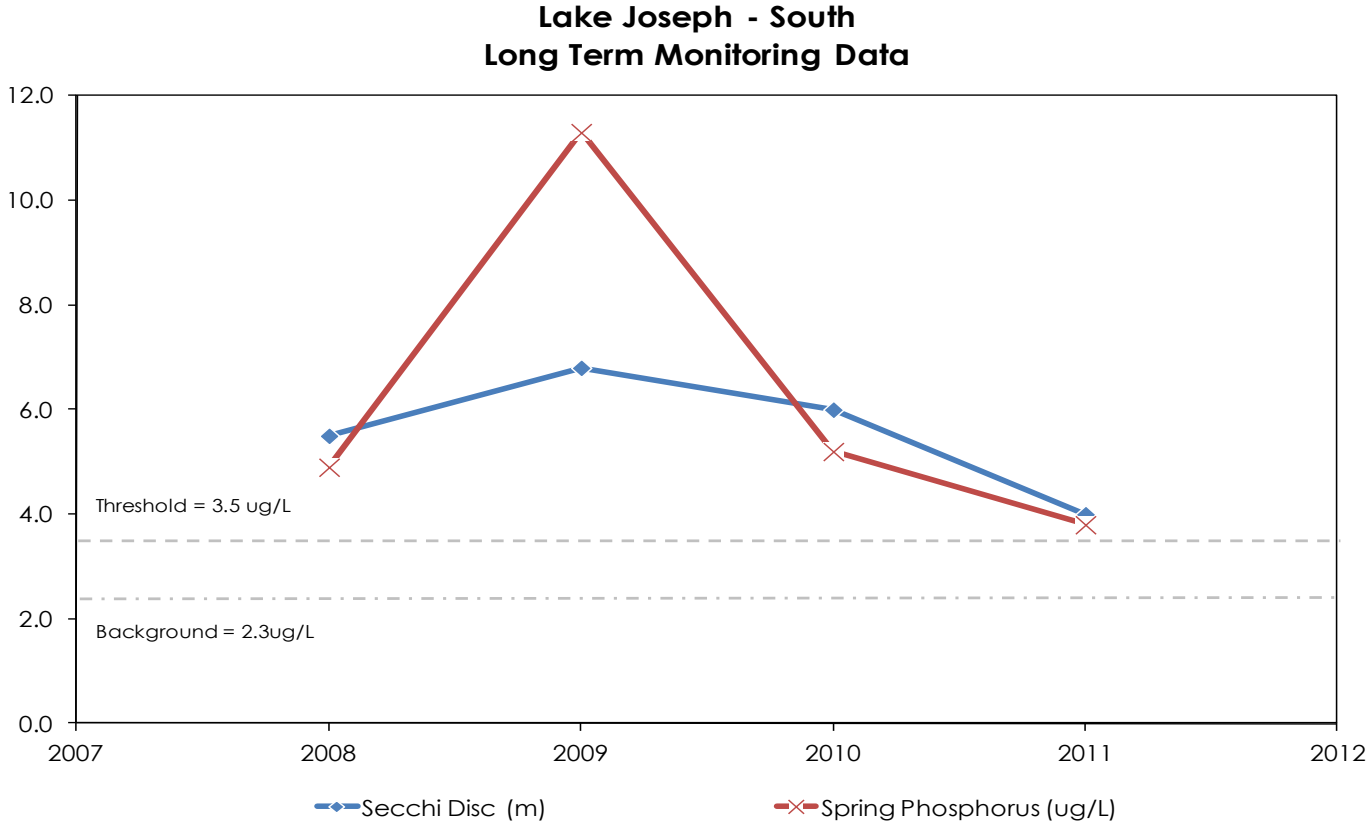




Lake Joseph – South

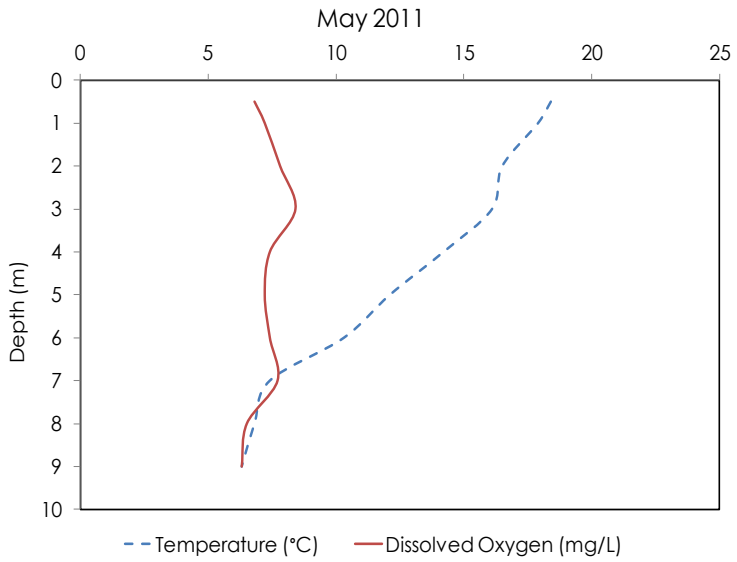
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Joseph**
Surface Area:	**15.0 km²**	Watershed Area (excluding lake):	**19.7 km²**
Maximum Depth:	**38 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**5.6 m**
Phosphorus (10-year average):	**6.3 µg/L**	Sensitivity:	**High**

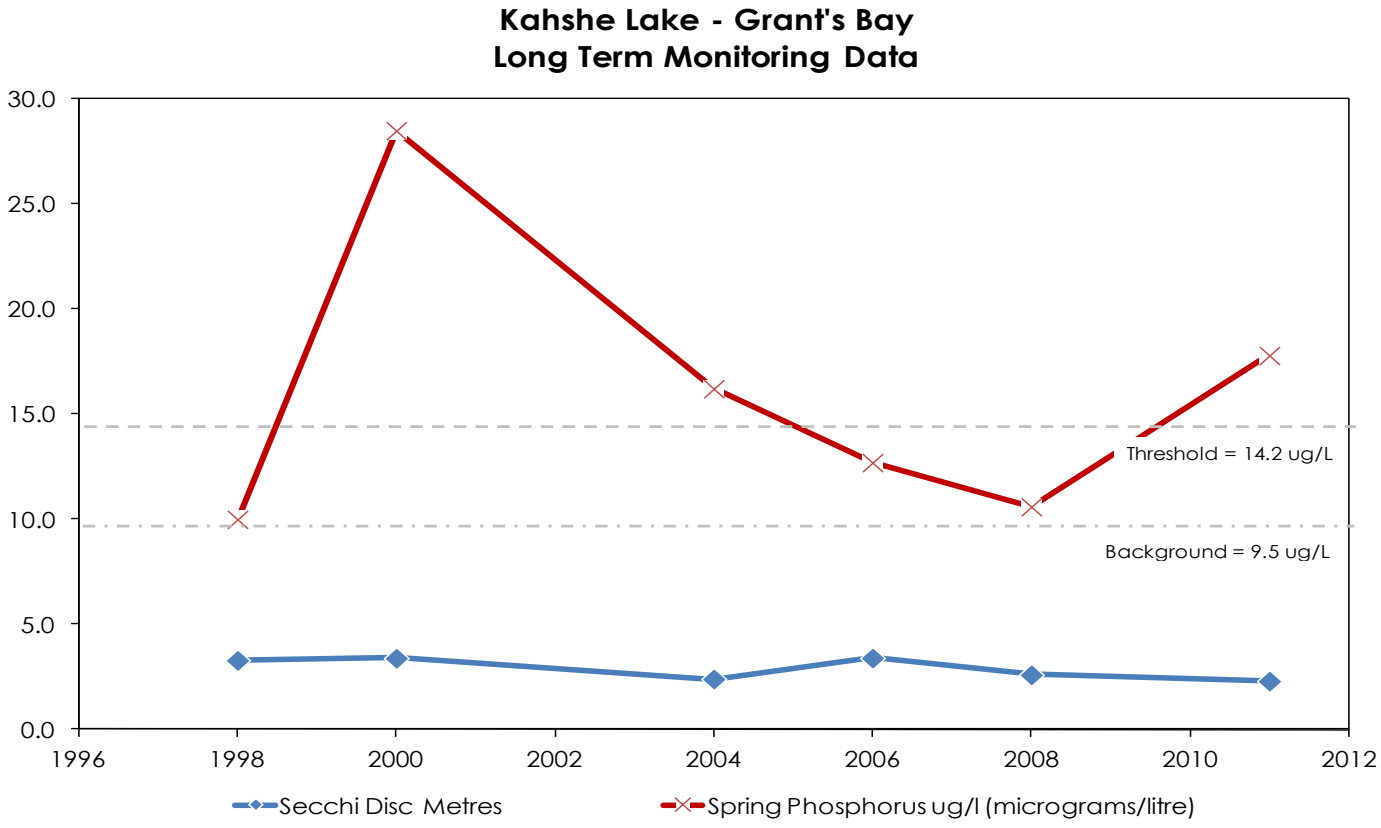




Kahshe Lake – Grant's Bay

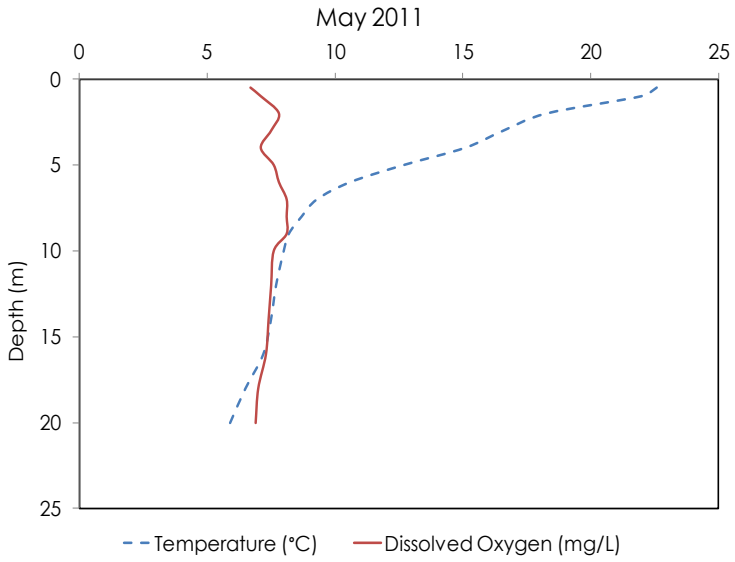
Municipality:	**Gravenhurst**	Watershed:	**Sparrow Lake**
Surface Area:	**8.3 km²**	Watershed Area (excluding lake):	**32.7 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**2.7 m**
Phosphorus (10-year average):	**14.3 µg/L**	Sensitivity:	**Moderate**

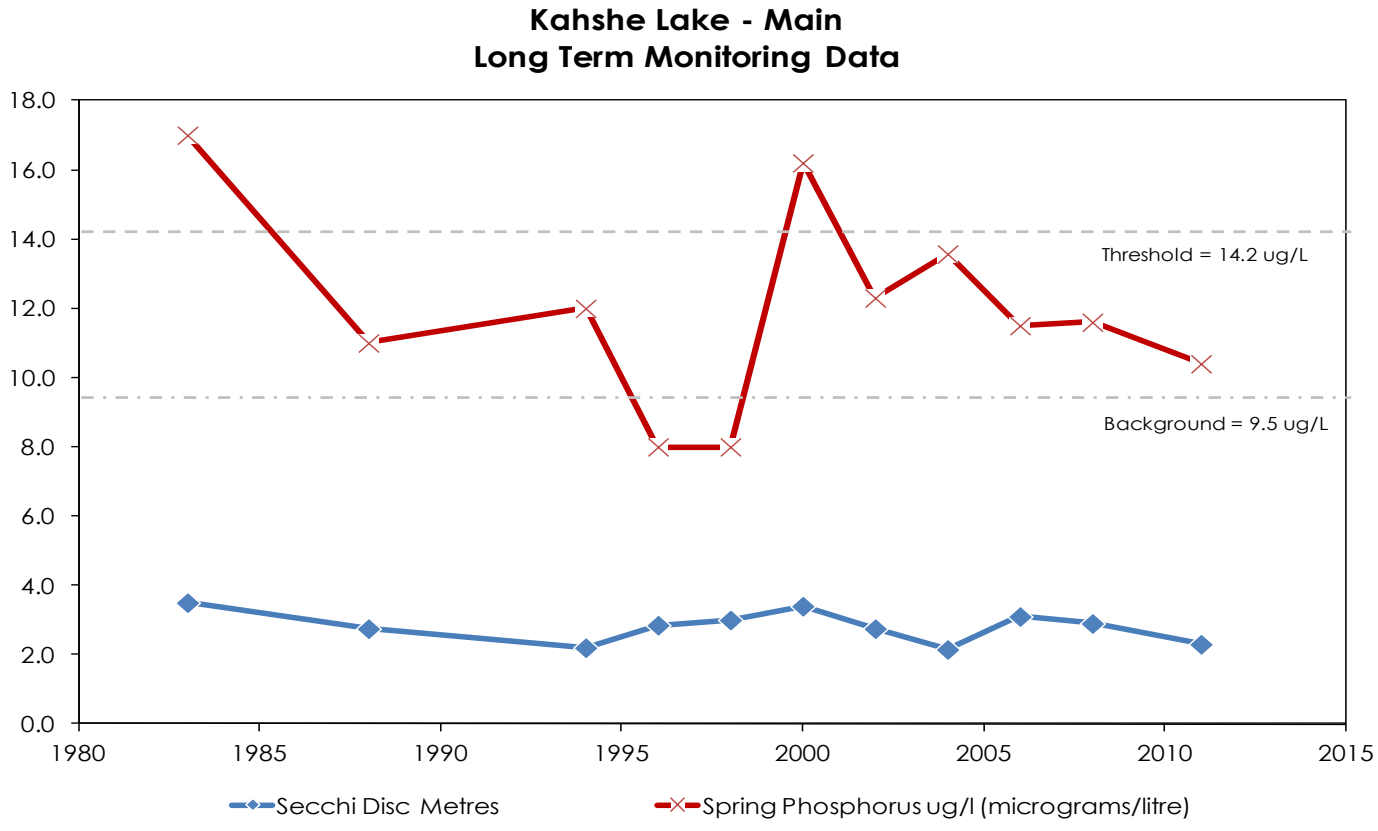




Kahshe Lake – Main

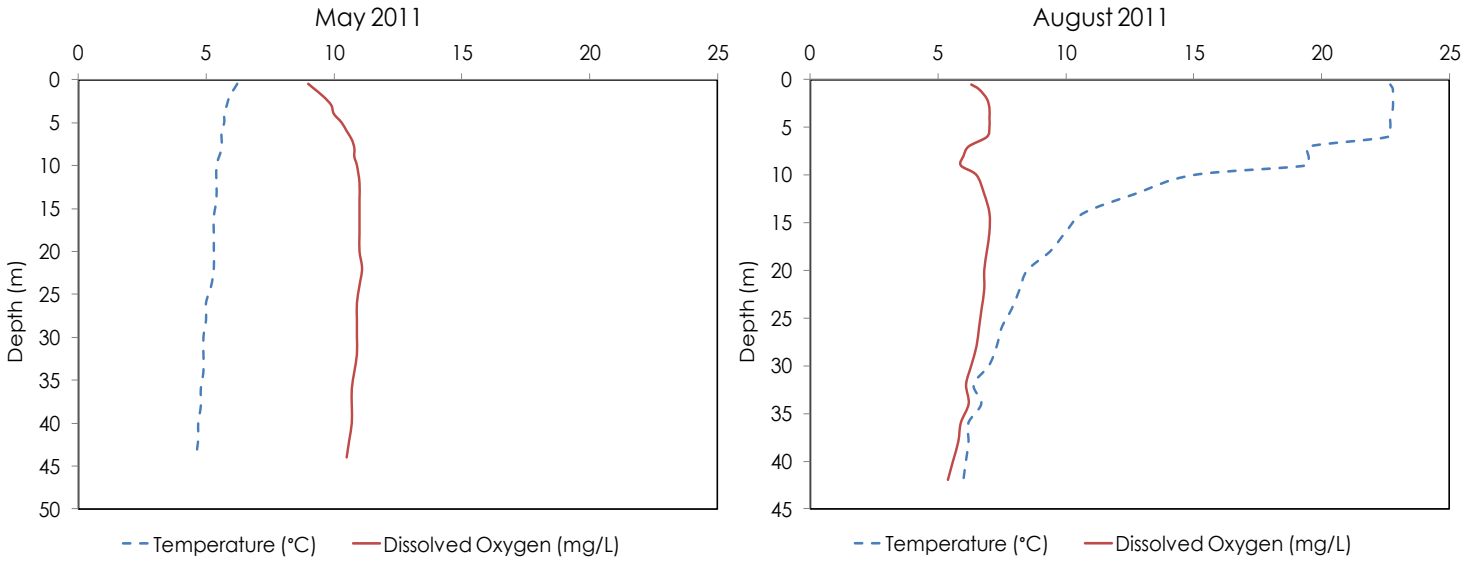
Municipality:	**Gravenhurst**	Watershed:	**Sparrow Lake**
Surface Area:	**8.3 km²**	Watershed Area (excluding lake):	**32.7 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**2.6 m**
Phosphorus (10-year average):	**11.9 µg/L**	Sensitivity:	**Moderate**

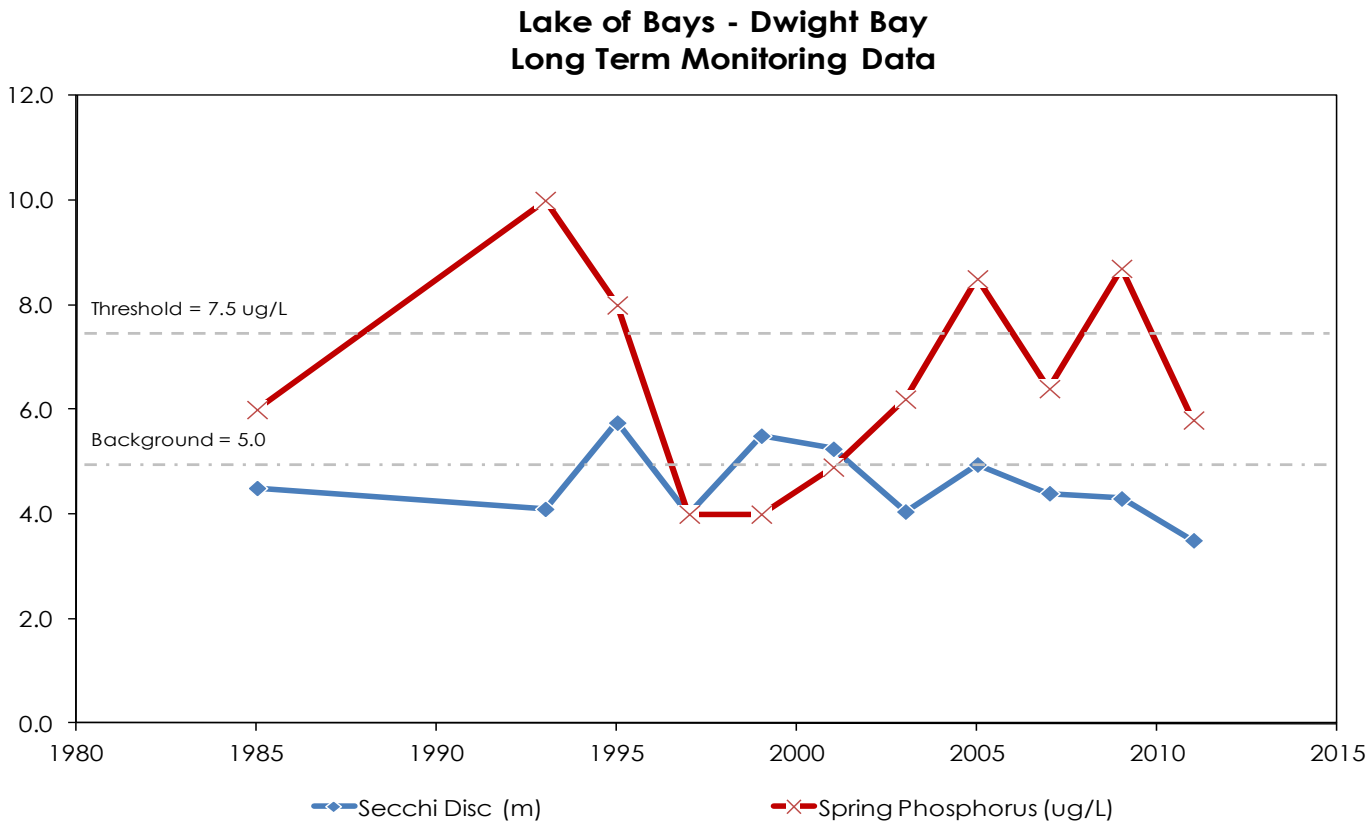




Lake of Bays – Dwight Bay

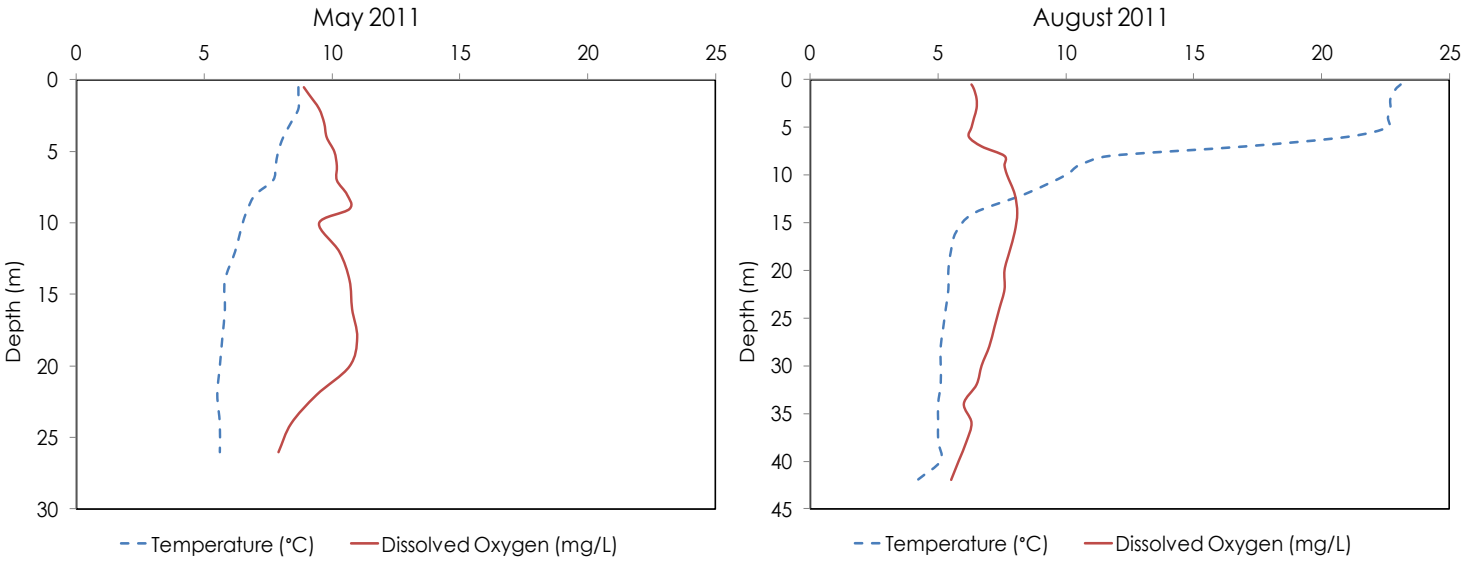
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**2.2 km²**	Watershed Area (excluding lake):	**41.2 km²**
Maximum Depth:	**53 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**4.49 %**	Secchi Depth (10-year average):	**4.2 m**
Phosphorus (10-year average):	**7.1 µg/L**	Sensitivity:	**Moderate**

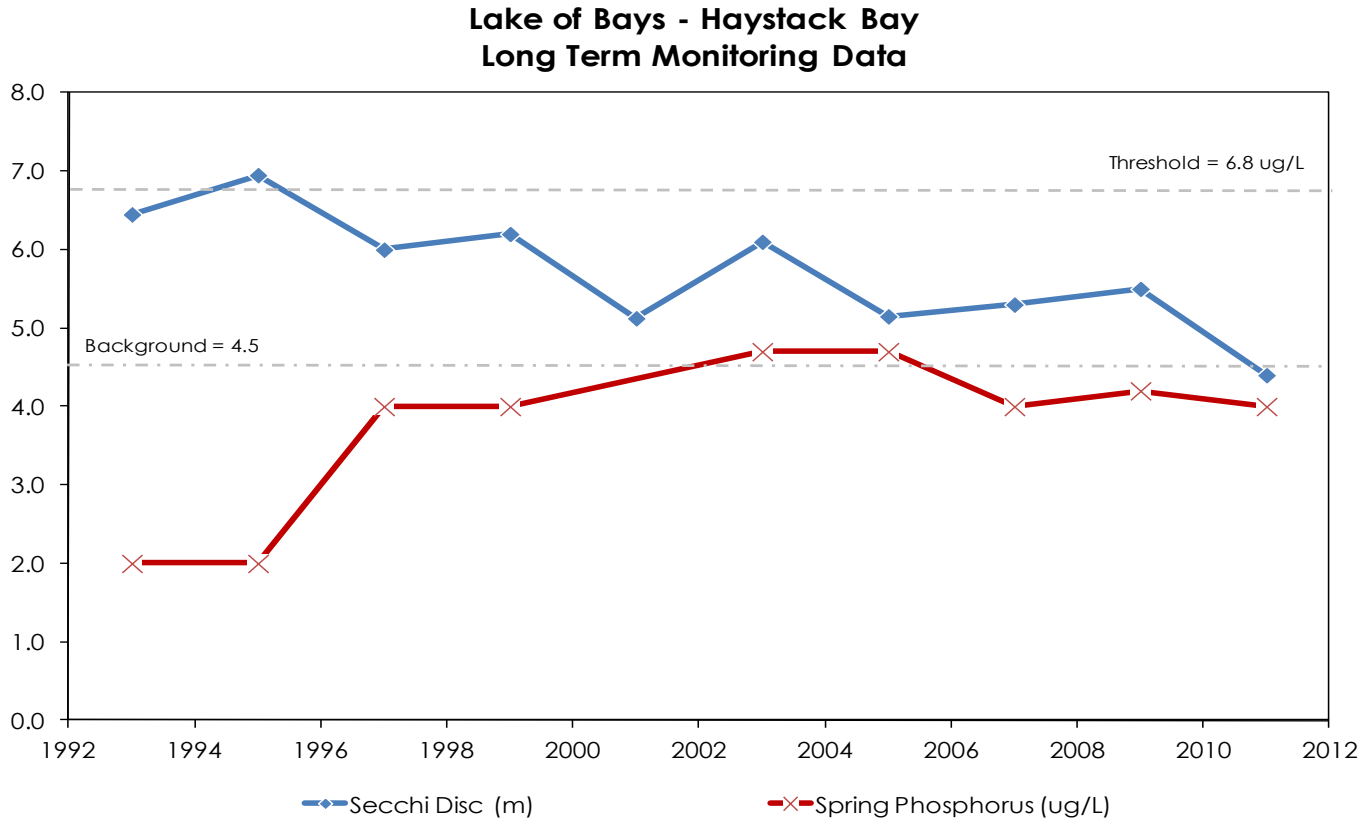




Lake of Bays – Haystack Bay

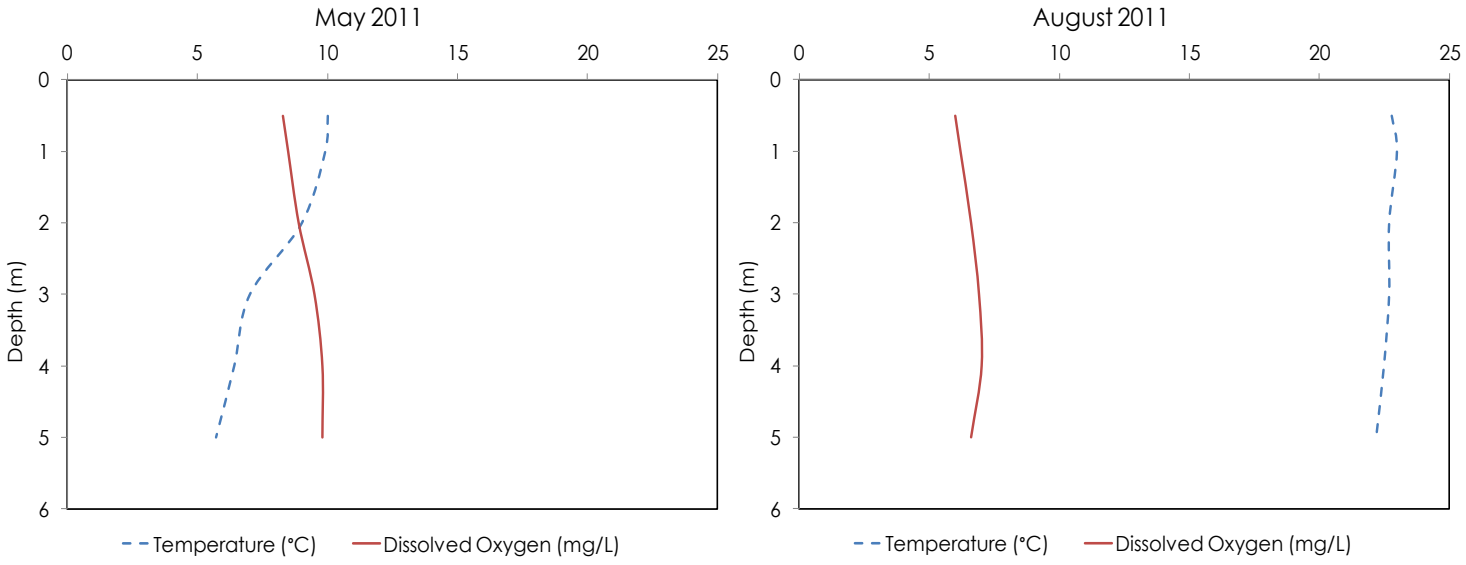
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**4.17 km²**	Watershed Area (excluding lake):	**8.07 km²**
Maximum Depth:	**41 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**5.3 m**
Phosphorus (10-year average):	**4.3 µg/L**	Sensitivity:	**Moderate**

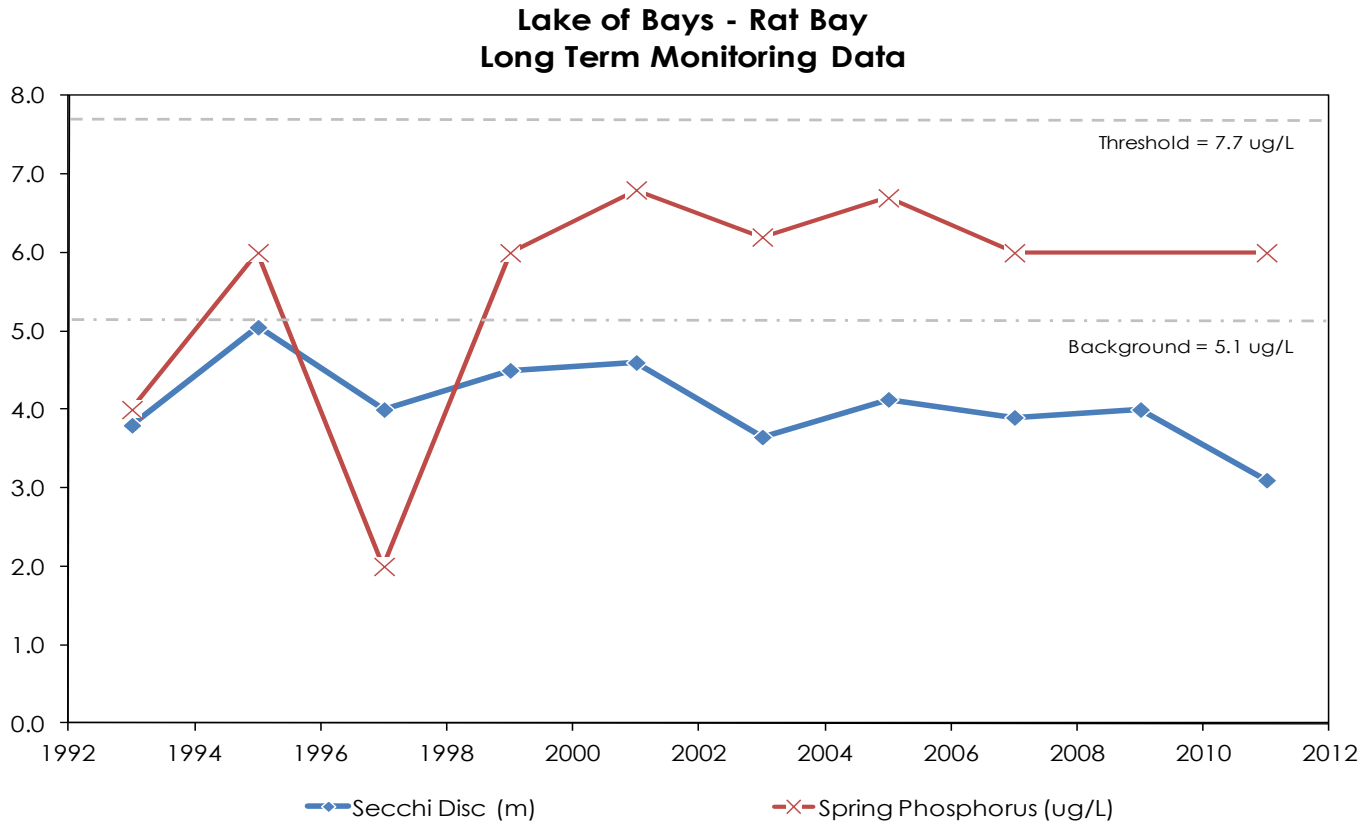




Lake of Bays – Rat Bay

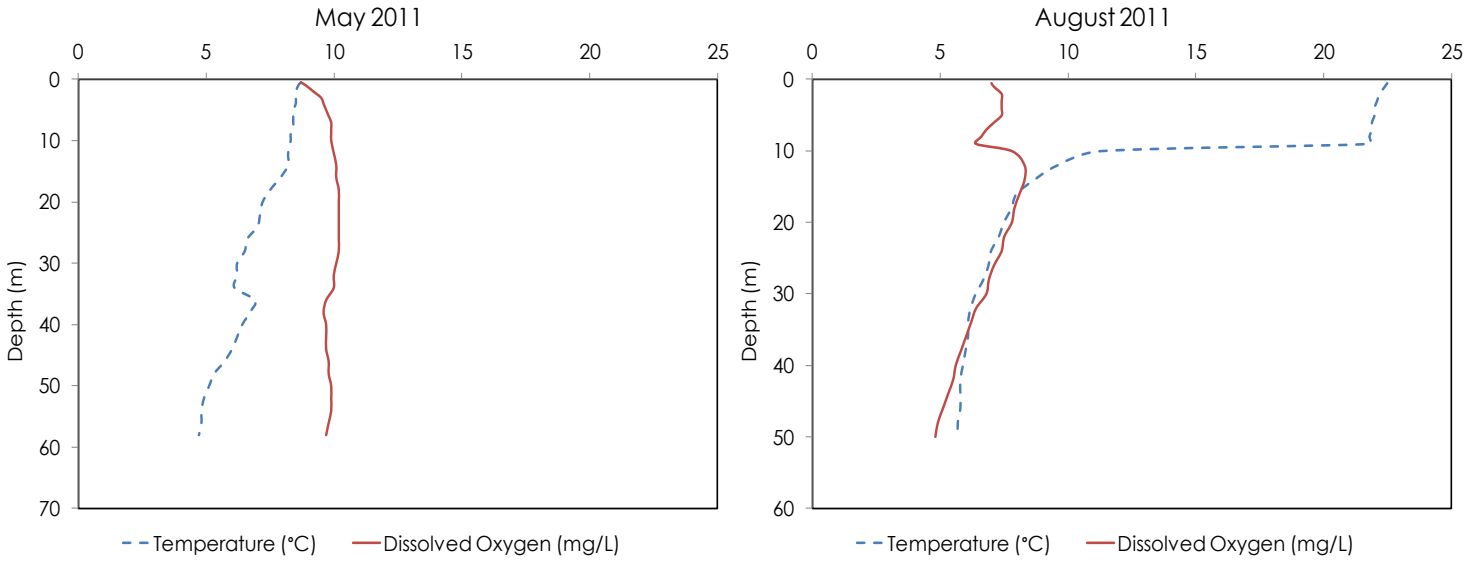
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**0.43 km²**	Watershed Area (excluding lake):	**4.93 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**6 %**	Secchi Depth (10-year average):	**3.8 m**
Phosphorus (10-year average):	**6.2 µg/L**	Sensitivity:	**Moderate**

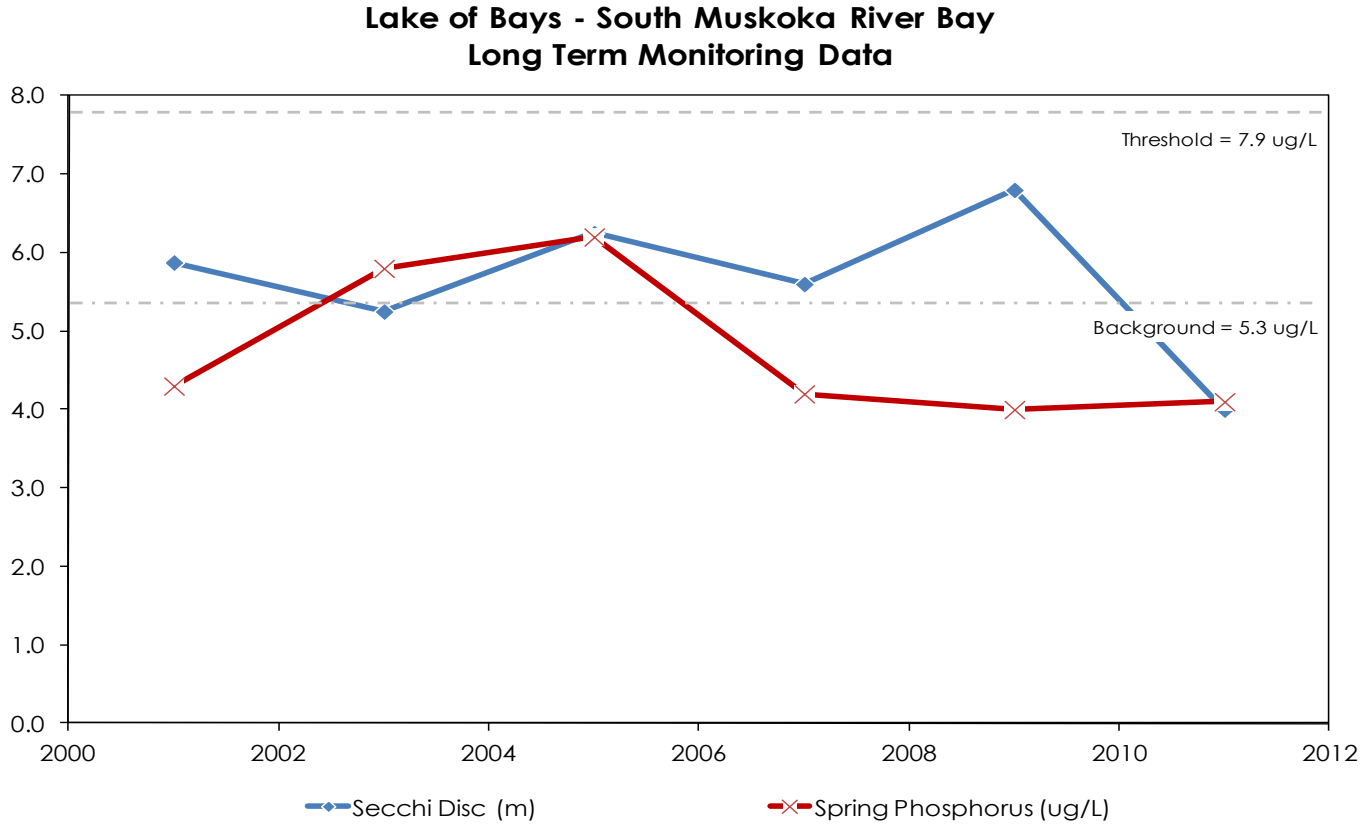




Lake of Bays – South Muskoka River Bay

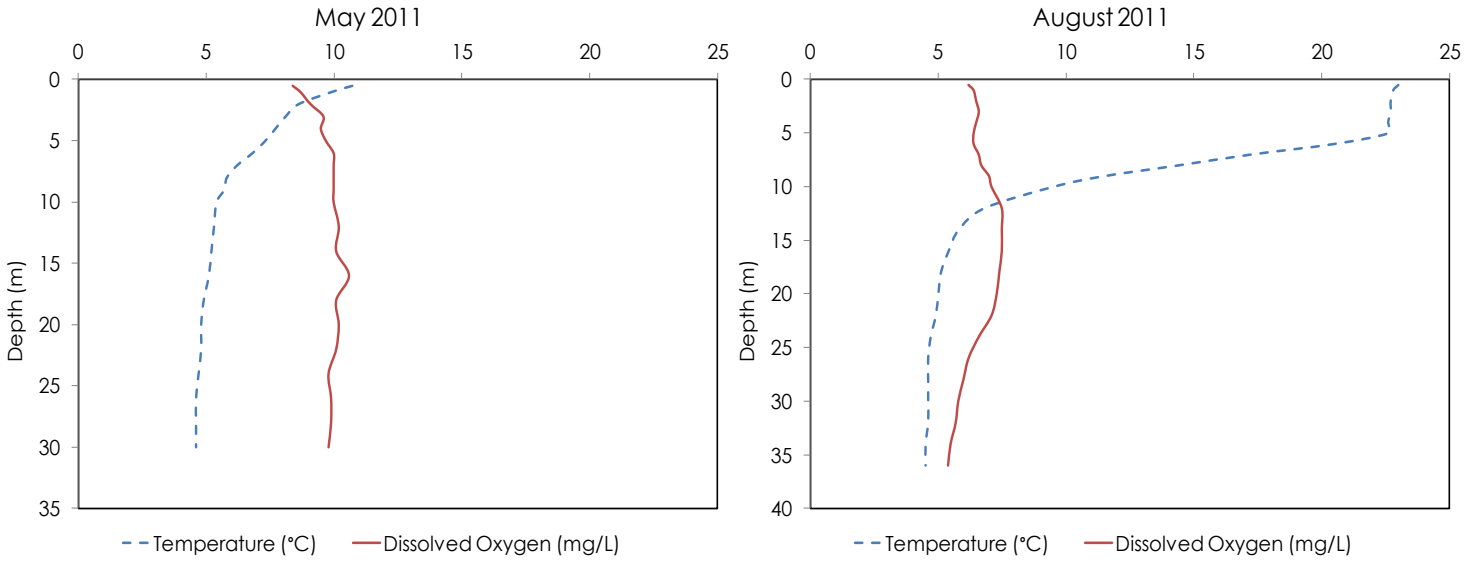
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**1.1 km²**	Watershed Area (excluding lake):	**20.0 km²**
Maximum Depth:	**52 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**10.19%**	Secchi Depth (10-year average):	**5.6 m**
Phosphorus (10-year average):	**4.9 µg/L**	Sensitivity:	**Moderate**

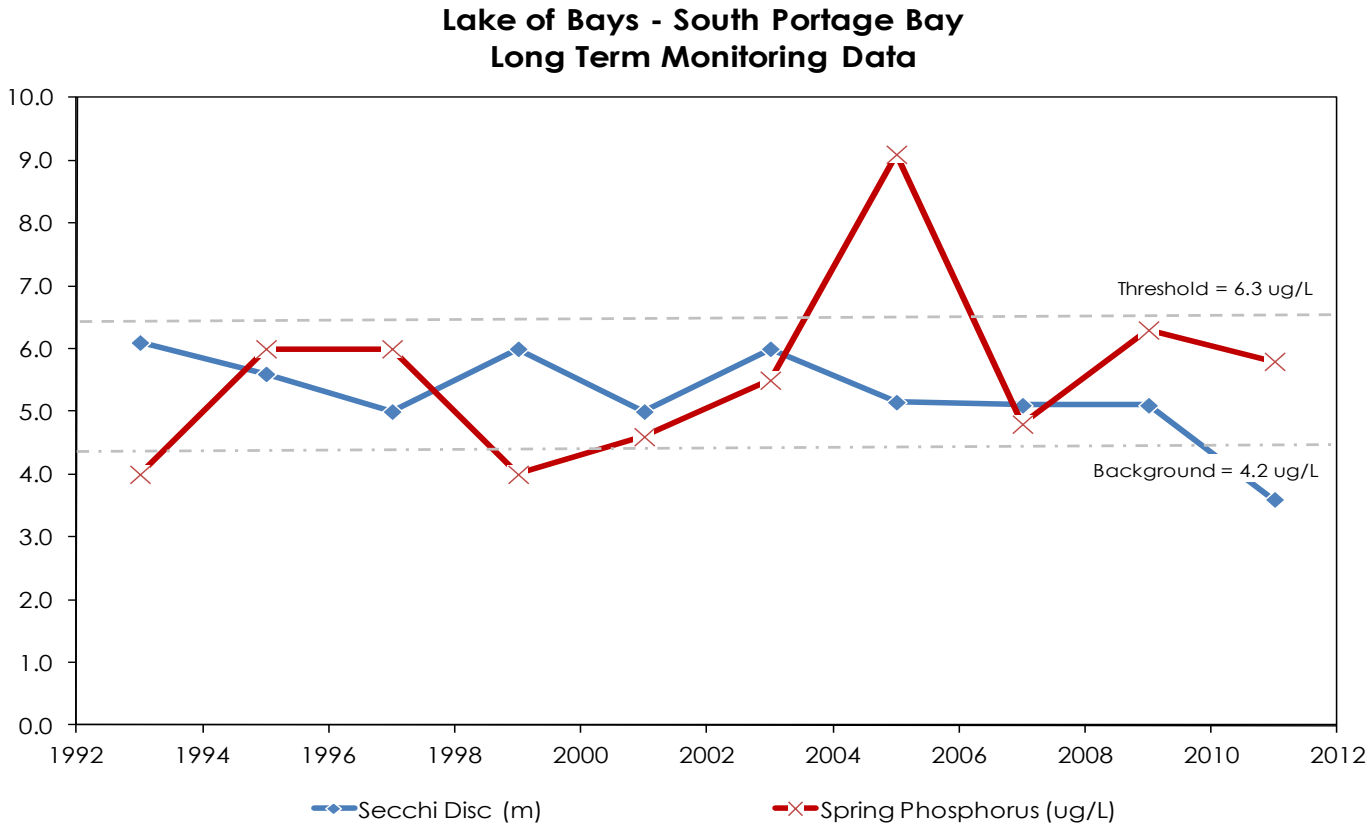




Lake of Bays – South Portage Bay

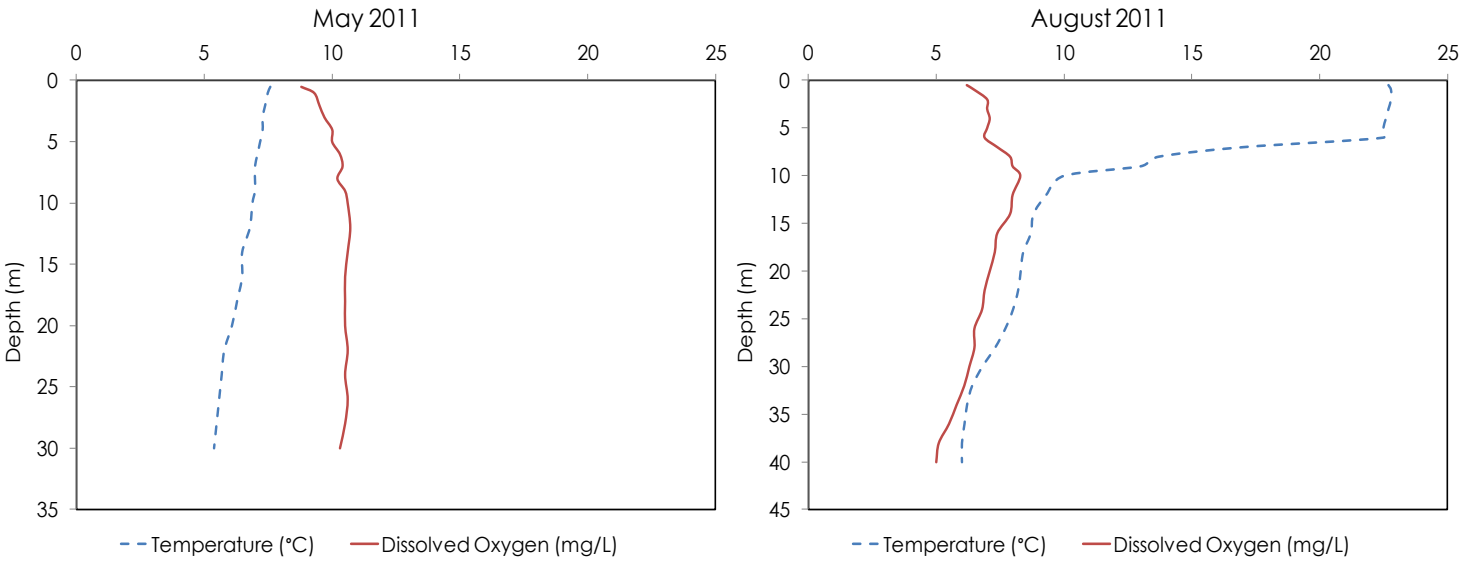
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**1.76 km²**	Watershed Area (excluding lake):	**8.54 km²**
Maximum Depth:	**40 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**5.0 m**
Phosphorus (10-year average):	**6.3 µg/L**	Sensitivity:	**Moderate**

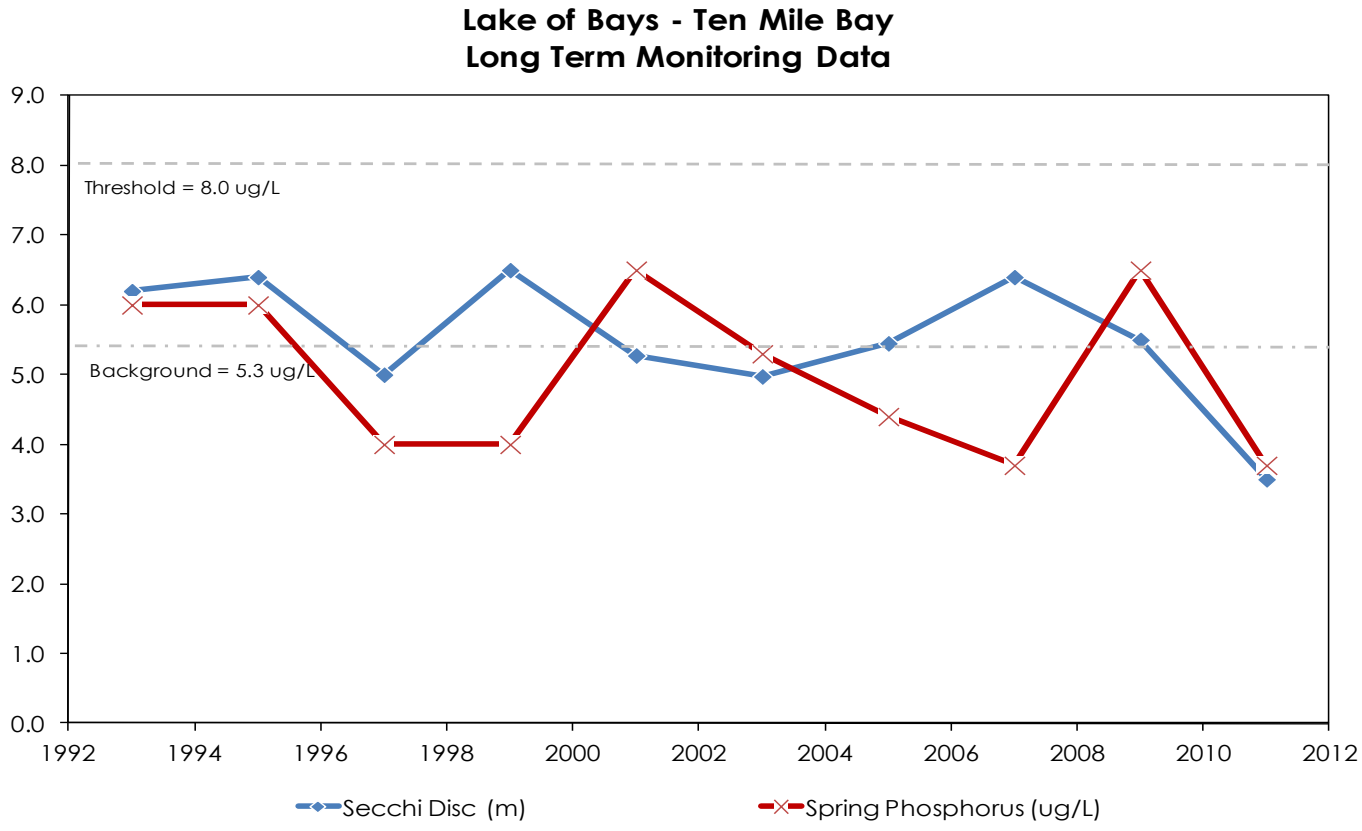




Lake of Bays – Ten Mile Bay

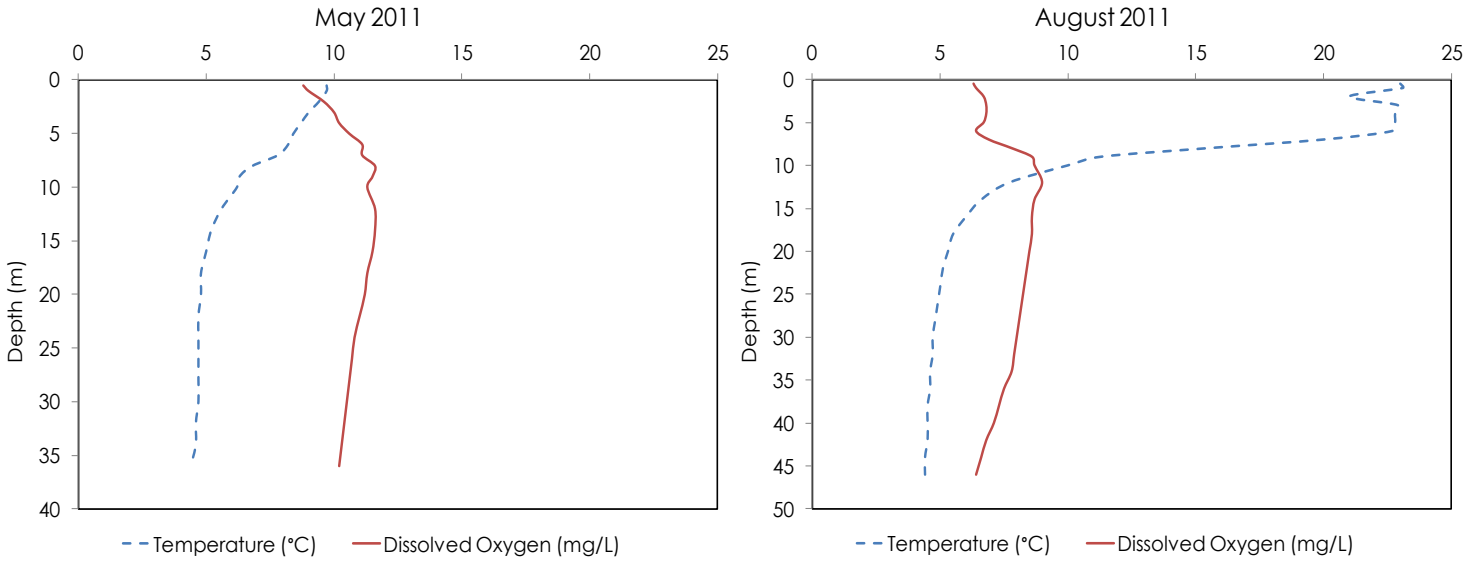
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**4.2 km²**	Watershed Area (excluding lake):	**13.7 km²**
Maximum Depth:	**35 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**5.2 m**
Phosphorus (10-year average):	**4.7 µg/L**	Sensitivity:	**Moderate**

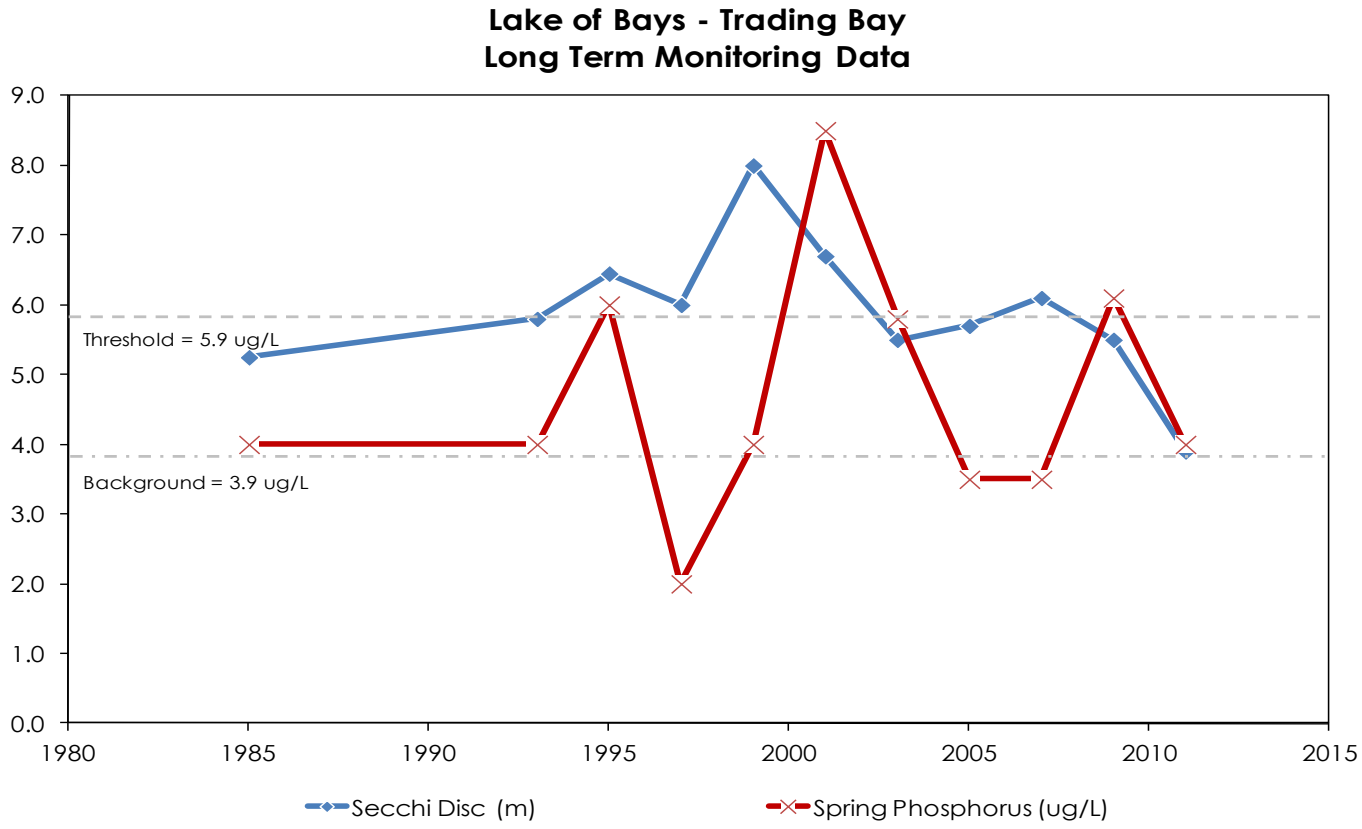




Lake of Bays – Trading Bay

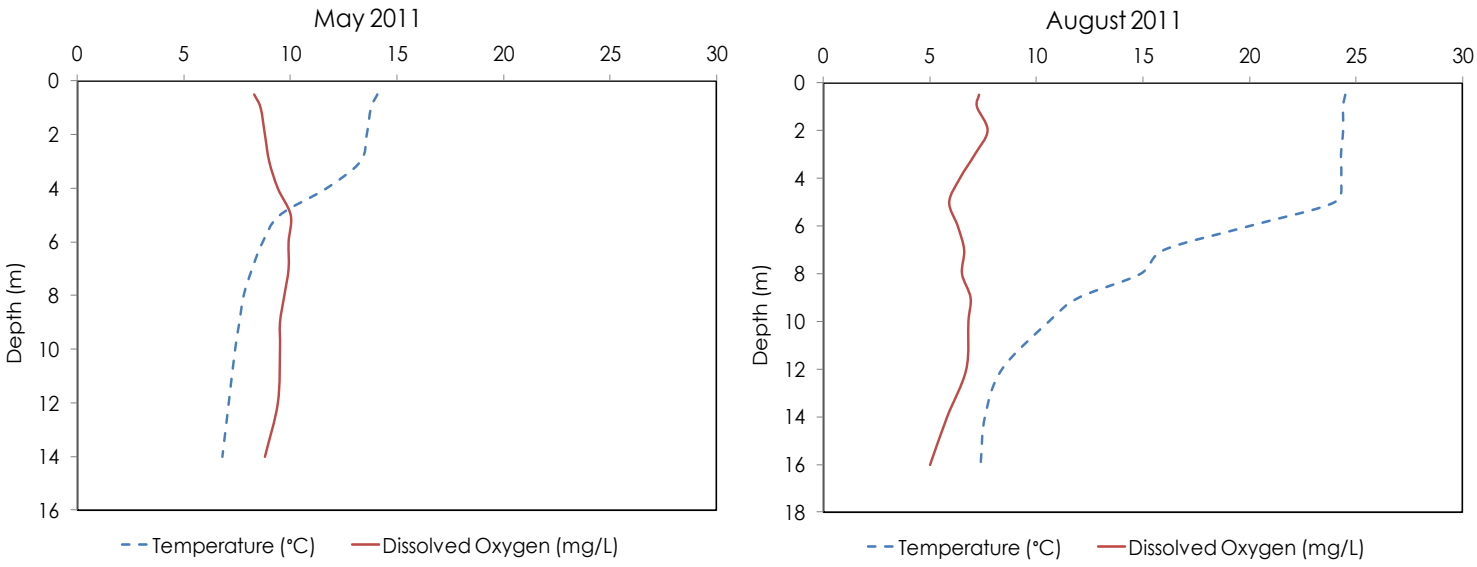
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**5.0 km²**	Watershed Area (excluding lake):	**18.5 km²**
Maximum Depth:	**37 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**5.3 m**
Phosphorus (10-year average):	**4.6 µg/L**	Sensitivity:	**Moderate**

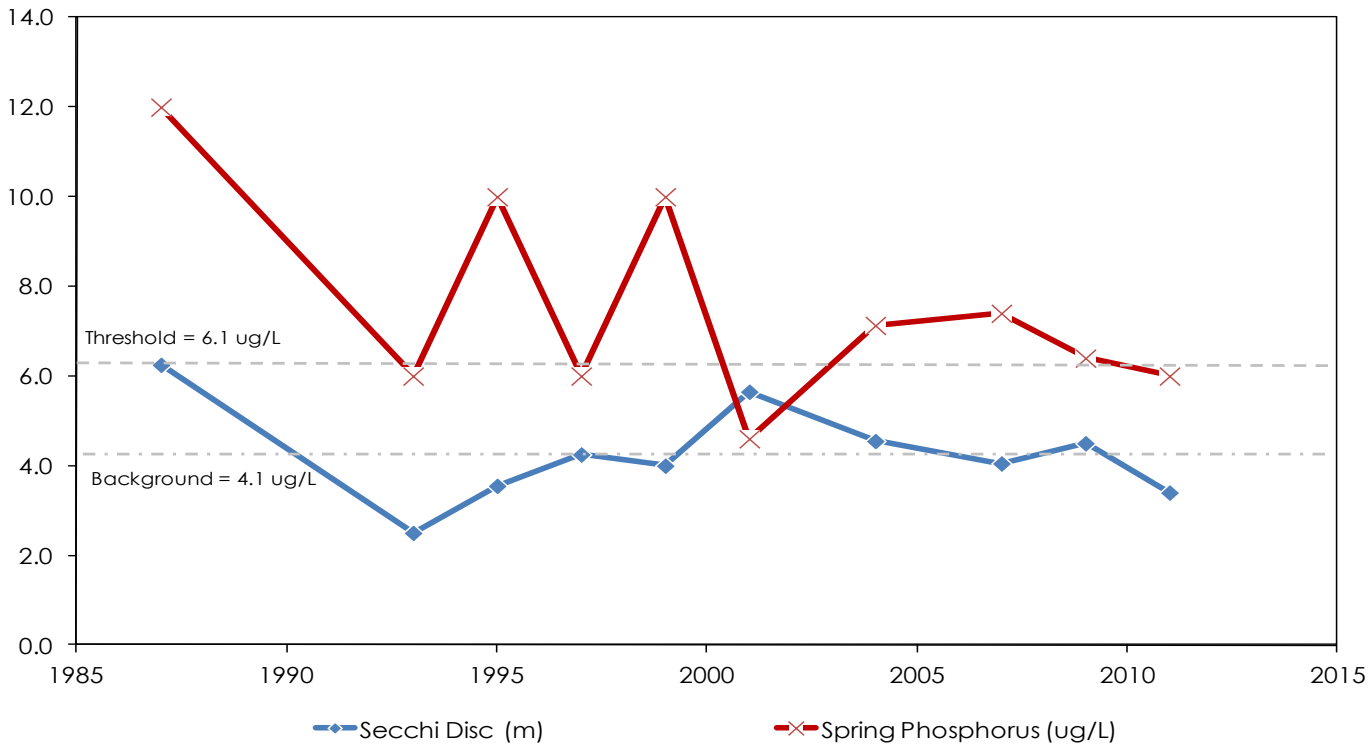




Leonard Lake

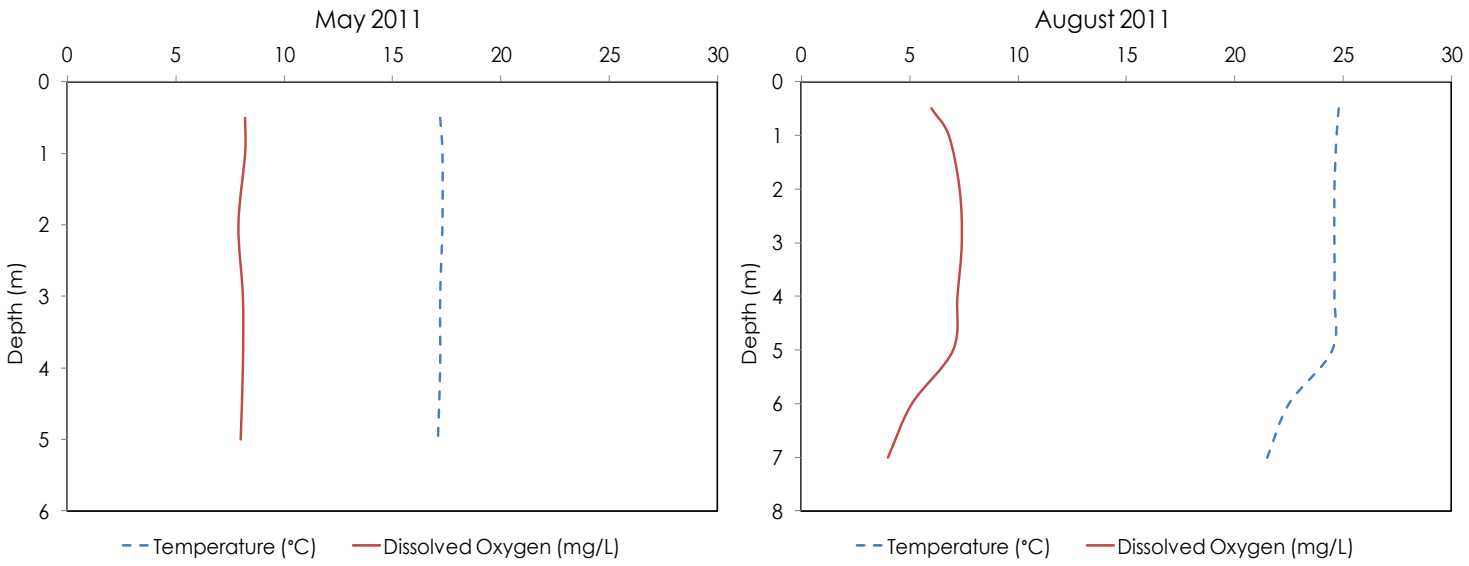
Municipality:	**Muskoka Lakes**	Watershed:	**Sparrow Lake**
Surface Area:	**1.52 km²**	Watershed Area (excluding lake):	**0.84 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**4.1 m**
Phosphorus (10-year average):	**6.7 µg/L**	Sensitivity:	**Moderate (OT)**

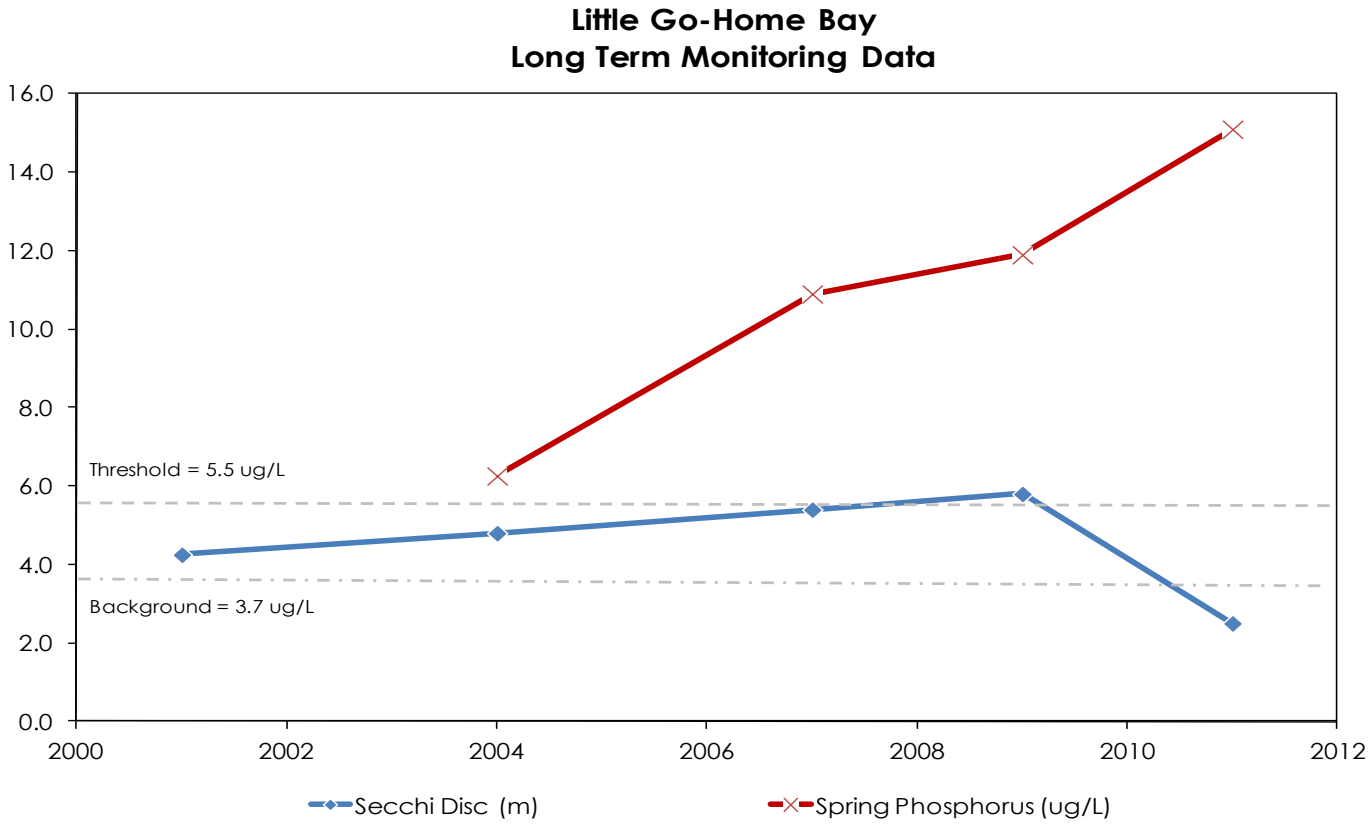




Little Go-Home Bay

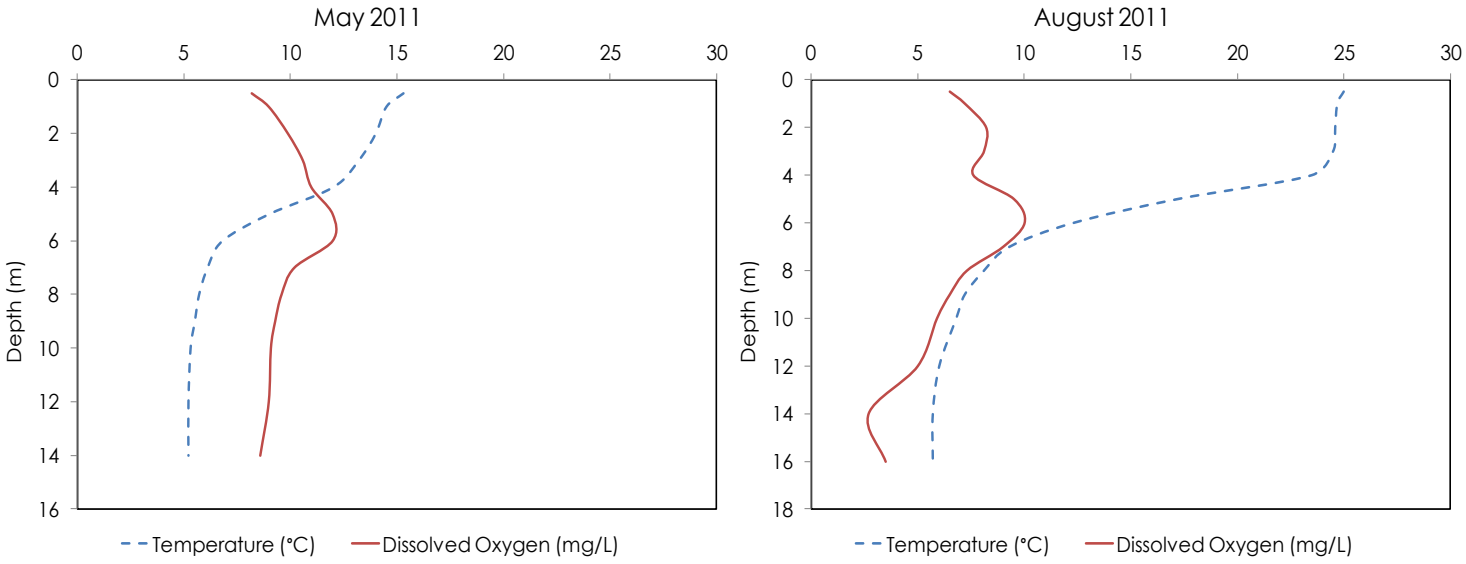
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**1.1 km²**	Watershed Area (excluding lake):	**4.3 km²**
Maximum Depth:	**12 m**	Lake Trout Lake?	**No**
Wetland Area:	**10.56 %**	Secchi Depth (10-year average):	**4.6 m**
Phosphorus (10-year average):	**11.0 µg/L**	Sensitivity:	**Moderate**

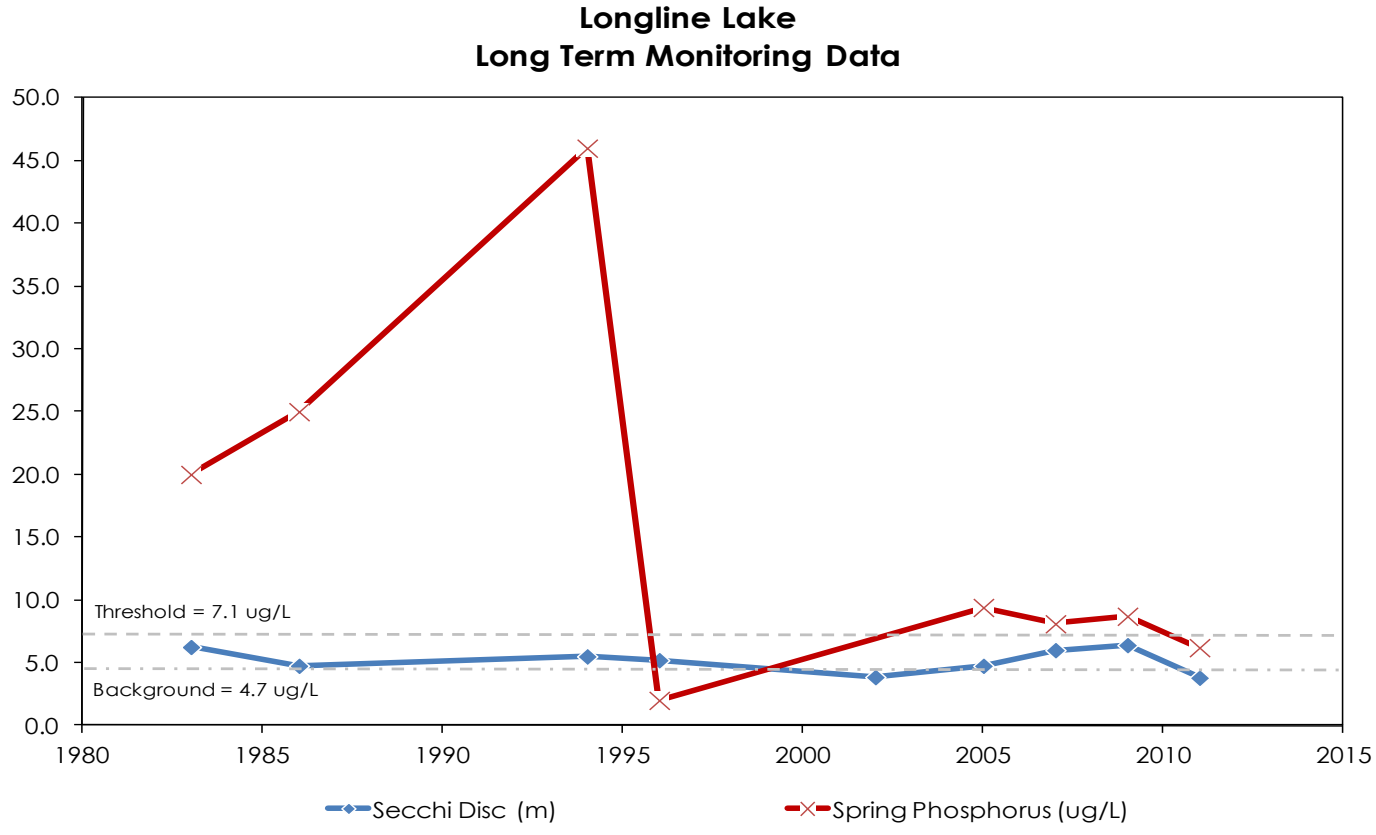




Longline Lake

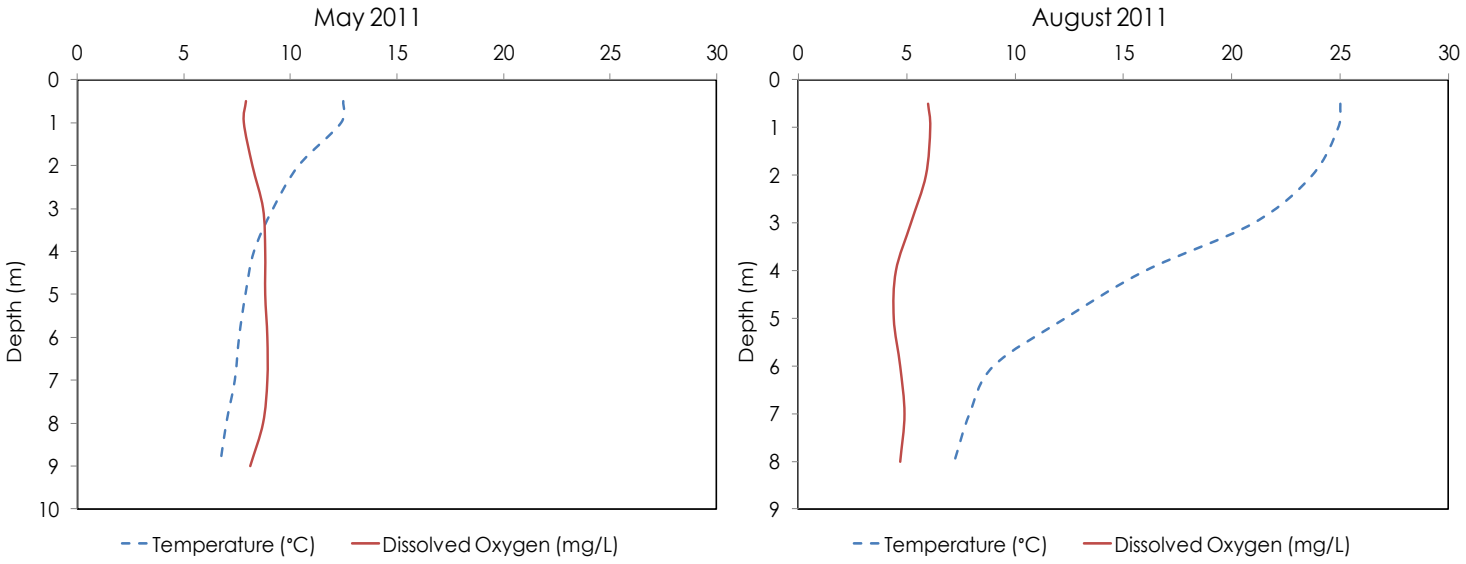
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**0.27 km²**	Watershed Area (excluding lake):	**0.92 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**5.0 m**
Phosphorus (10-year average):	**8.1 µg/L**	Sensitivity:	**Moderate (OT)**

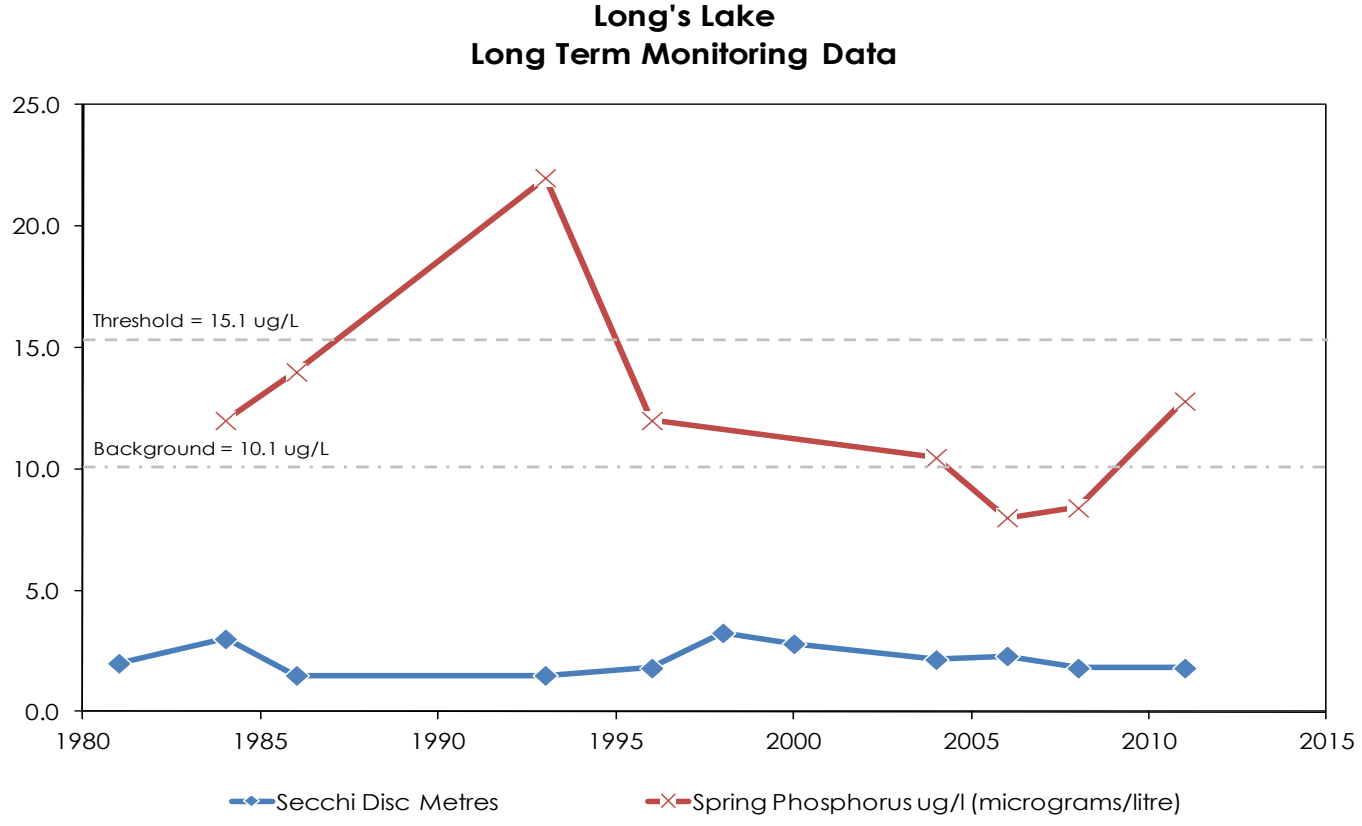




Long's Lake

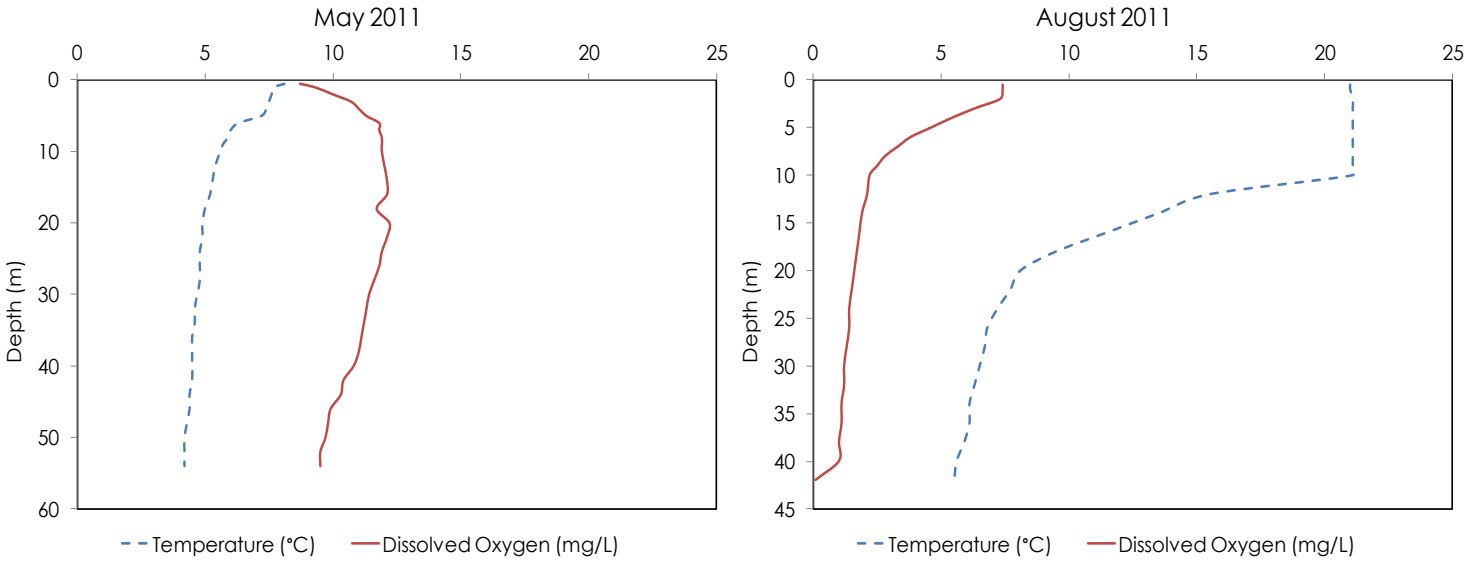
Municipality:	**Huntsville**	Watershed:	**Lake Rosseau**
Surface Area:	**0.43 km²**	Watershed Area (excluding lake):	**12.27 km²**
Maximum Depth:	**10 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**2.0 m**
Phosphorus (10-year average):	**9.9 µg/L**	Sensitivity:	**Moderate**

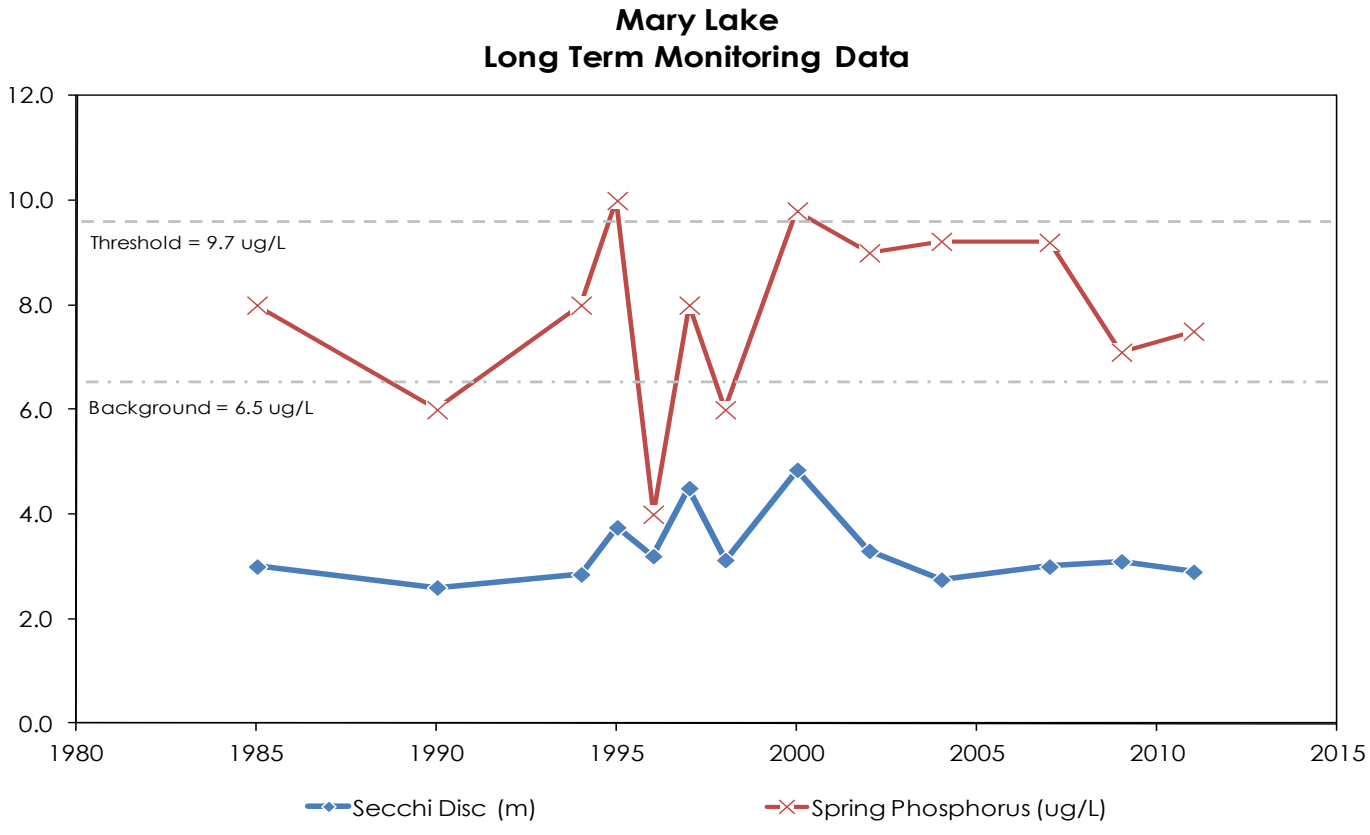




Mary Lake

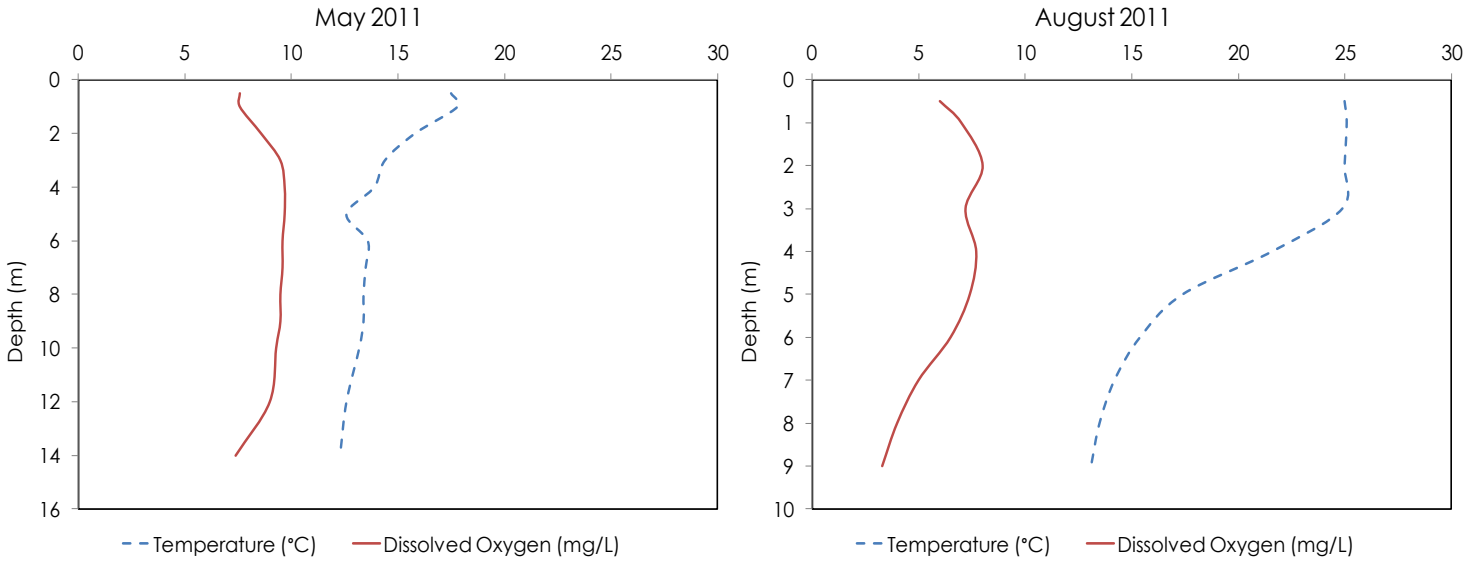
Municipality:	**Huntsville**	Watershed:	**Mary Lake**
Surface Area:	**10.6 km²**	Watershed Area (excluding lake):	**79.4 km²**
Maximum Depth:	**59 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**10.45 %**	Secchi Depth (10-year average):	**3.0 m**
Phosphorus (10-year average):	**8.4 µg/L**	Sensitivity:	**Moderate**



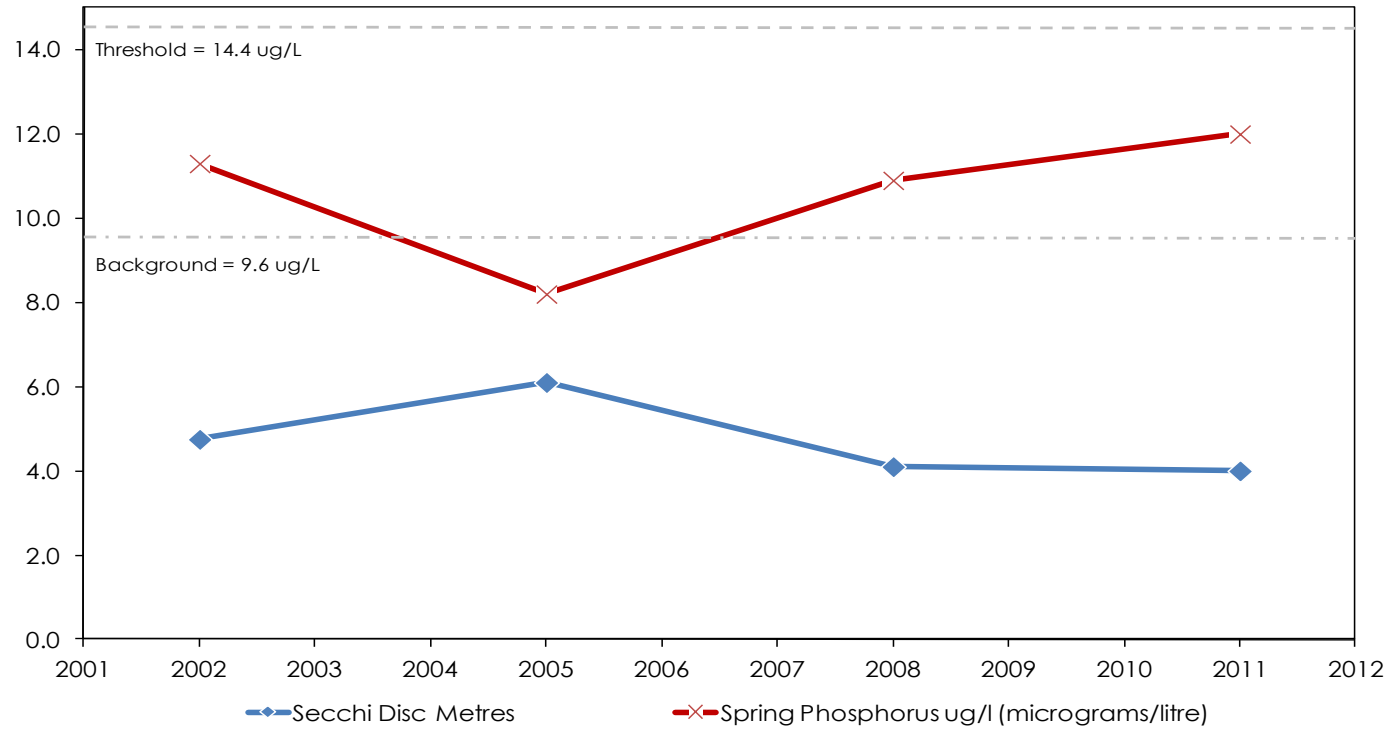


McDonald Lake

Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**0.2 km²**	Watershed Area (excluding lake):	**2.76 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**6.09 %**	Secchi Depth (10-year average):	**4.7 m**
Phosphorus (10-year average):	**10.6 µg/L**	Sensitivity:	**Moderate**

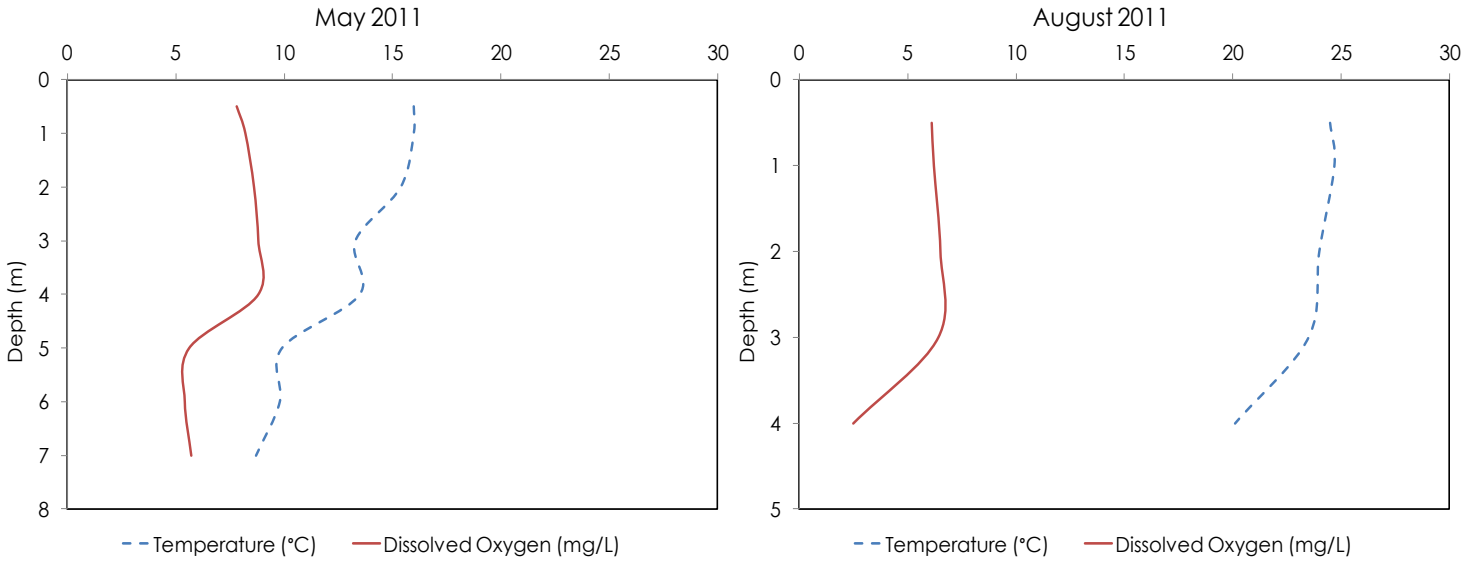


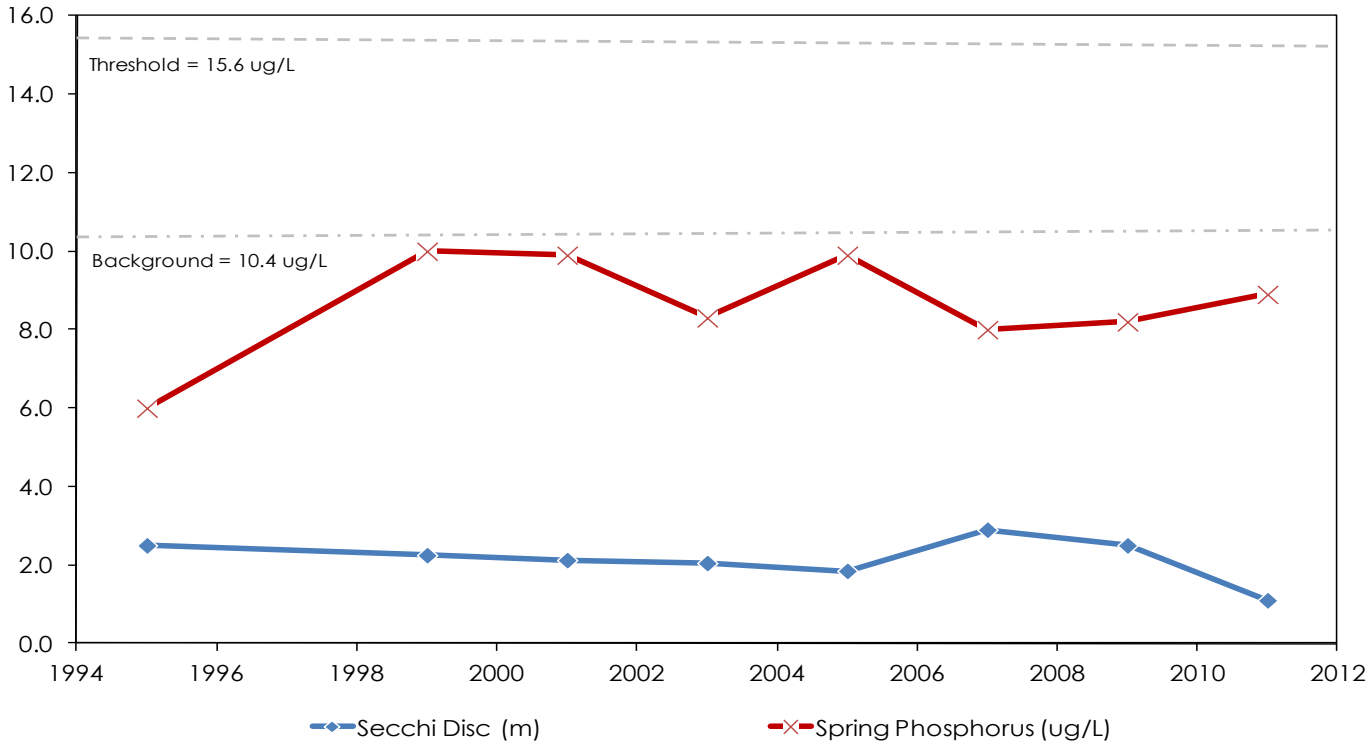
McDonald Lake
Long Term Monitoring Data



Menominee Lake

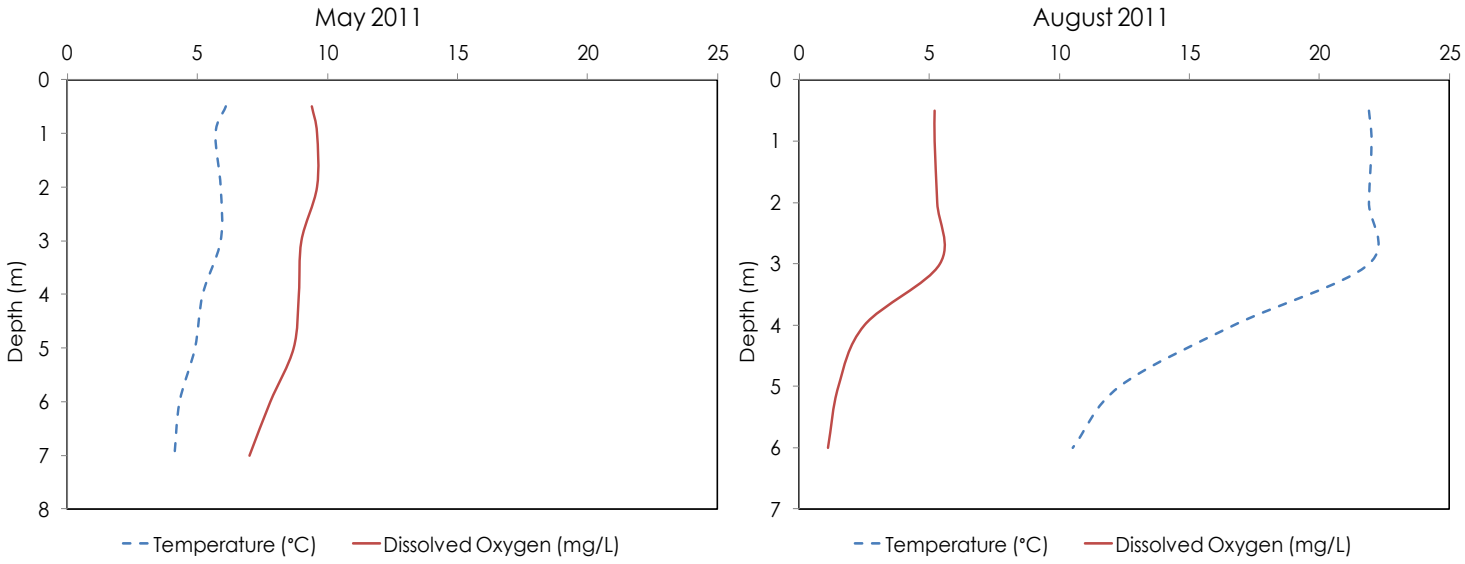
Municipality:	**Lake of Bays**	Watershed:	**Lake of Bays**
Surface Area:	**1.01 km²**	Watershed Area (excluding lake):	**6.45 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**2.1 m**
Phosphorus (10-year average):	**8.7 µg/L**	Sensitivity:	**Low**

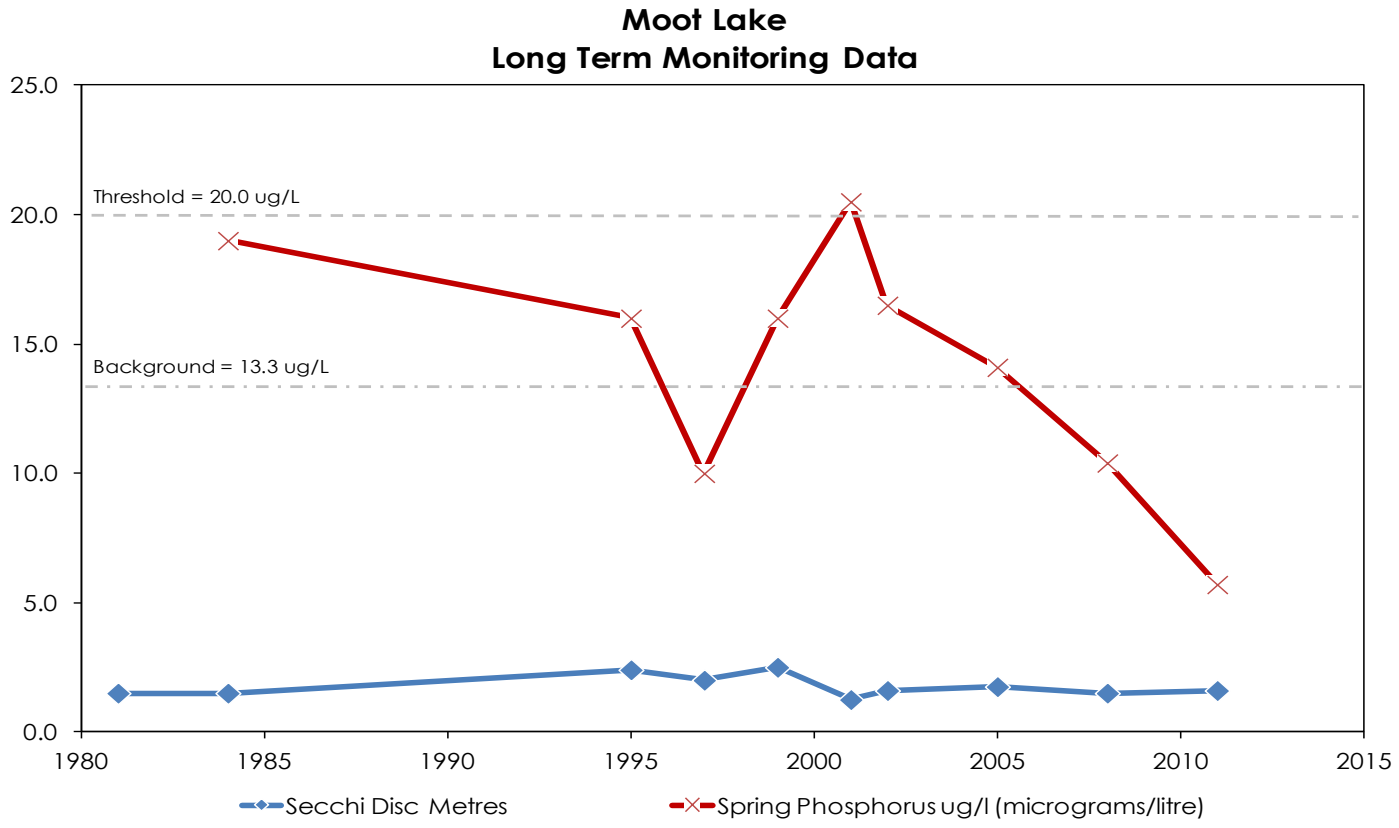




Moot Lake

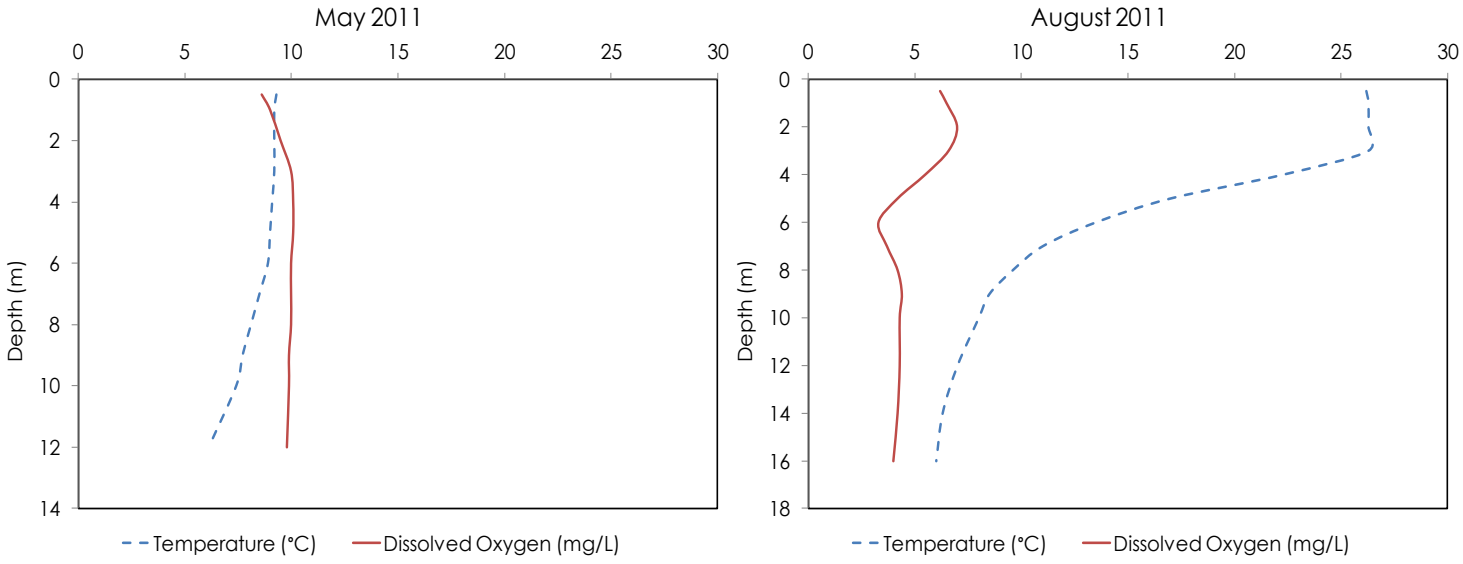
Municipality:	**Lake of Bays**	Watershed:	**Muskoka River**
Surface Area:	**0.49 km²**	Watershed Area (excluding lake):	**5.06 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**1.6 m**
Phosphorus (10-year average):	**11.7 µg/L**	Sensitivity:	**Moderate**

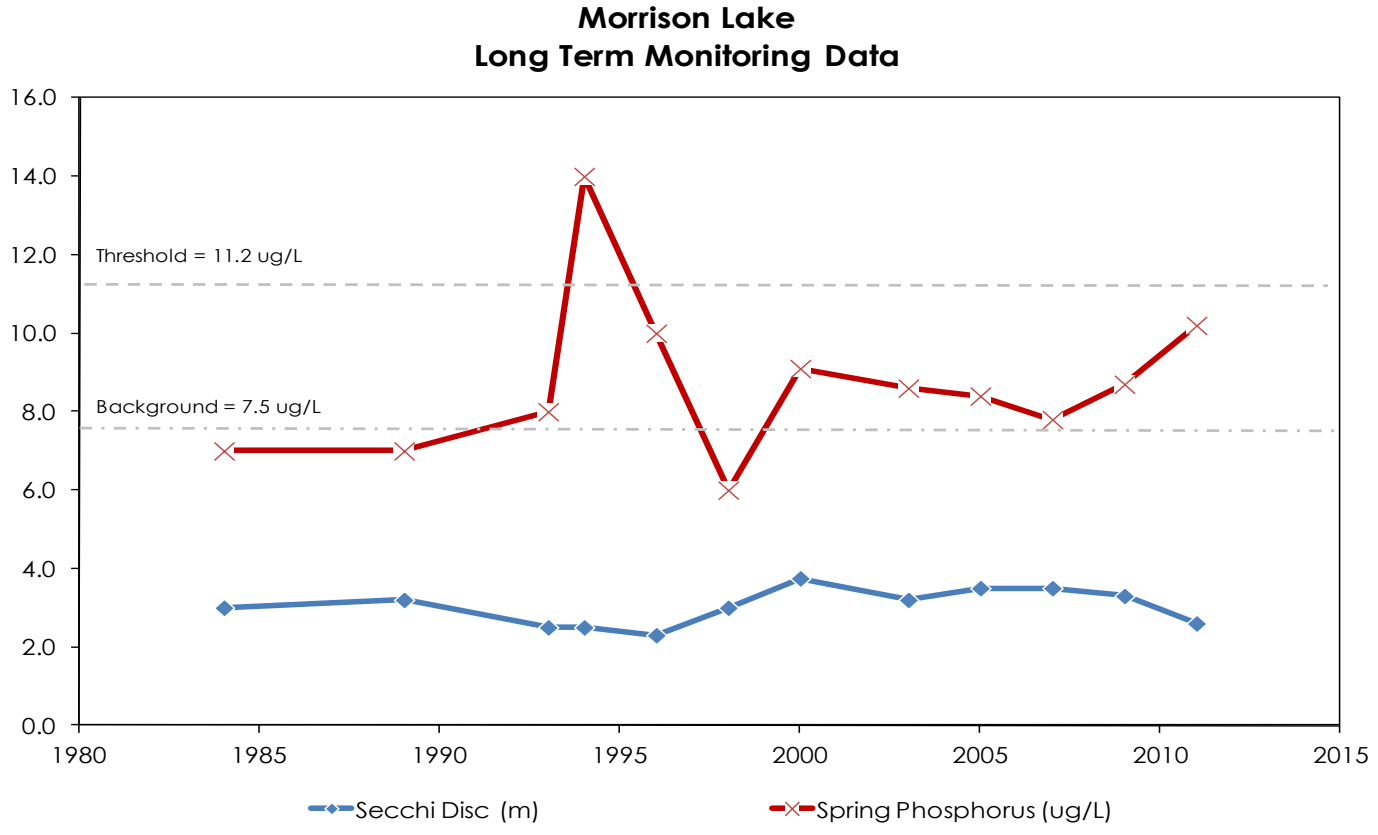




Morrison Lake

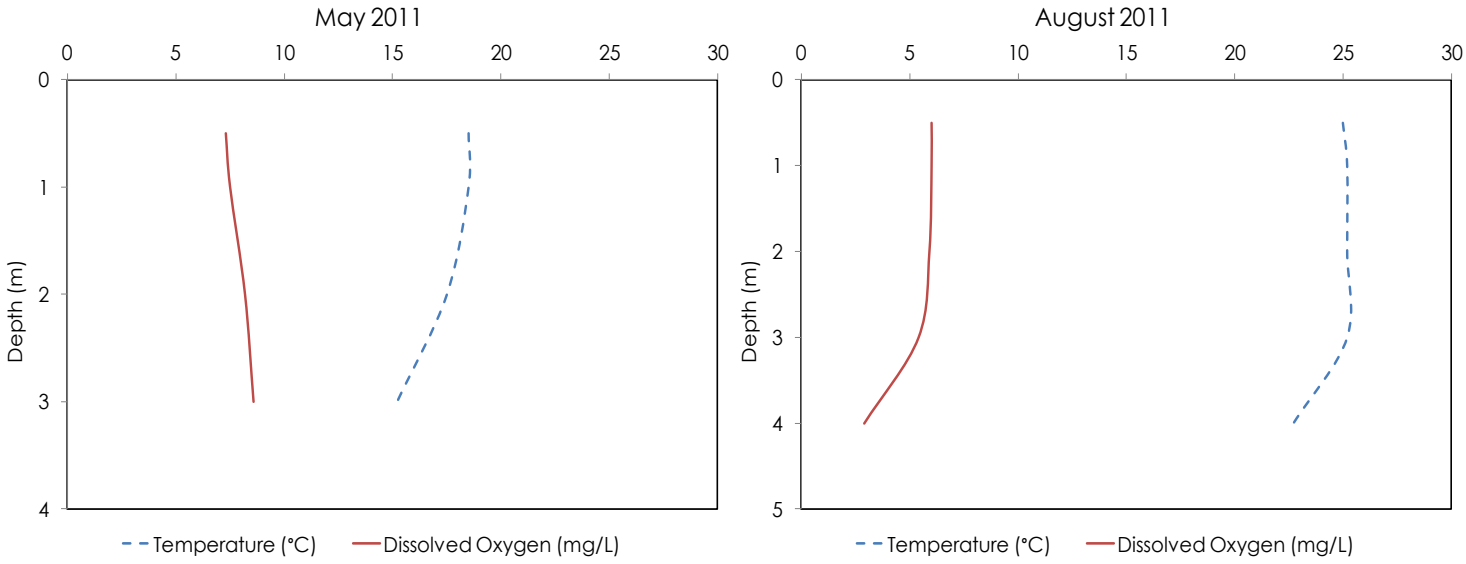
Municipality:	**Gravenhurst**	Watershed:	**Morrison Lake**
Surface Area:	**5.25 km²**	Watershed Area (excluding lake):	**12.48 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**3.2 m**
Phosphorus (10-year average):	**8.7 µg/L**	Sensitivity:	**Moderate**

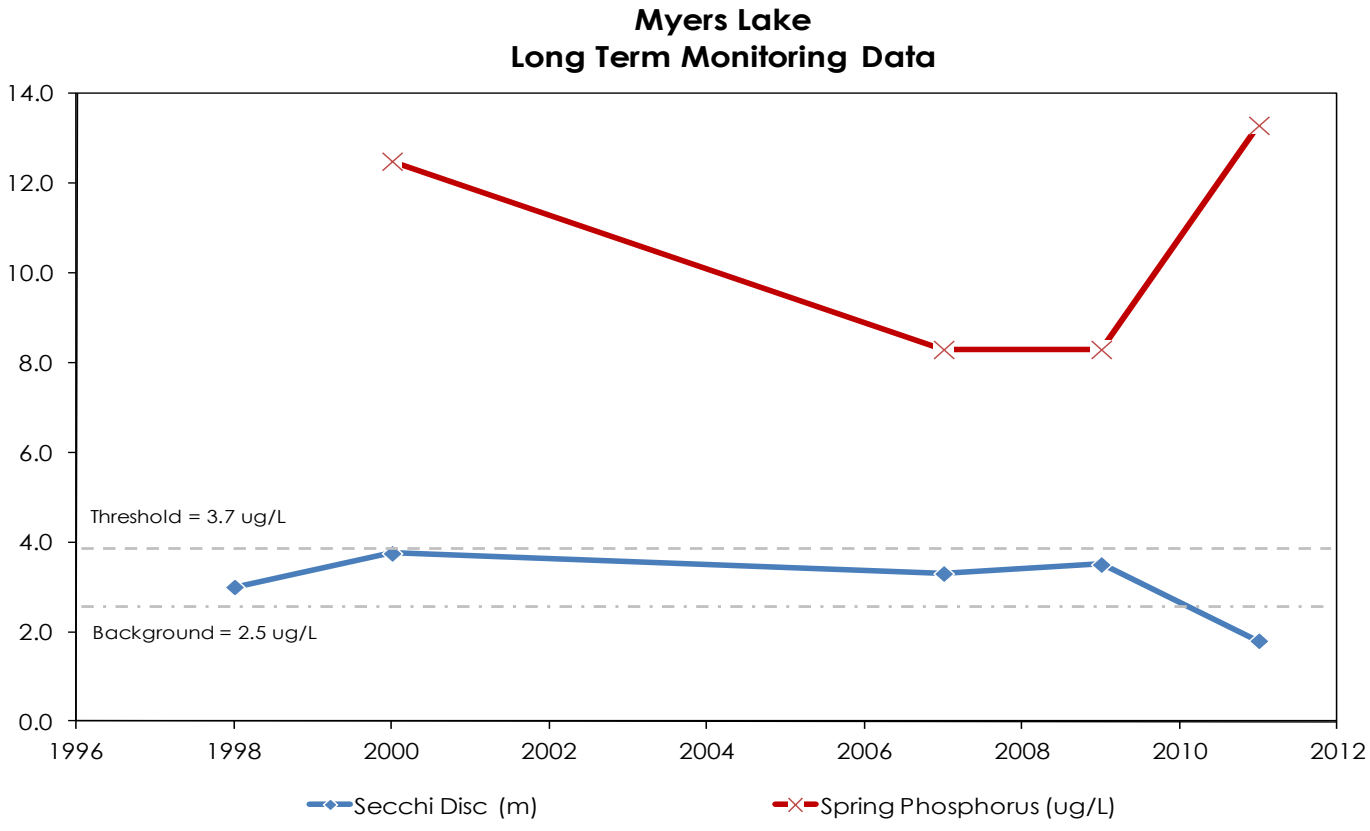




Myers (Butterfly) Lake

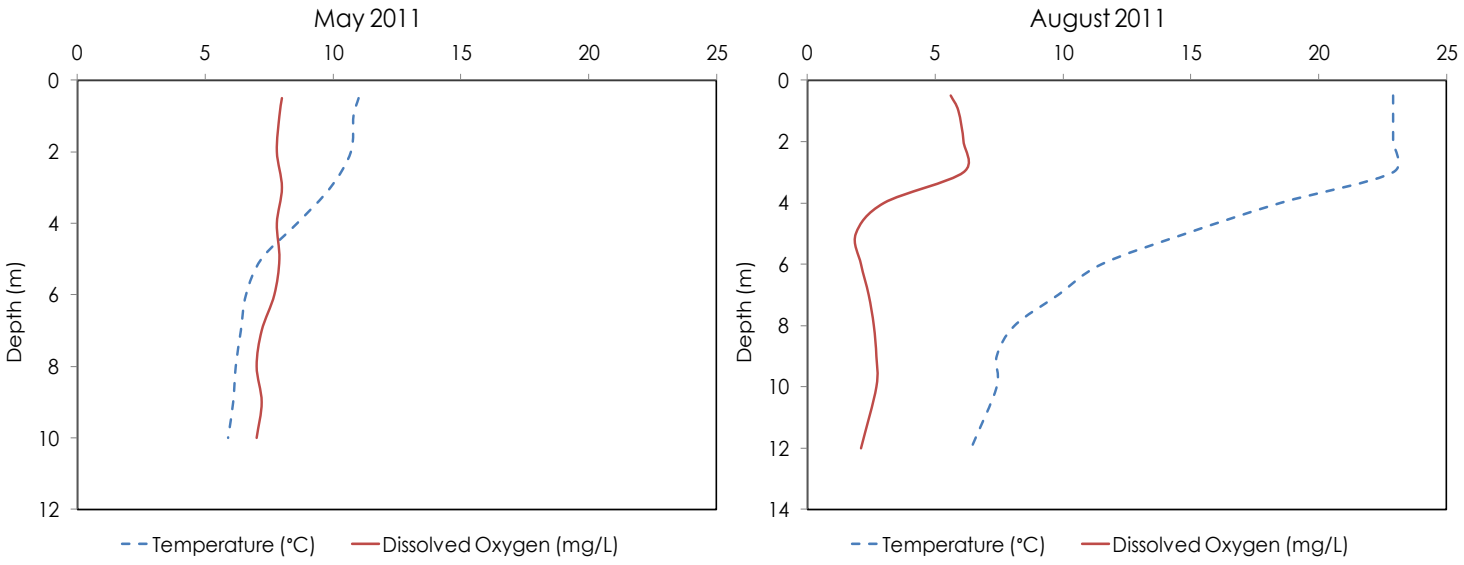
Municipality:	**Georgian Bay**	Watershed:	**Moon River**
Surface Area:	**0.35 km²**	Watershed Area (excluding lake):	**0.68 km²**
Maximum Depth:	**4 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**2.9 m**
Phosphorus (10-year average):	**10.0 µg/L**	Sensitivity:	**High (OT)**

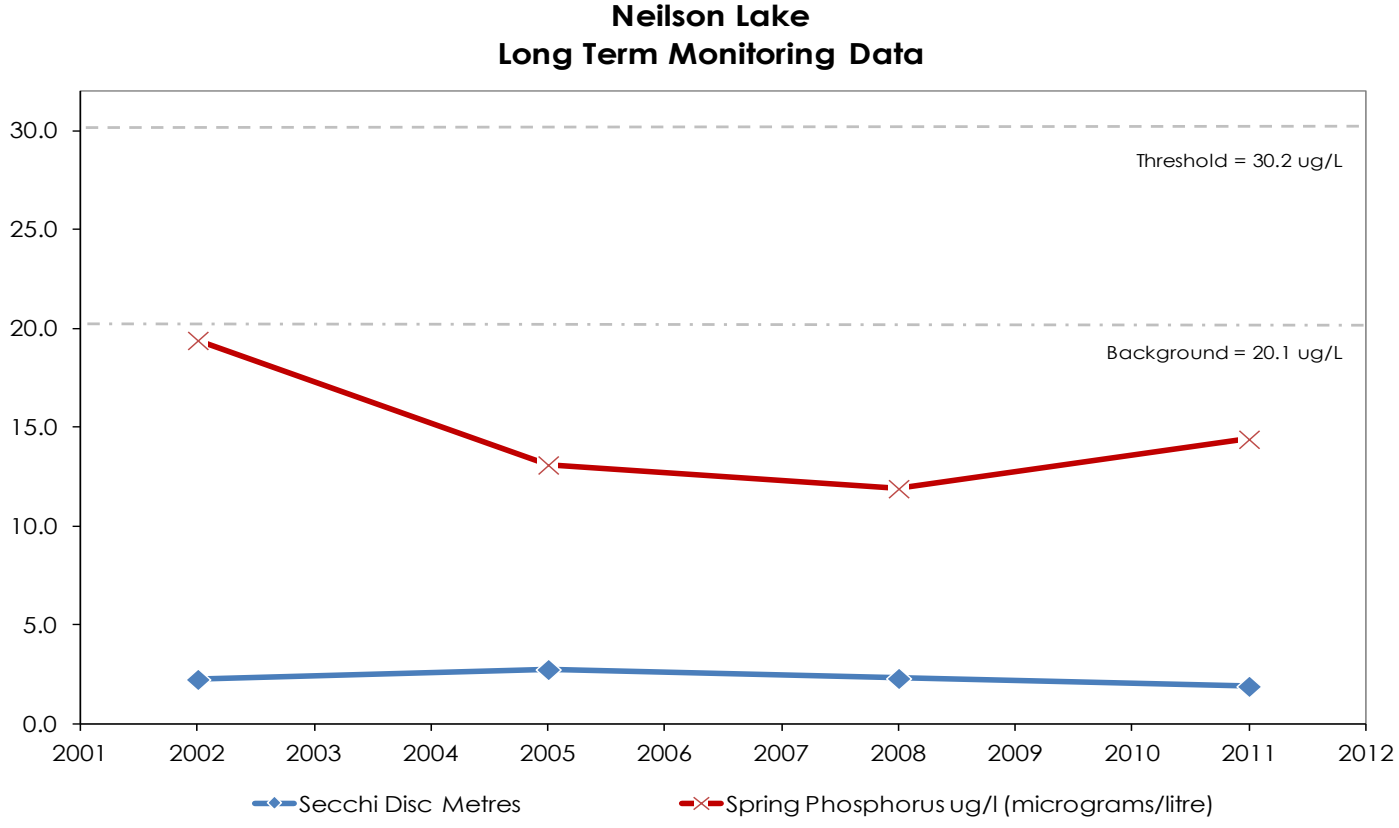




Neilson Lake

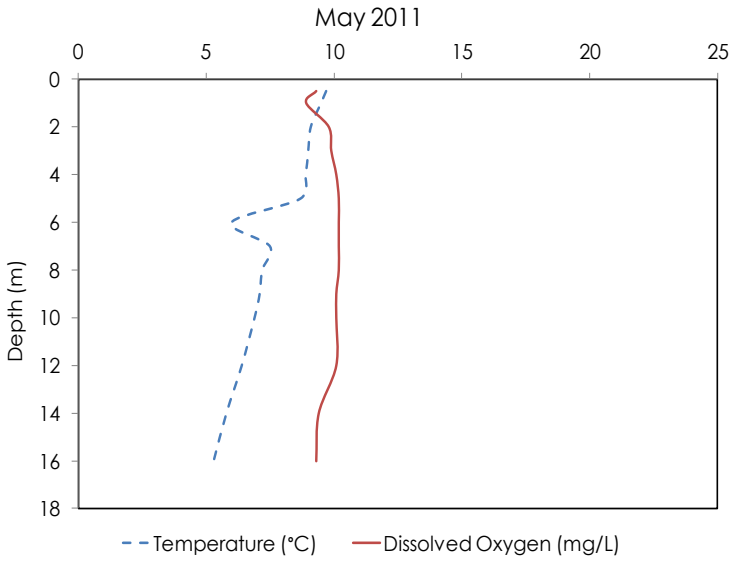
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Muskoka**
Surface Area:	**0.17 km²**	Watershed Area (excluding lake):	**6.23 km²**
Maximum Depth:	**10 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**2.3 m**
Phosphorus (10-year average):	**14.7 µg/L**	Sensitivity:	**Moderate**

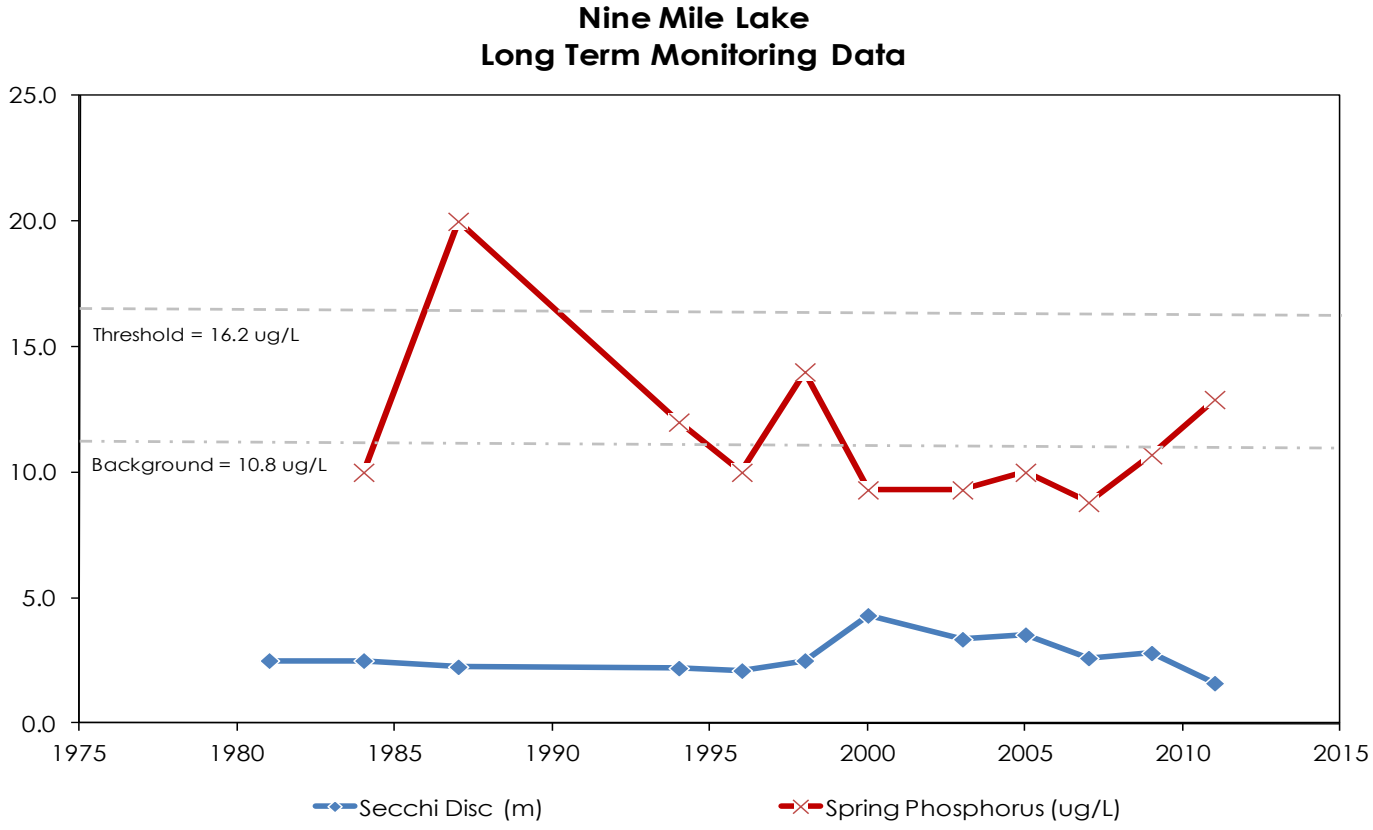




Nine Mile Lake

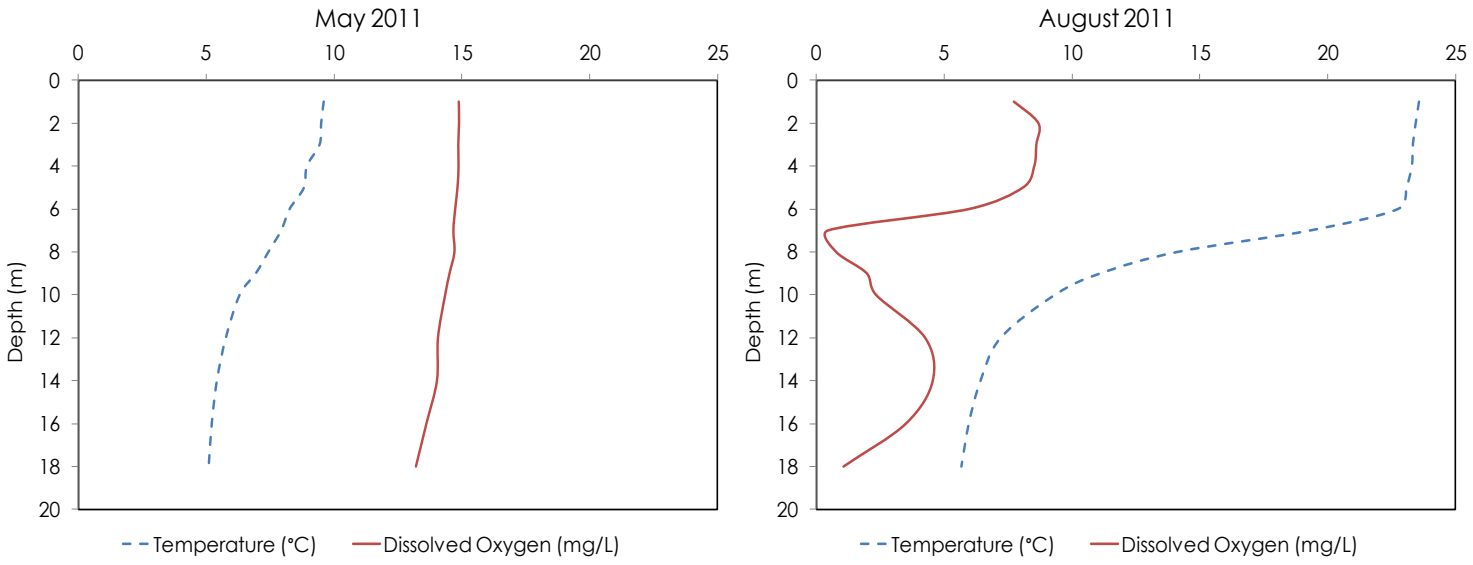
Municipality:	**Muskoka Lakes**	Watershed:	**Musquash River**
Surface Area:	**2.5 km²**	Watershed Area (excluding lake):	**33.0 km²**
Maximum Depth:	**18 m**	Lake Trout Lake?	**No**
Wetland Area:	**18 %**	Secchi Depth (10-year average):	**2.8 m**
Phosphorus (10-year average):	**10.3 µg/L**	Sensitivity:	**Moderate**



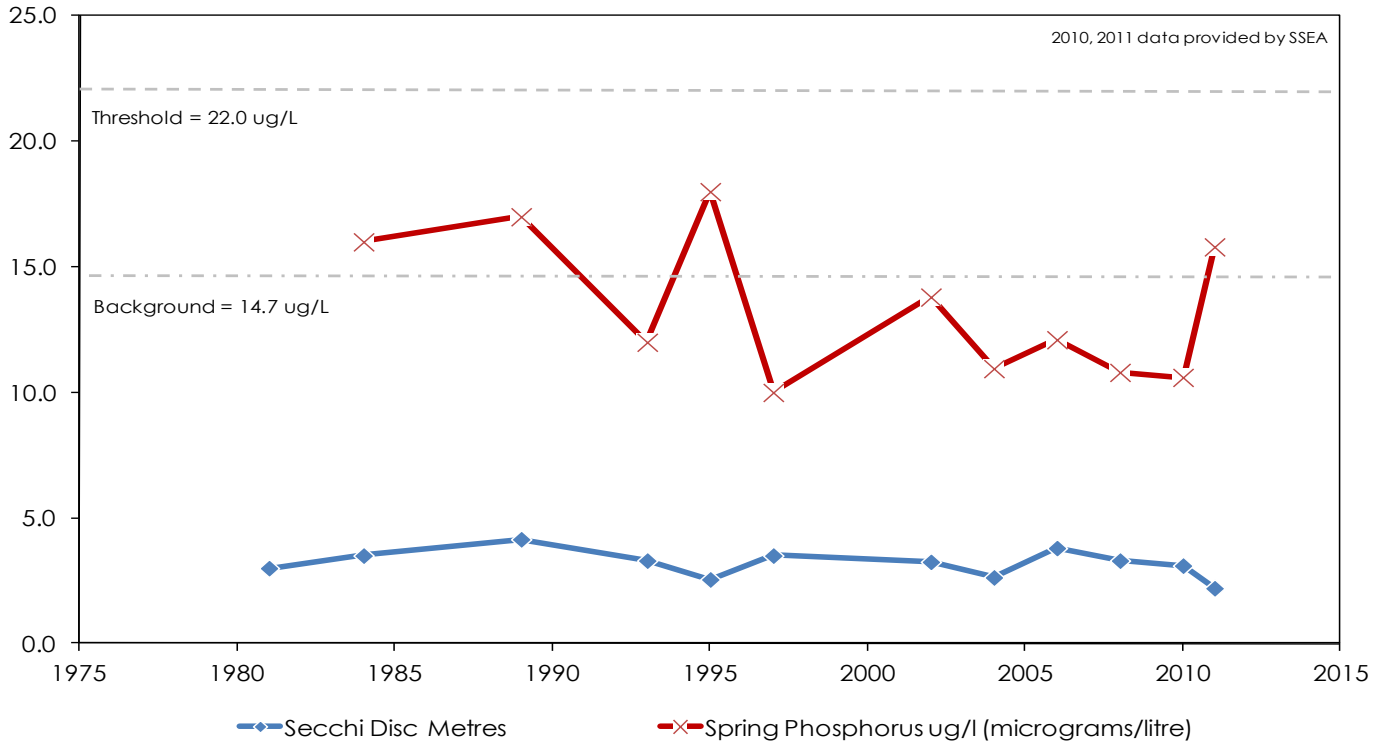


North Bay

Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**2 km²**	Watershed Area (excluding lake):	**9 km²**
Maximum Depth:	**19 m**	Lake Trout Lake?	**No**
Wetland Area:	**22 %**	Secchi Depth (10-year average):	**3.0 m**
Phosphorus (10-year average):	**12.3 µg/L**	Sensitivity:	**Low**

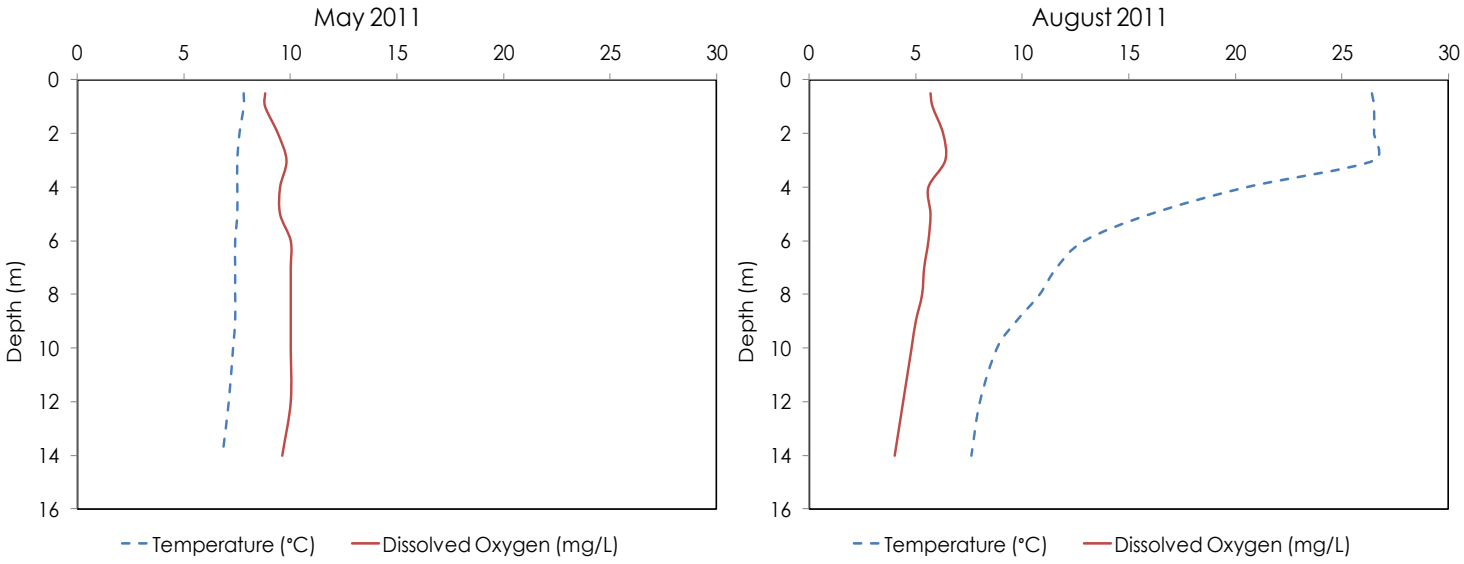


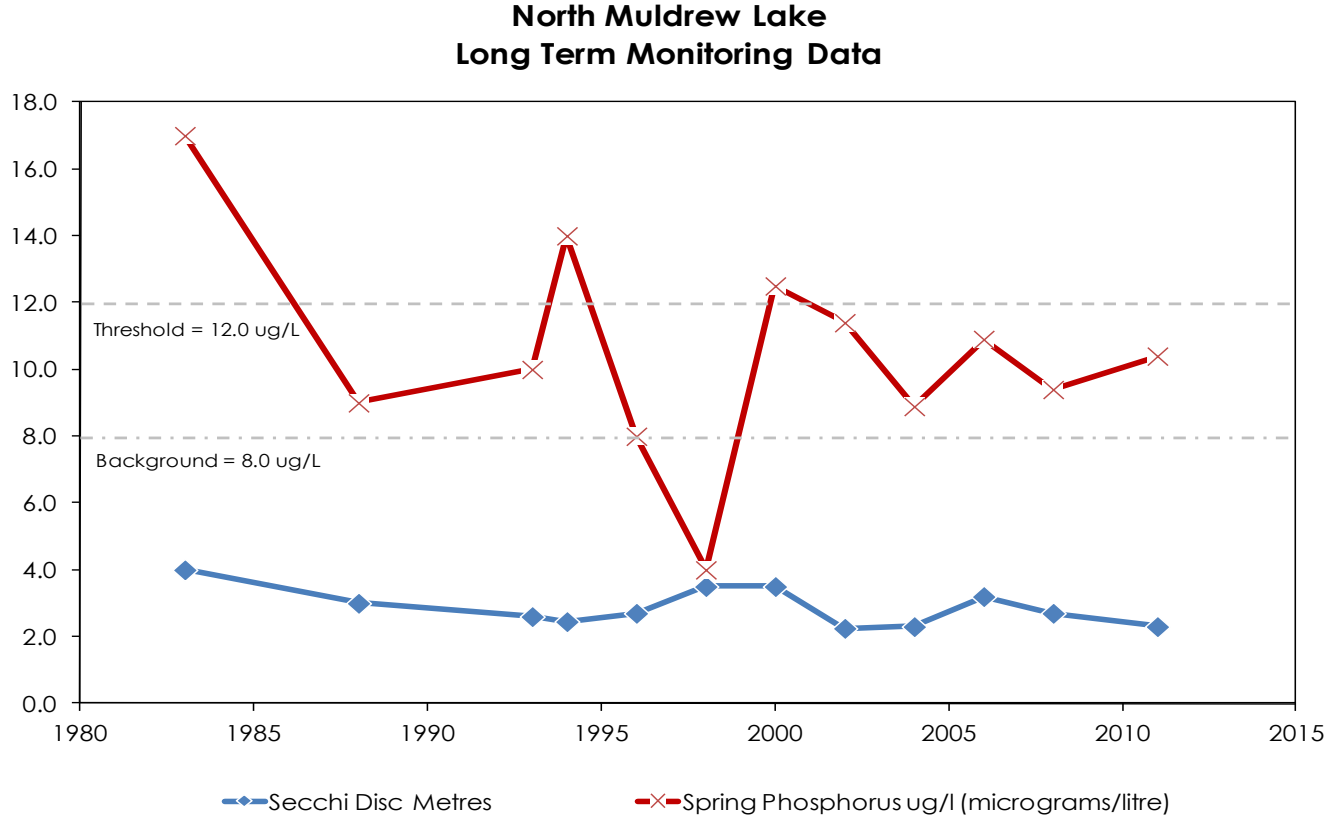
North Bay
Long Term Monitoring Data



North Muldrew Lake

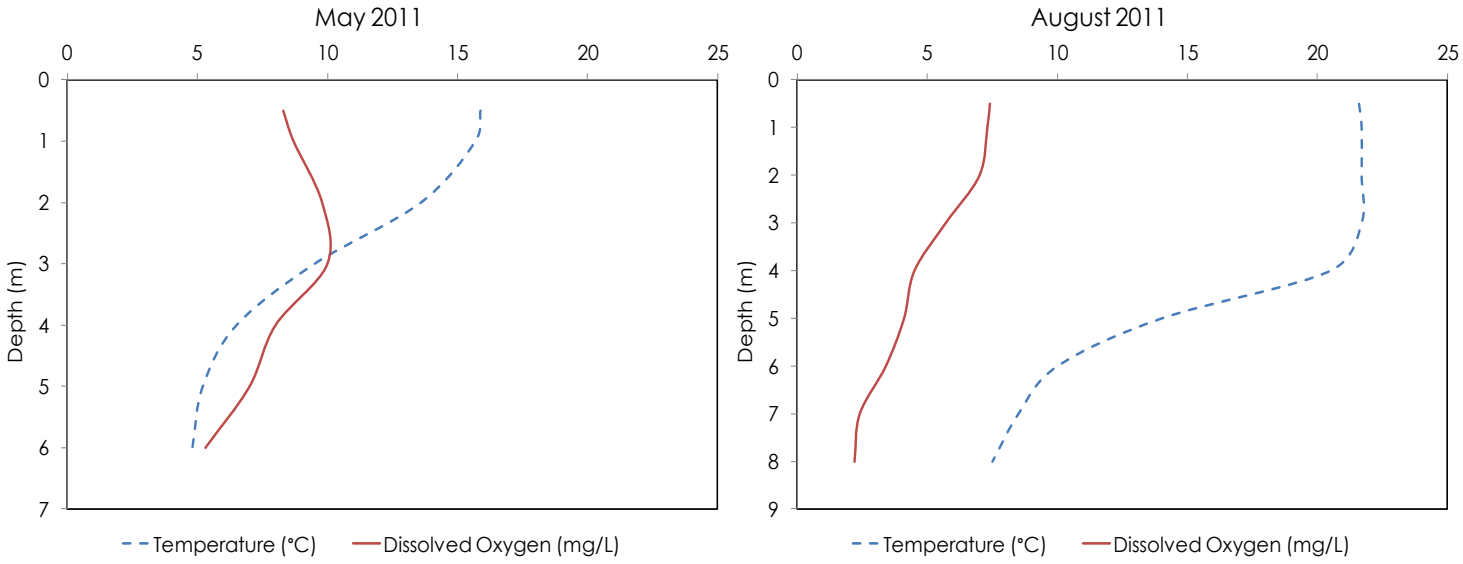
Municipality:	**Gravenhurst**	Watershed:	**Morrison Lake**
Surface Area:	**1.52 km²**	Watershed Area (excluding lake):	**13.28 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**8 %**	Secchi Depth (10-year average):	**2.6 m**
Phosphorus (10-year average):	**10.2 µg/L**	Sensitivity:	**Moderate**

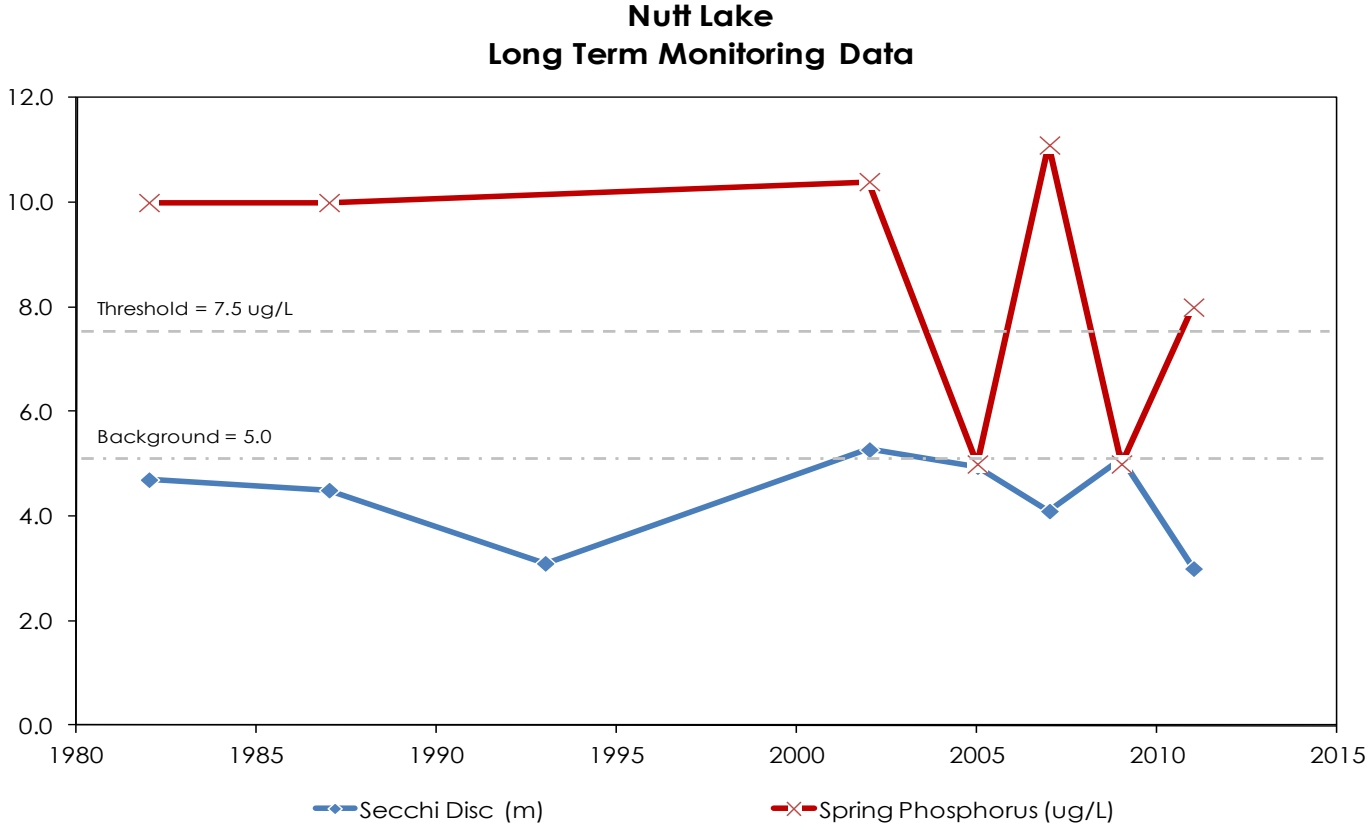




Nutt (Mud) Lake

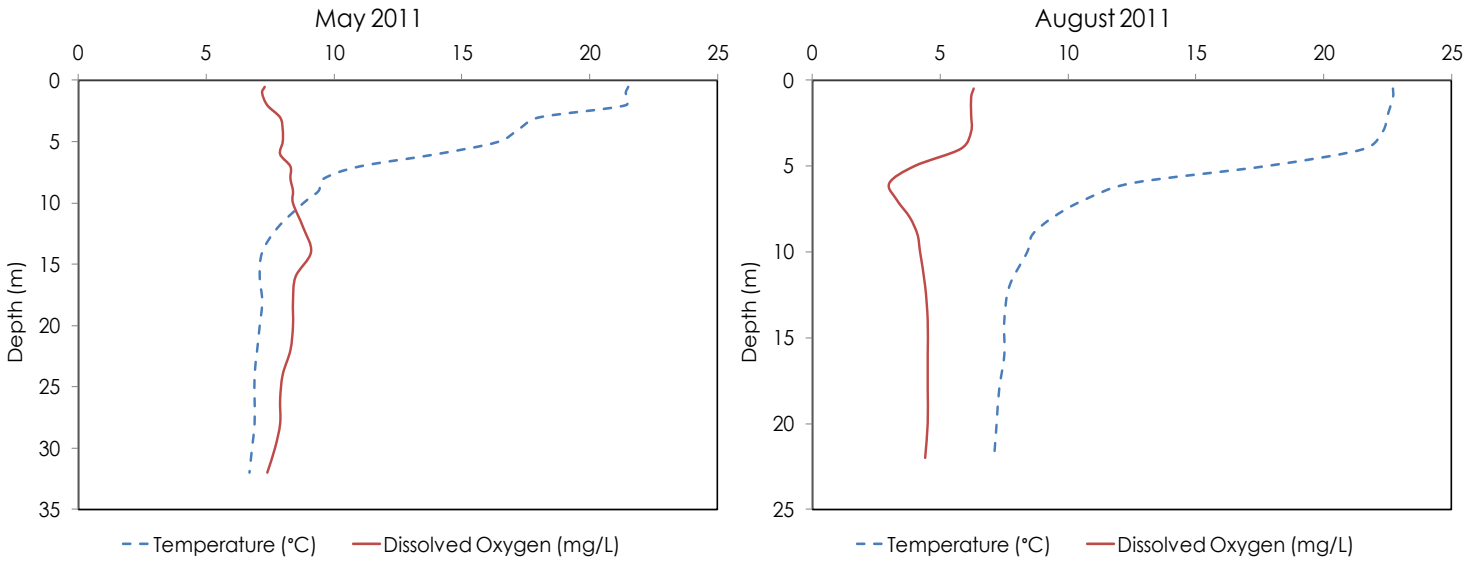
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Rosseau**
Surface Area:	**0.08 km²**	Watershed Area (excluding lake):	**0.85 km²**
Maximum Depth:	**8 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**4.5 m**
Phosphorus (10-year average):	**7.9 µg/L**	Sensitivity:	**Moderate (OT)**

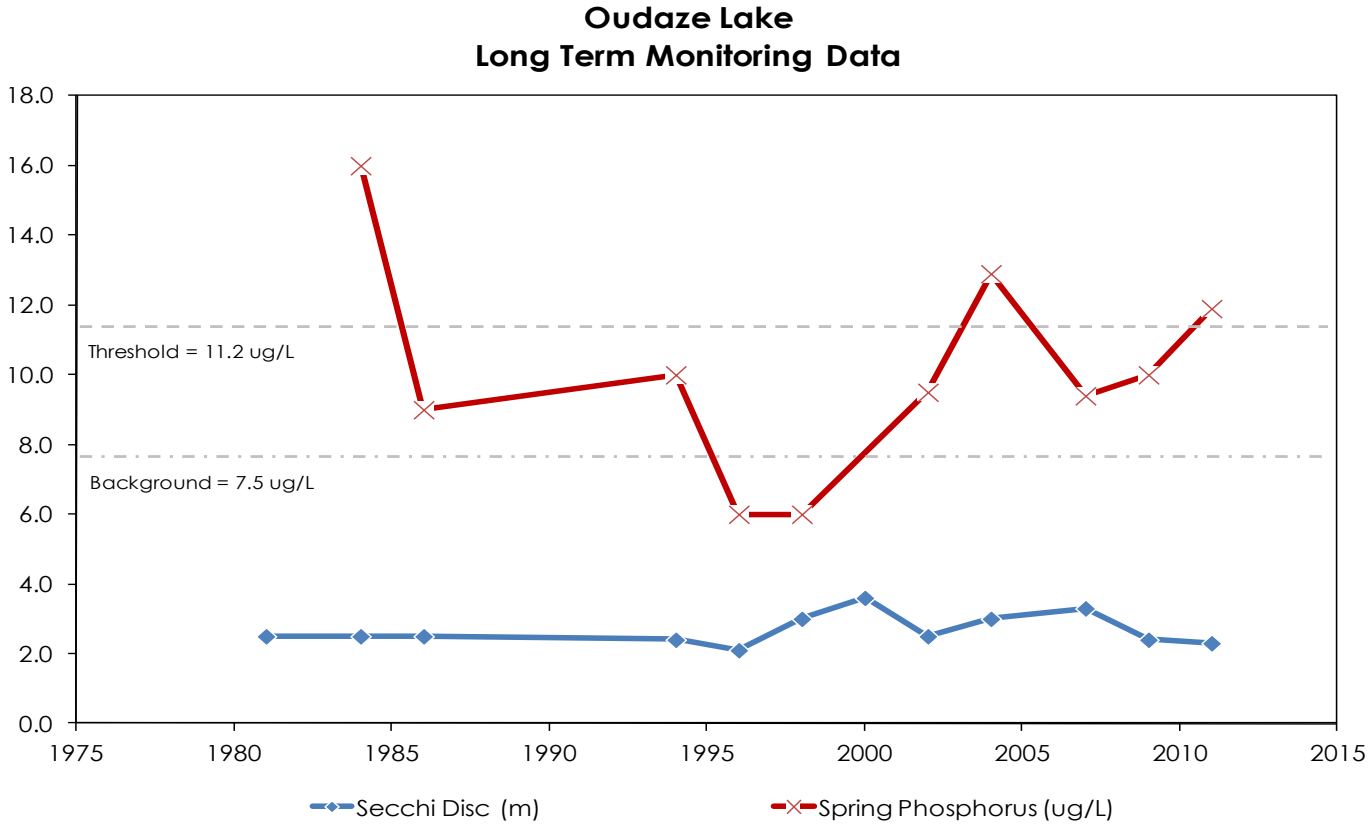




Oudaze Lake

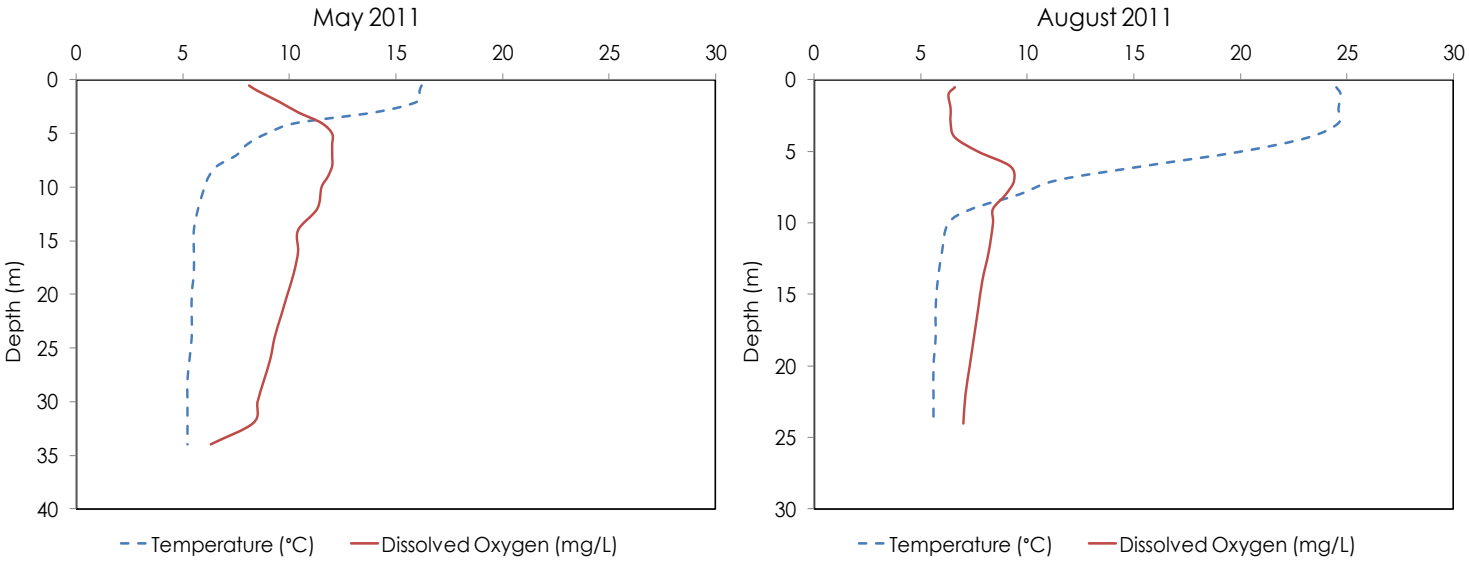
Municipality:	**Huntsville**	Watershed:	**Lake Vernon**
Surface Area:	**1.25 km²**	Watershed Area (excluding lake):	**8.5 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**10 %**	Secchi Depth (10-year average):	**2.7 m**
Phosphorus (10-year average):	**10.7 µg/L**	Sensitivity:	**Moderate**

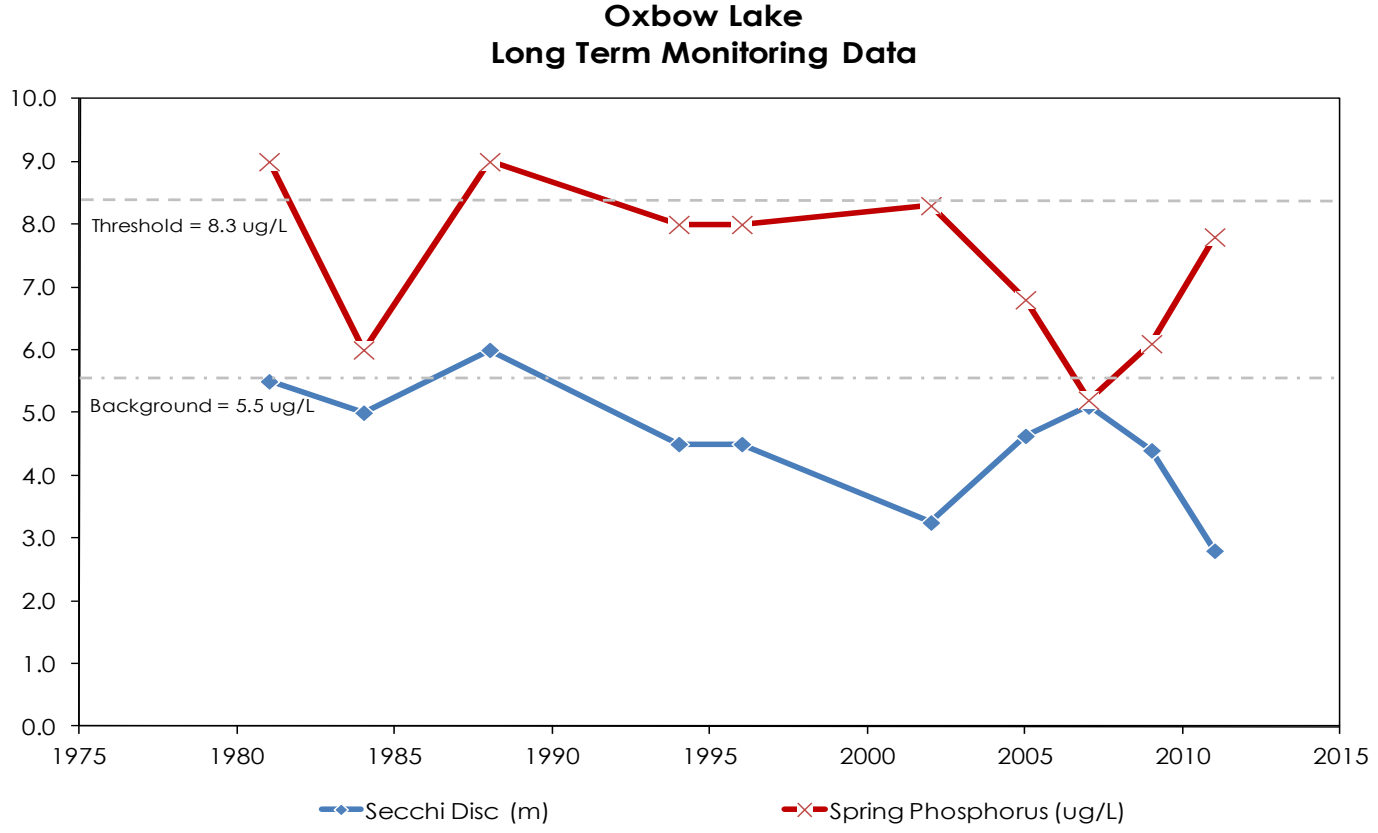




Oxbow Lake

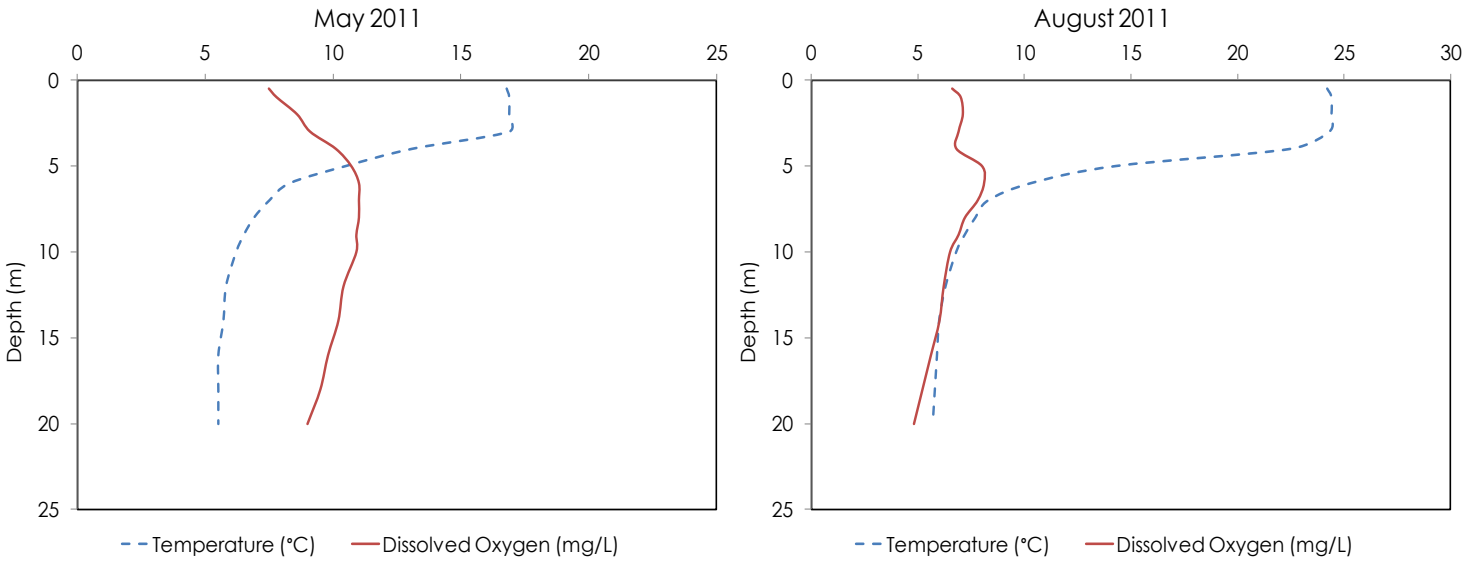
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**1.7 km²**	Watershed Area (excluding lake):	**3.7 km²**
Maximum Depth:	**35 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**25 %**	Secchi Depth (10-year average):	**4.0 m**
Phosphorus (10-year average):	**6.8 µg/L**	Sensitivity:	**Moderate**

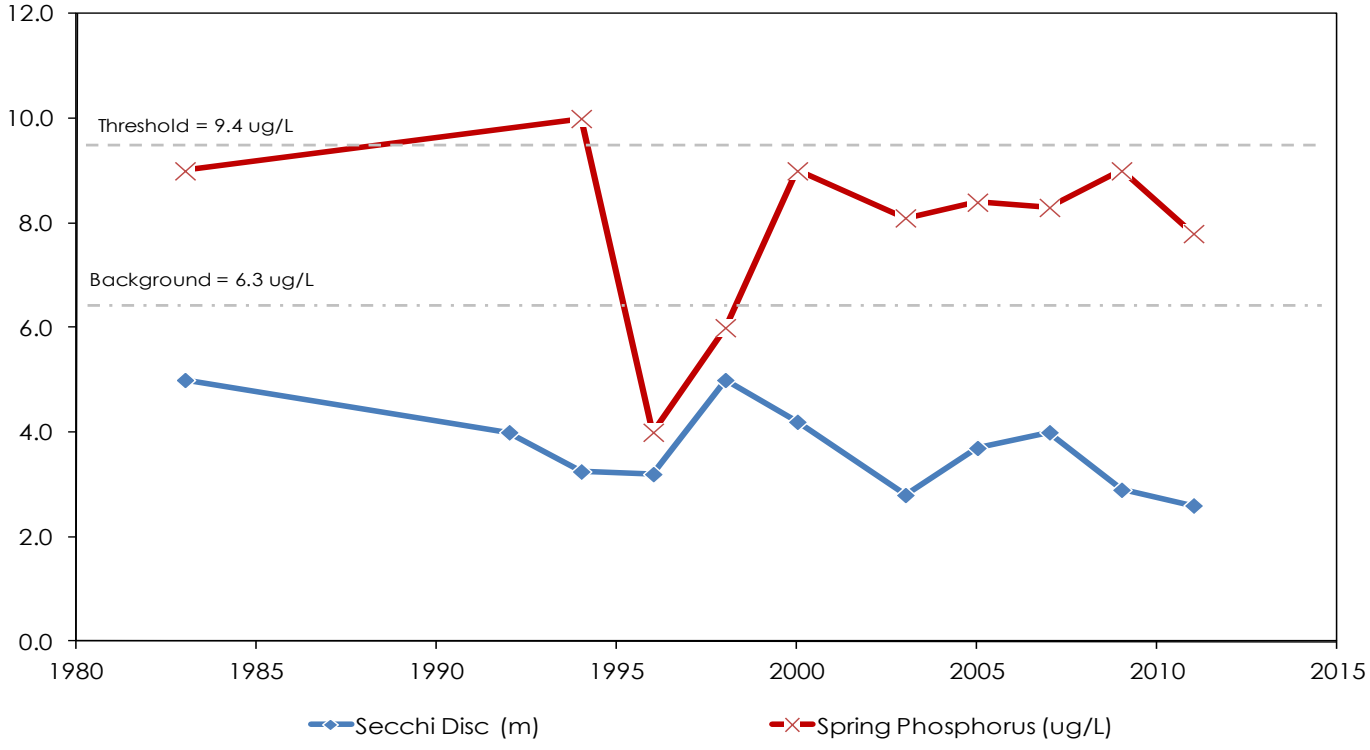




Paint (St. Mary) Lake

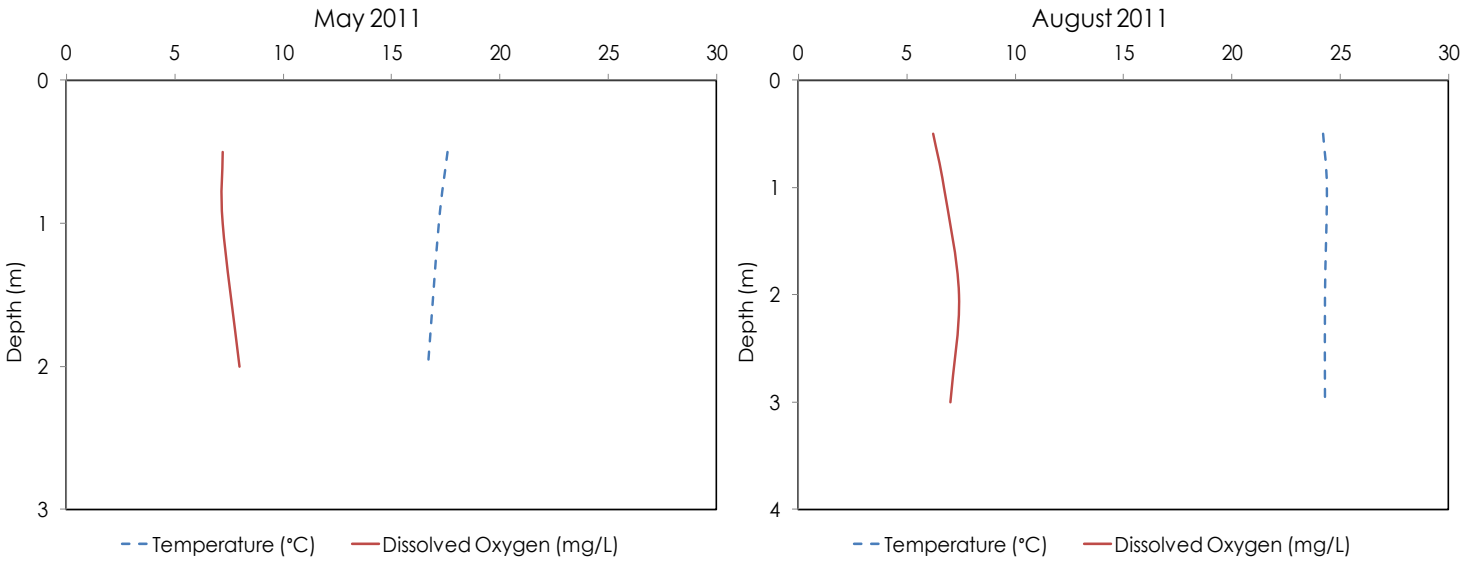
Municipality:	**Lake of Bays**	Watershed:	**Trading Bay**
Surface Area:	**1.59 km²**	Watershed Area (excluding lake):	**12.71 km²**
Maximum Depth:	**22 m**	Lake Trout Lake?	**No**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**3.2 m**
Phosphorus (10-year average):	**8.3 µg/L**	Sensitivity:	**Moderate**



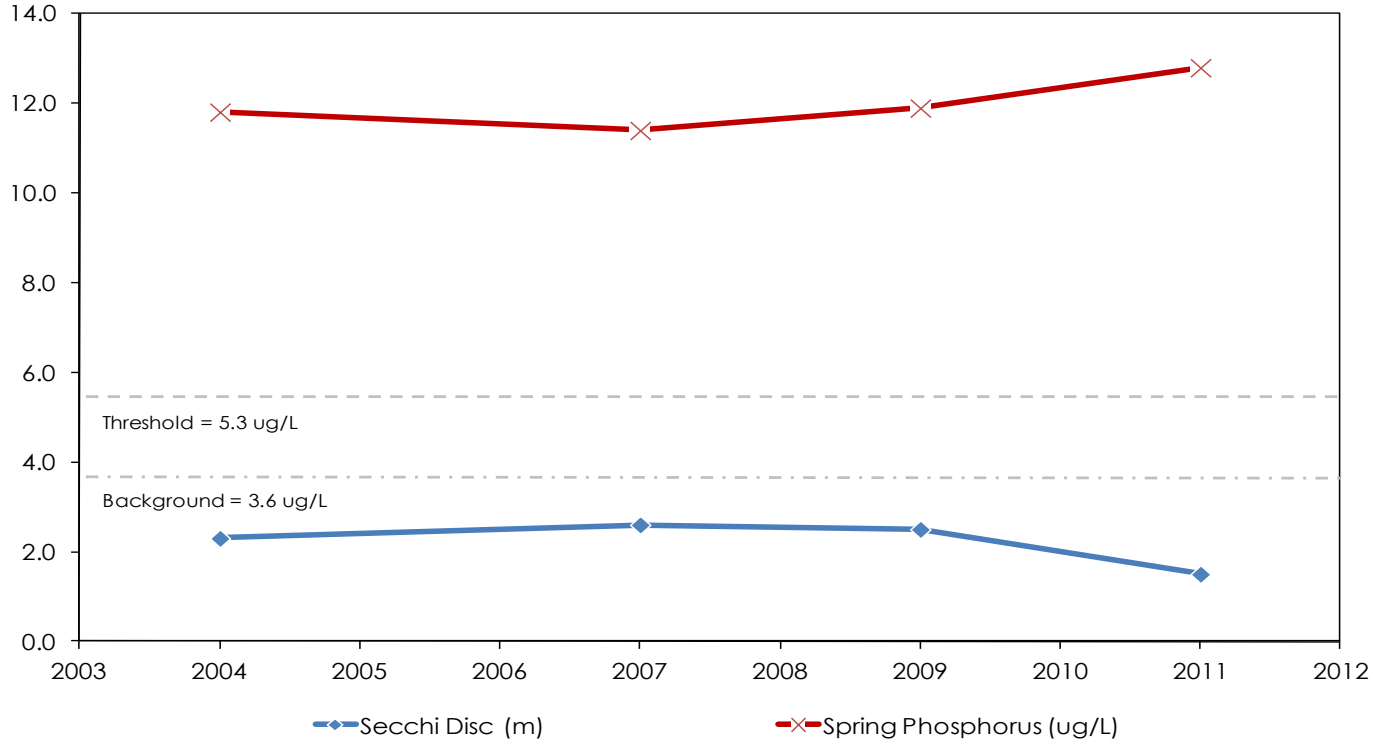


Pell Lake

Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.38 km²**	Watershed Area (excluding lake):	**1.44 km²**
Maximum Depth:	**3 m**	Lake Trout Lake?	**No**
Wetland Area:	**8.94 %**	Secchi Depth (10-year average):	**2.2 m**
Phosphorus (10-year average):	**12.0 µg/L**	Sensitivity:	**Moderate**

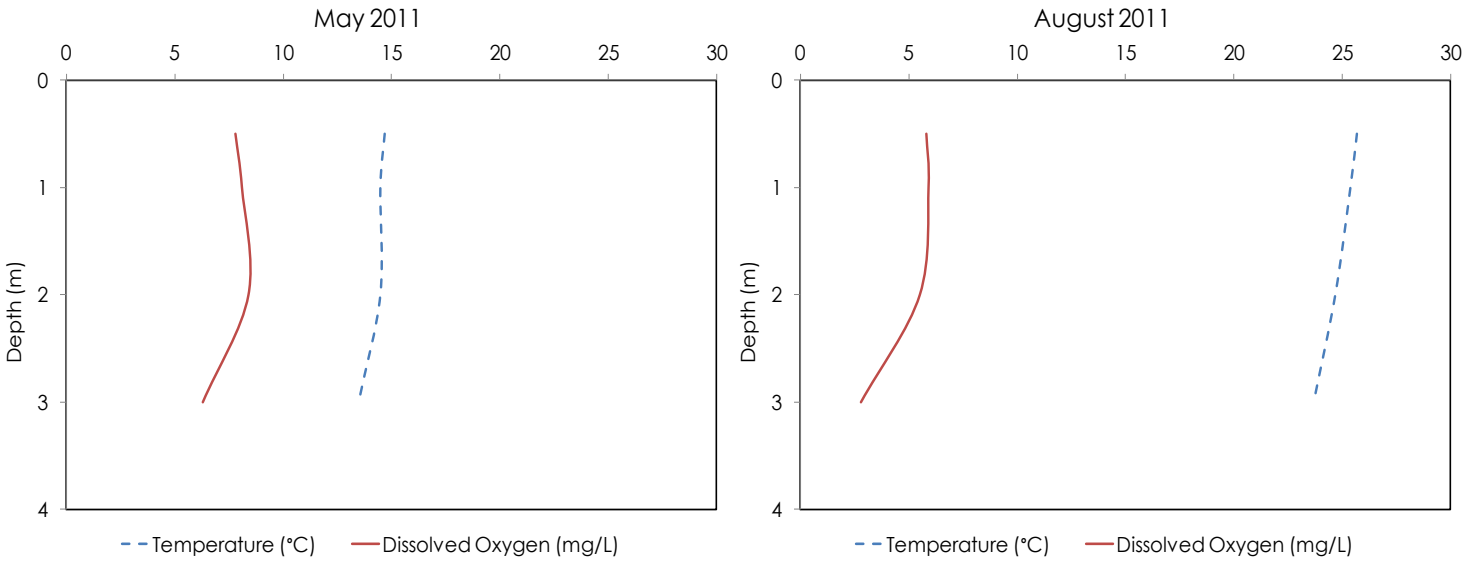


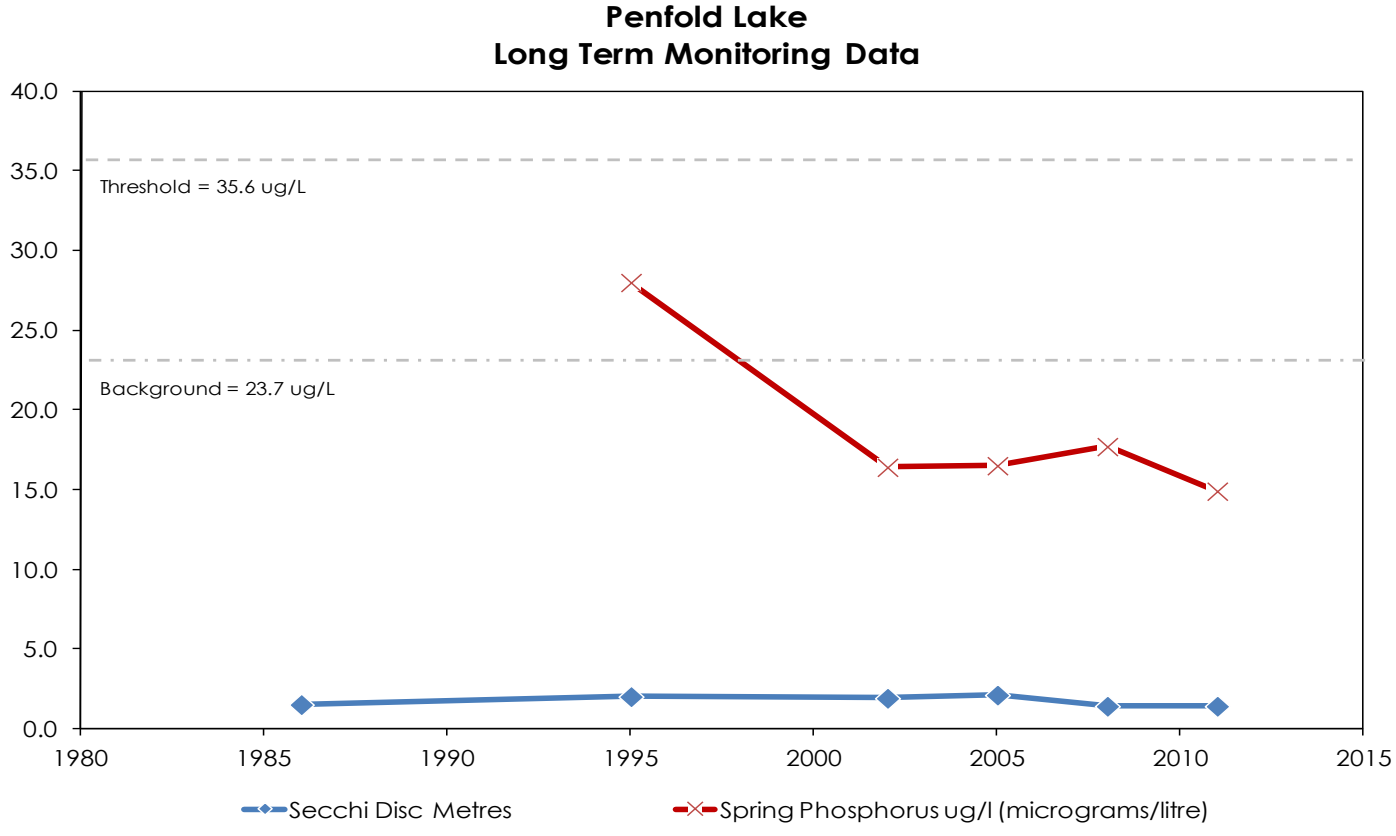
Pell Lake
Long Term Monitoring Data



Penfold Lake

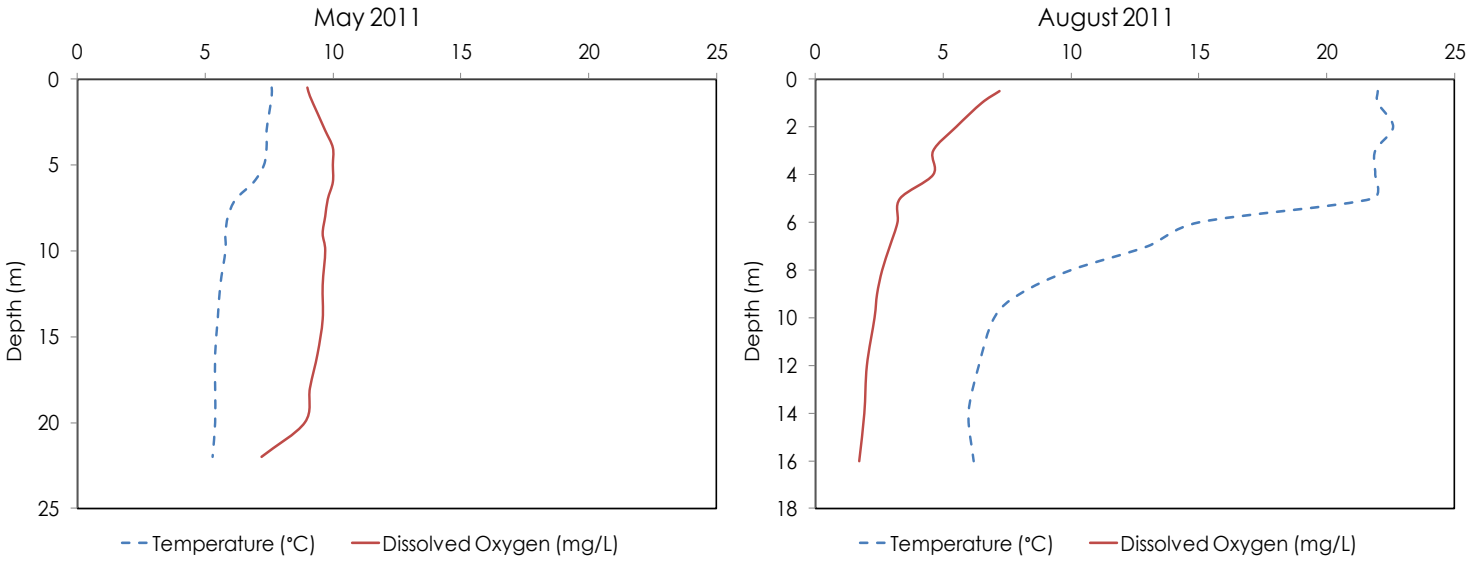
Municipality:	**Huntsville**	Watershed:	**Mary Lake**
Surface Area:	**0.34 km²**	Watershed Area (excluding lake):	**7.06 km²**
Maximum Depth:	**3 m**	Lake Trout Lake?	**No**
Wetland Area:	**33 %**	Secchi Depth (10-year average):	**1.7 m**
Phosphorus (10-year average):	**16.4 µg/L**	Sensitivity:	**Moderate**

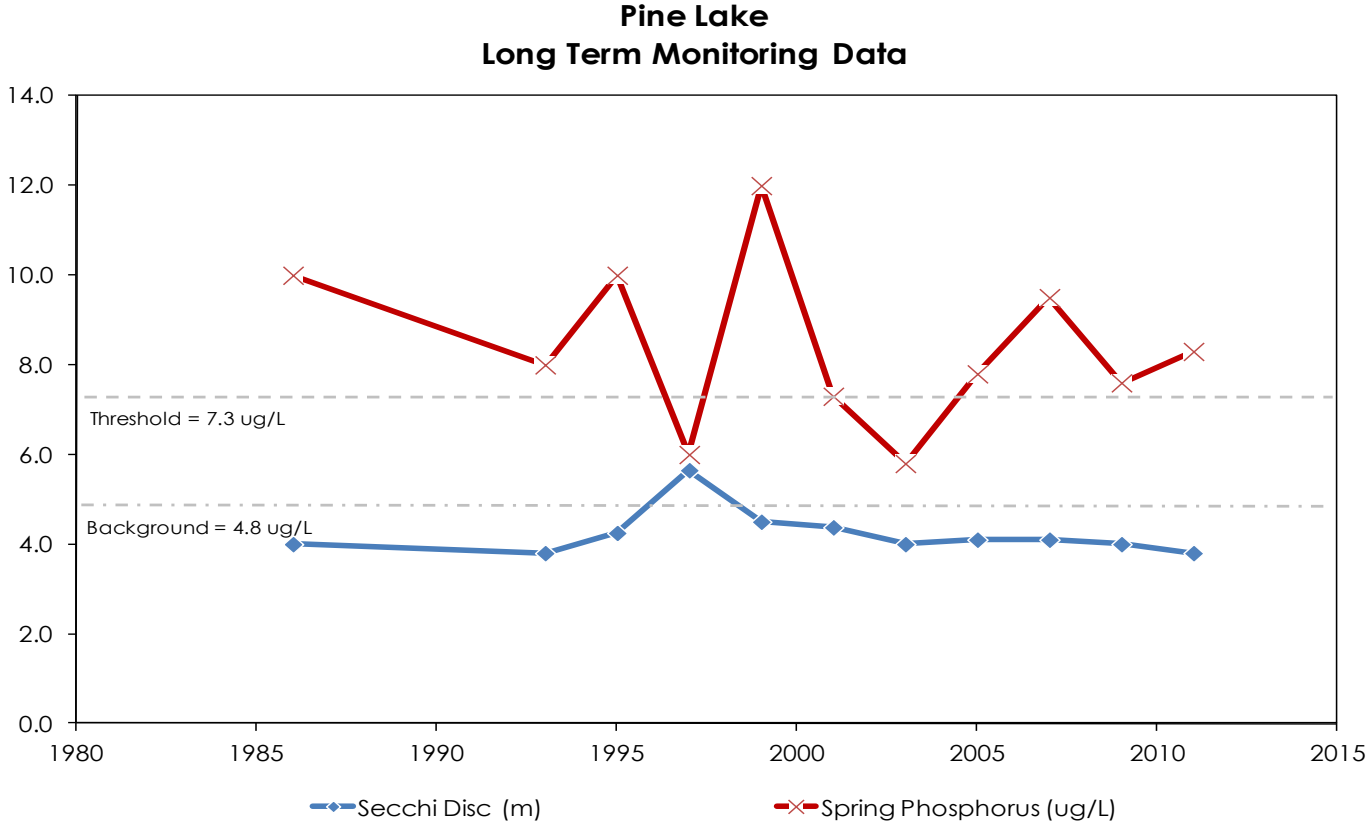




Pine Lake

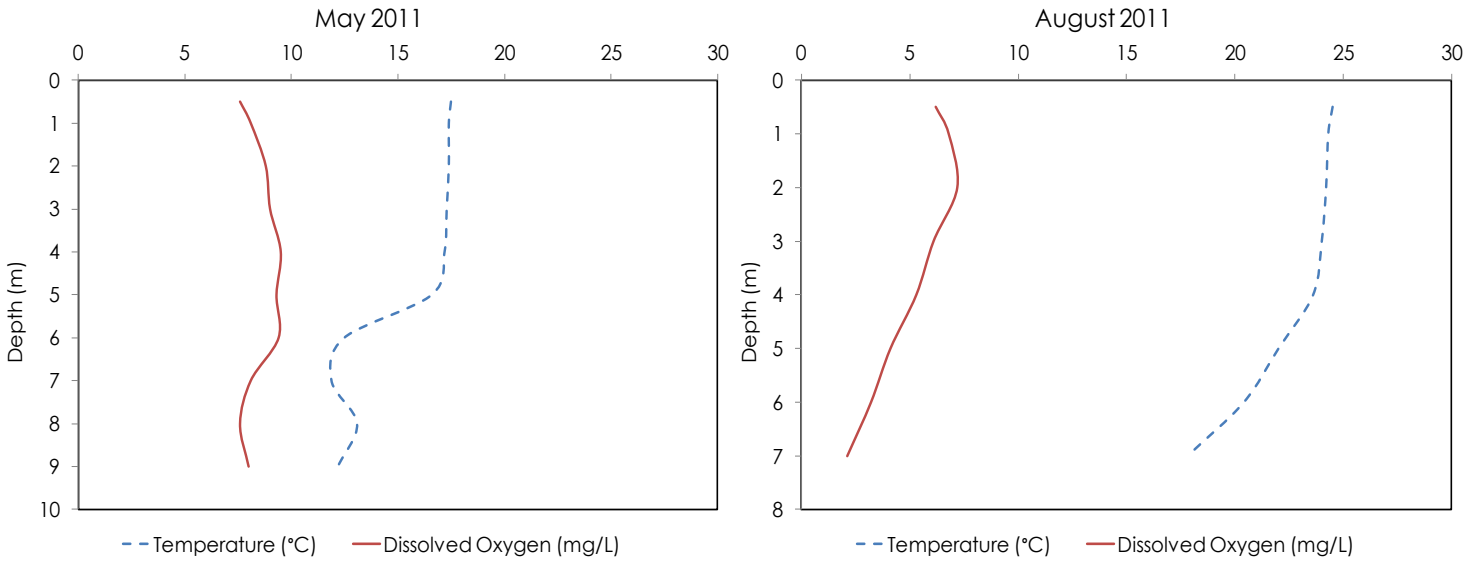
Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**0.85 km²**	Watershed Area (excluding lake):	**3.51 km²**
Maximum Depth:	**19 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**4.0 m**
Phosphorus (10-year average):	**7.8 µg/L**	Sensitivity:	**Moderate (OT)**



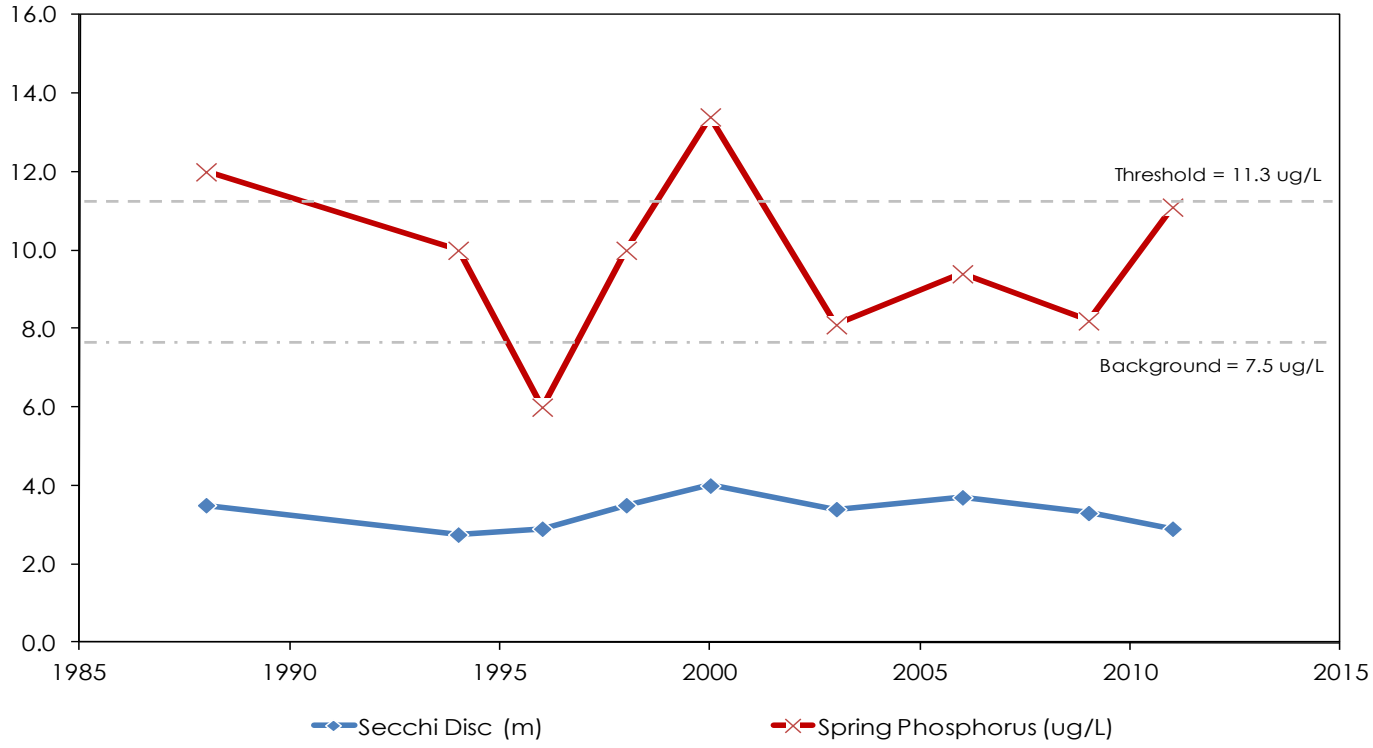


Pine Lake

Municipality:	**Gravenhurst**	Watershed:	**Lake Muskoka**
Surface Area:	**1.6 km²**	Watershed Area (excluding lake):	**15.4 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**3.3 m**
Phosphorus (10-year average):	**9.2 µg/L**	Sensitivity:	**Moderate**

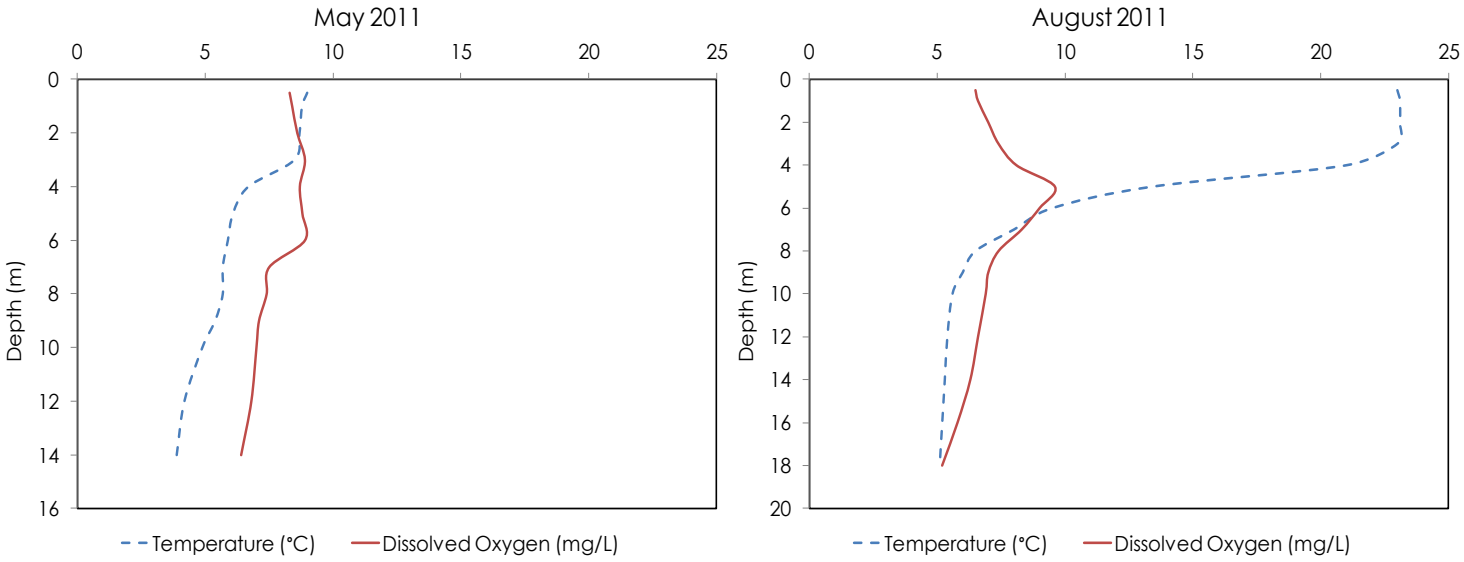


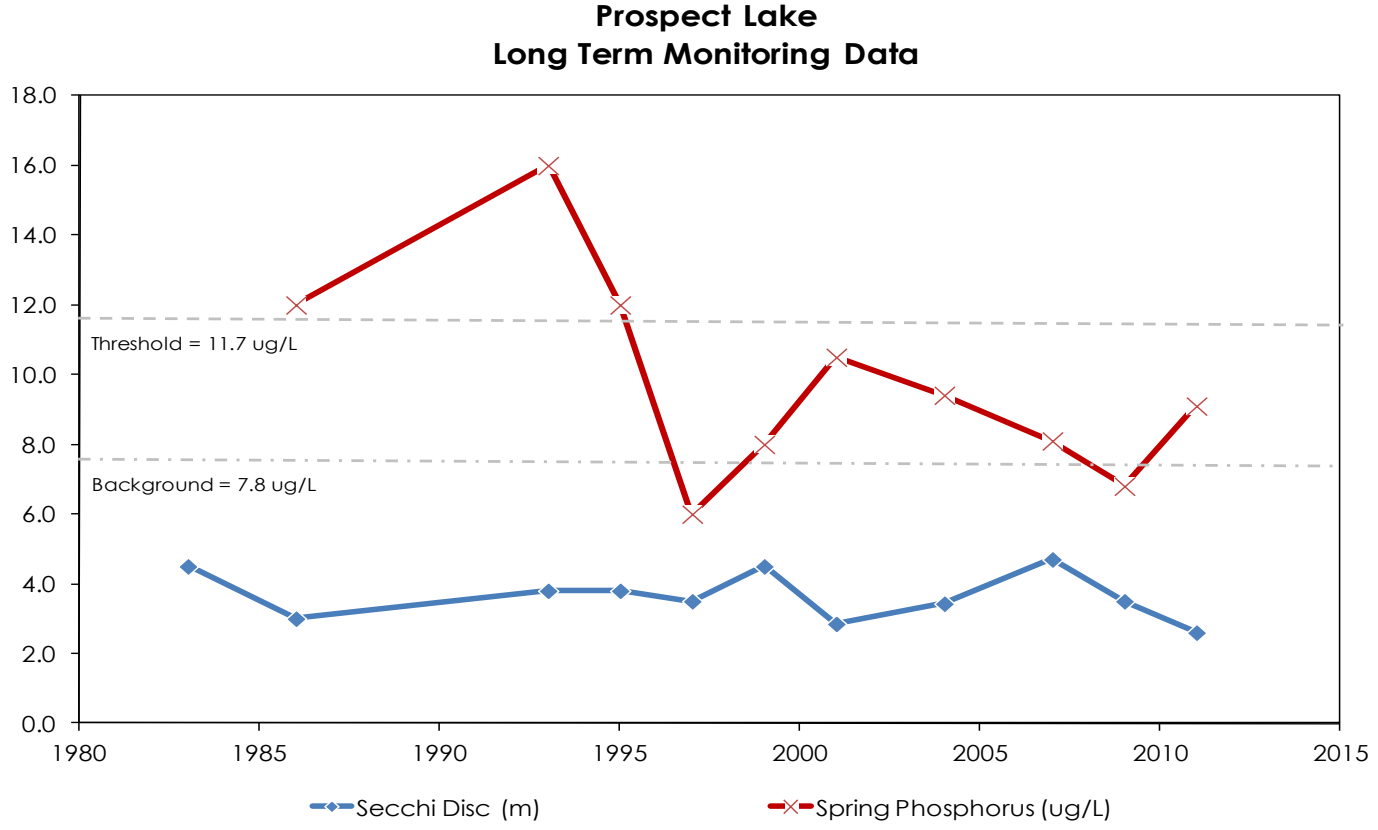
Pine Lake
Long Term Monitoring Data



Prospect Lake

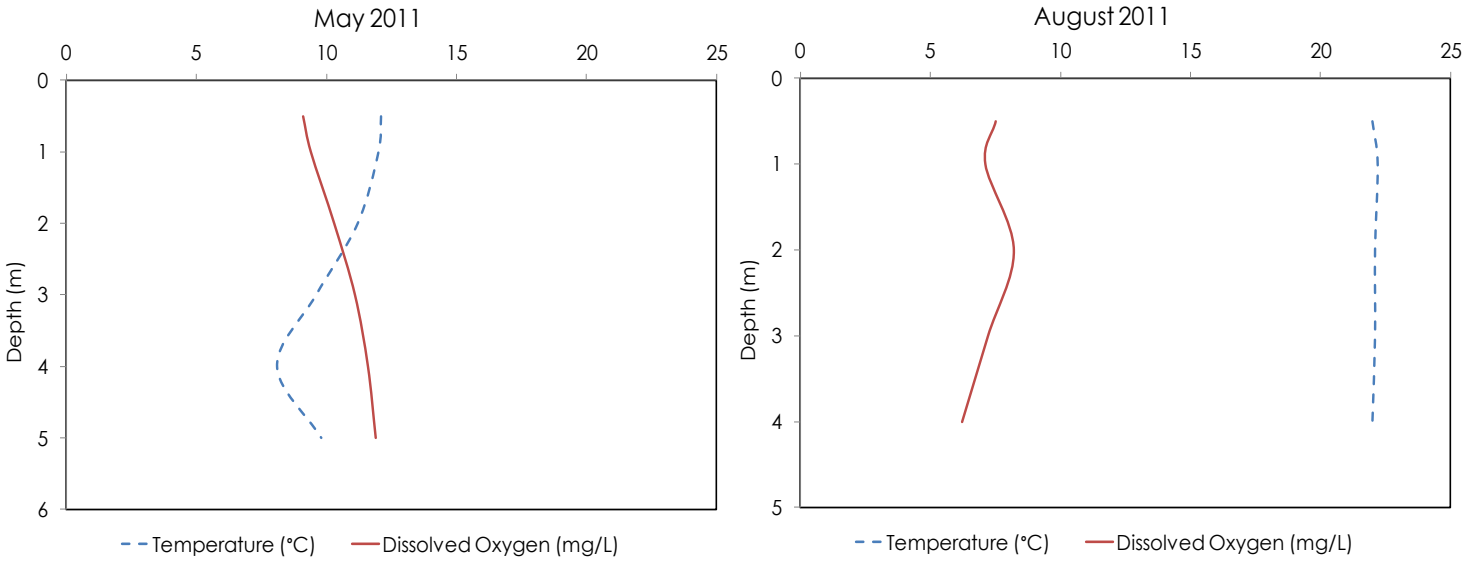
Municipality:	**Bracebridge**	Watershed:	**Sparrow Lake**
Surface Area:	**0.69 km²**	Watershed Area (excluding lake):	**9.51 km²**
Maximum Depth:	**18 m**	Lake Trout Lake?	**No**
Wetland Area:	**4 %**	Secchi Depth (10-year average):	**3.6 m**
Phosphorus (10-year average):	**8.4 µg/L**	Sensitivity:	**Moderate**

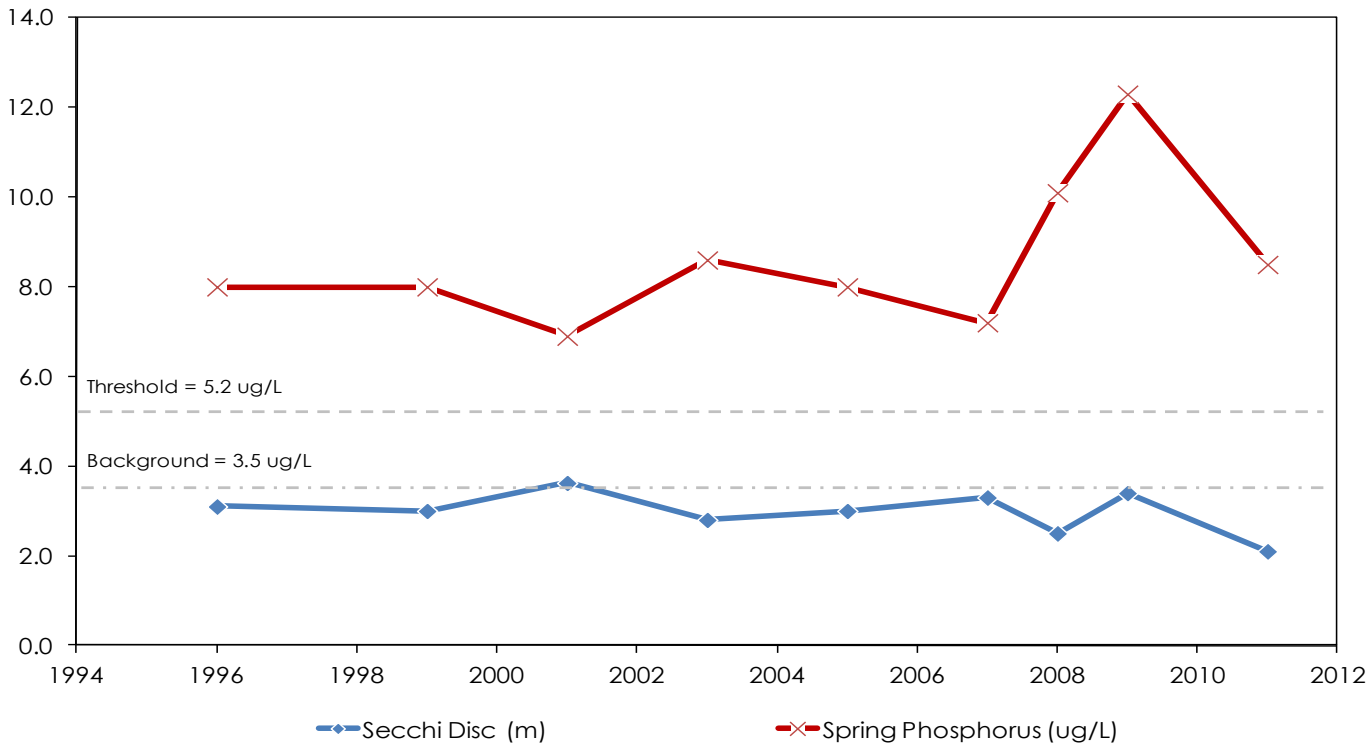




Lake Rosseau – Brackenrig Bay

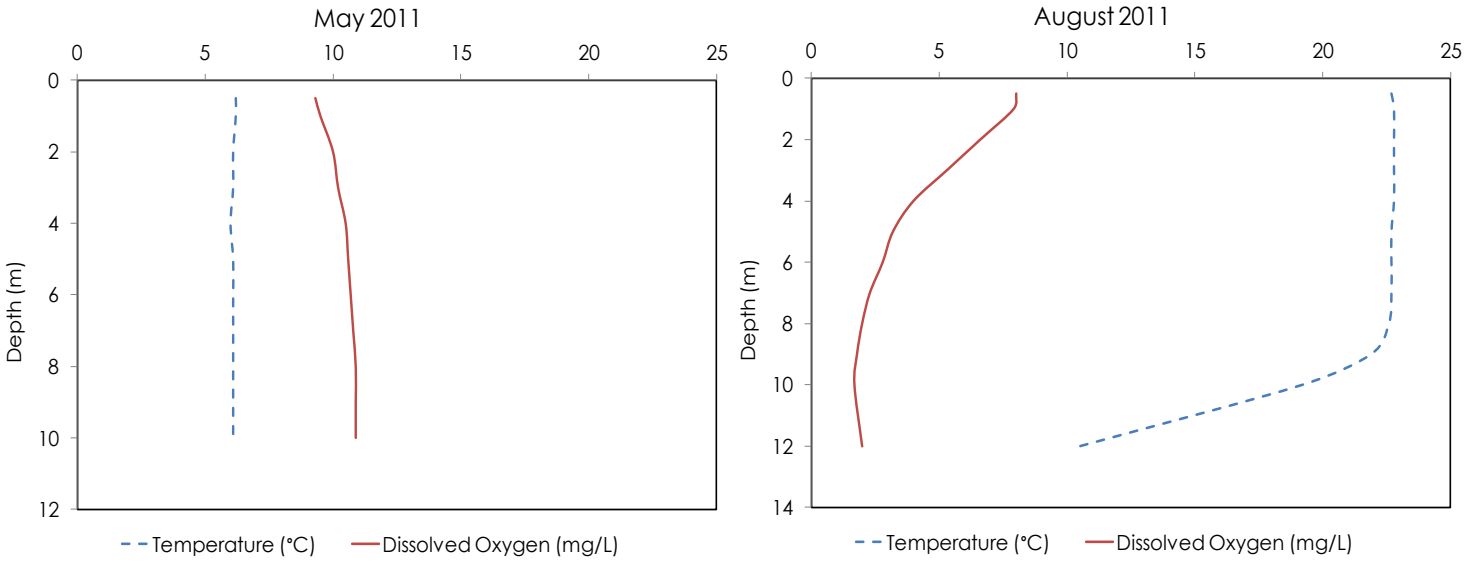
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Rosseau**
Surface Area:	**0.44 km²**	Watershed Area (excluding lake):	**2.16 km²**
Maximum Depth:	**4 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**2.9 m**
Phosphorus (10-year average):	**9.1 µg/L**	Sensitivity:	**Moderate (OT)**

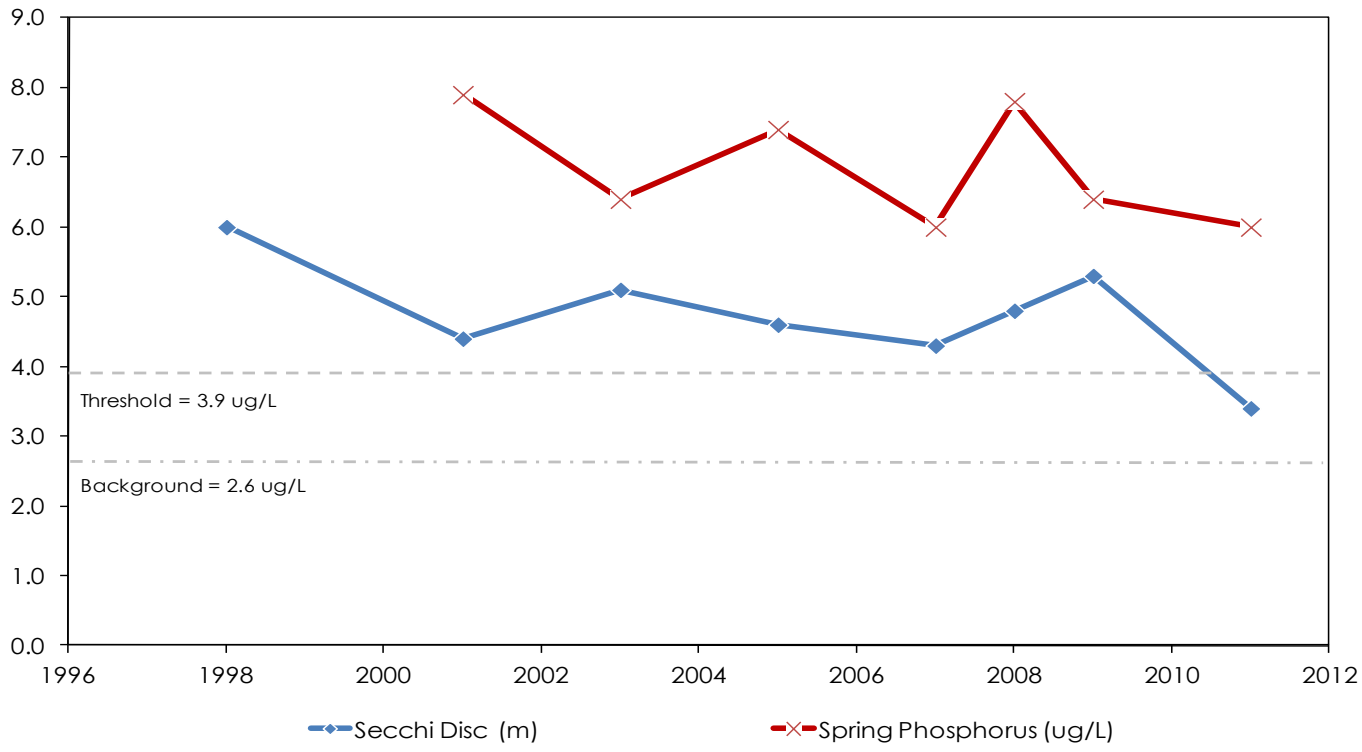




Lake Rosseau – East Portage Bay

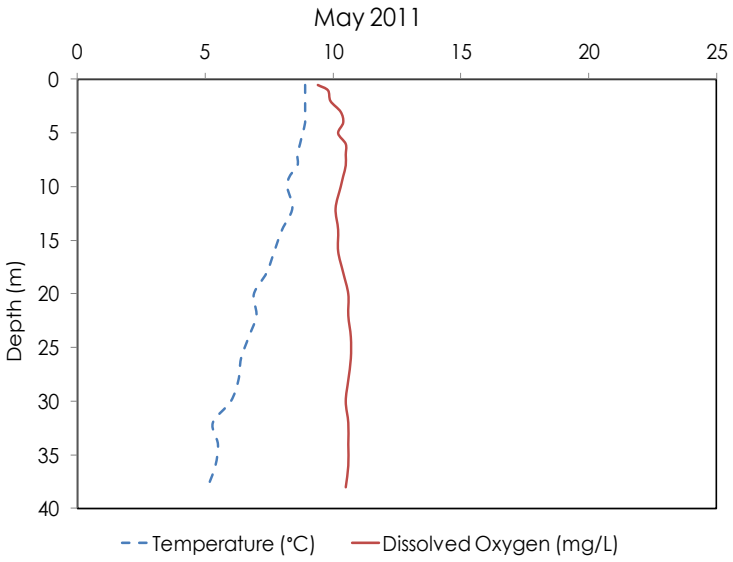
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Rosseau**
Surface Area:	**1.33 km²**	Watershed Area (excluding lake):	**3.17 km²**
Maximum Depth:	**12 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**4.6 m**
Phosphorus (10-year average):	**6.7 µg/L**	Sensitivity:	**High (OT)**

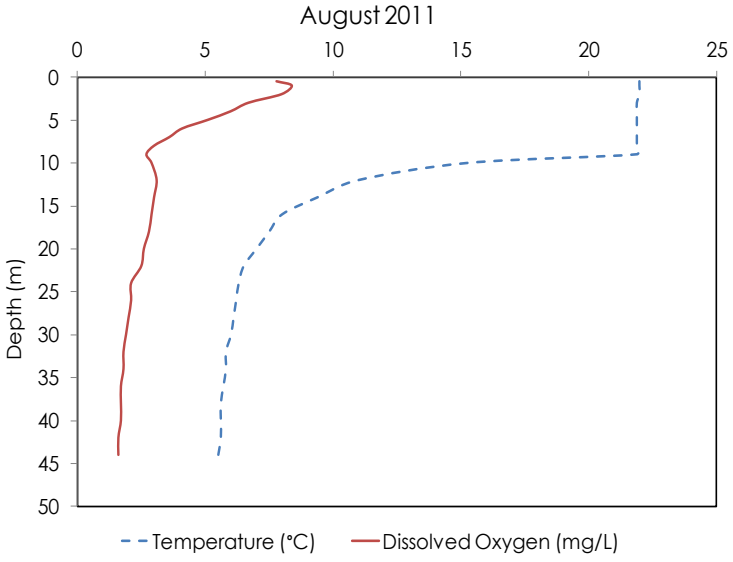


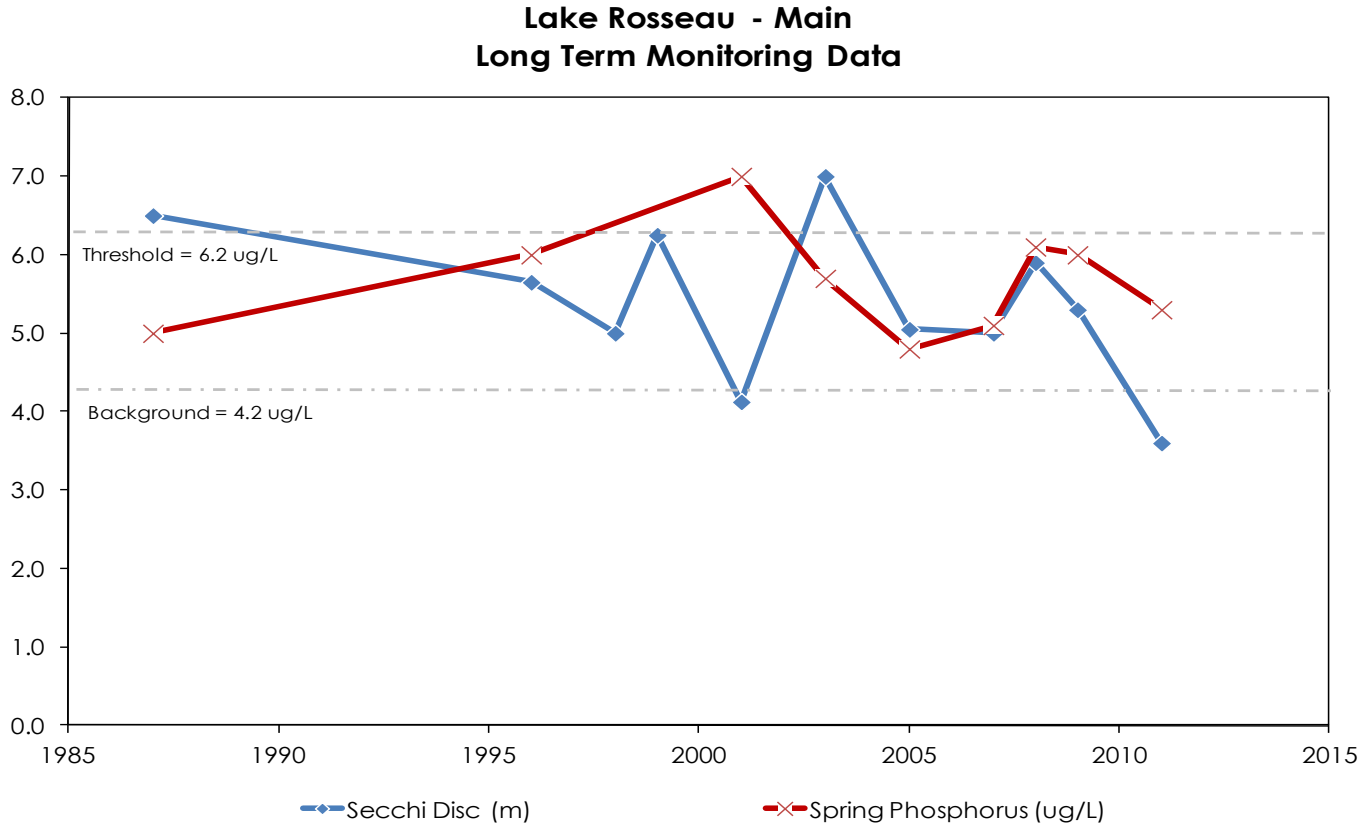


Lake Rosseau – Main

Municipality:	**Muskoka Lakes**	Watershed:	**Lake Rosseau**
Surface Area:	**55.5 km²**	Watershed Area (excluding lake):	**204.5 km²**
Maximum Depth:	**60 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**5.3 m**
Phosphorus (10-year average):	**5.5 µg/L**	Sensitivity:	**Moderate**

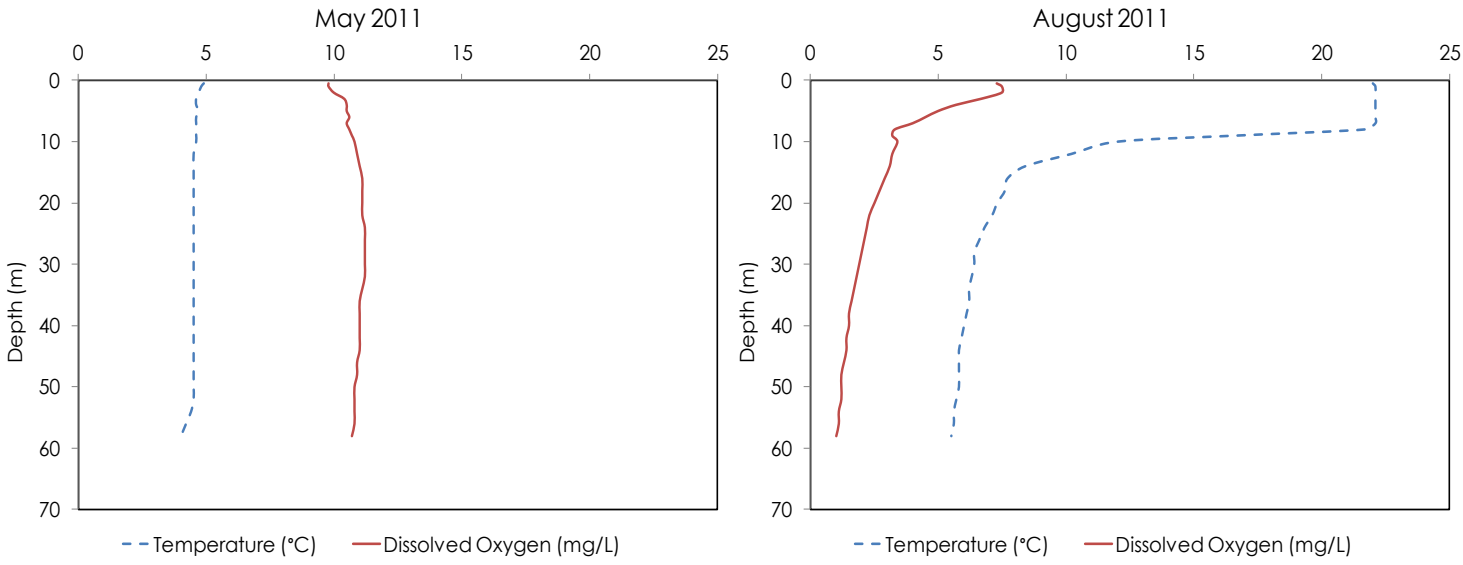


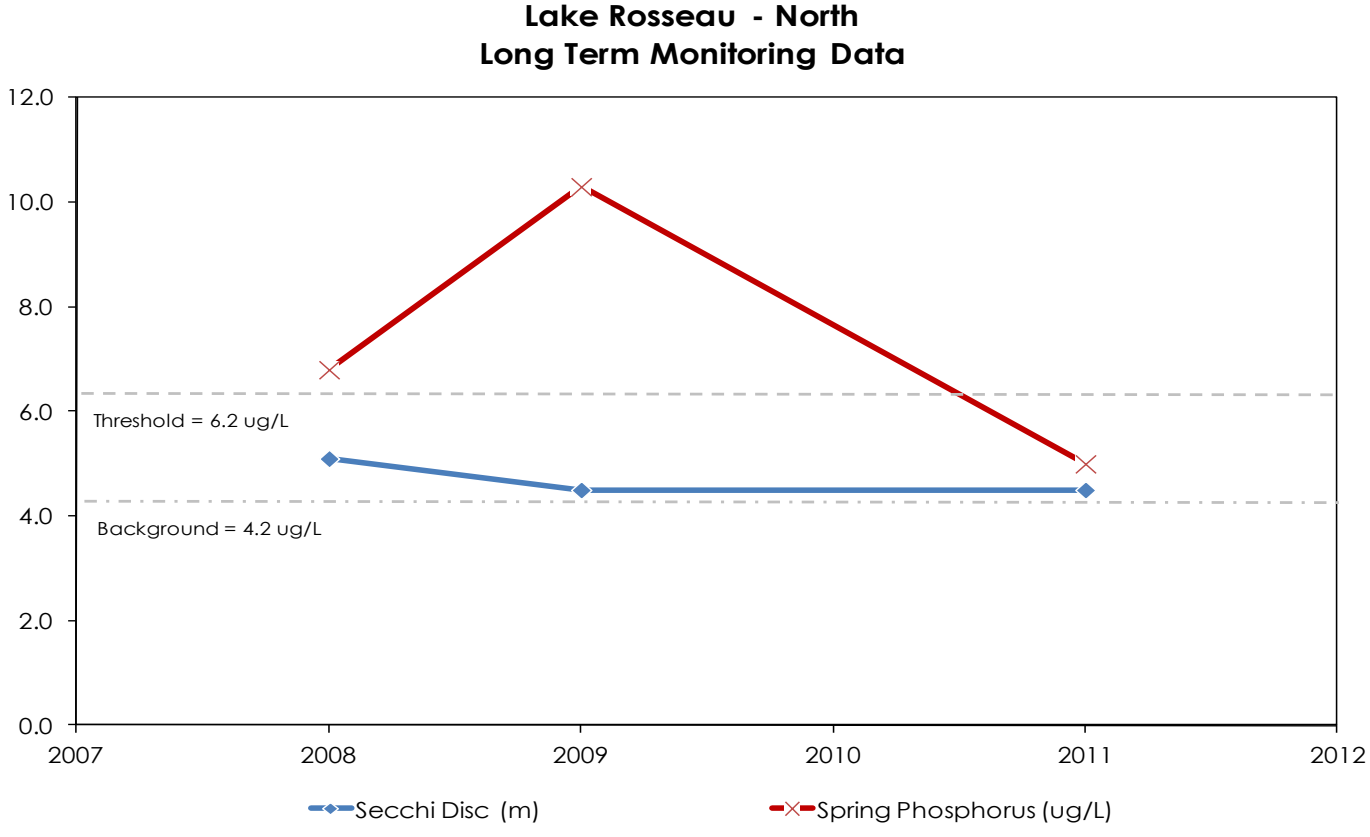




Lake Rosseau – North

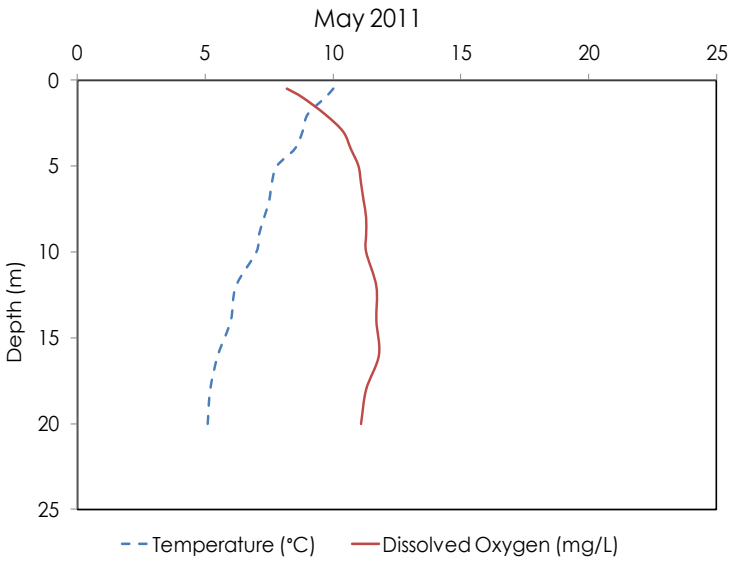
Municipality:	**Muskoka Lakes/Seguin**	Watershed:	**Lake Rosseau**
Surface Area:	**55.5 km²**	Watershed Area (excluding lake):	**204.5 km²**
Maximum Depth:	**75 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**5 %**	Secchi Depth (10-year average):	**4.7 m**
Phosphorus (10-year average):	**7.4 µg/L**	Sensitivity:	**Moderate**

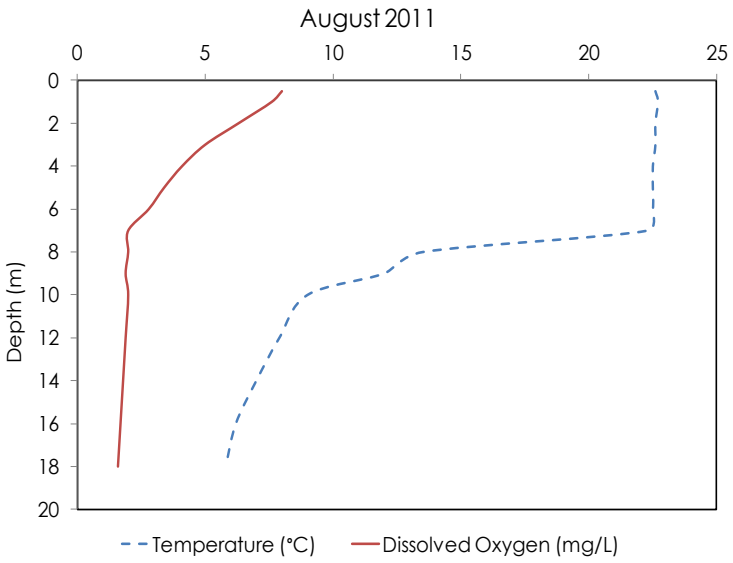


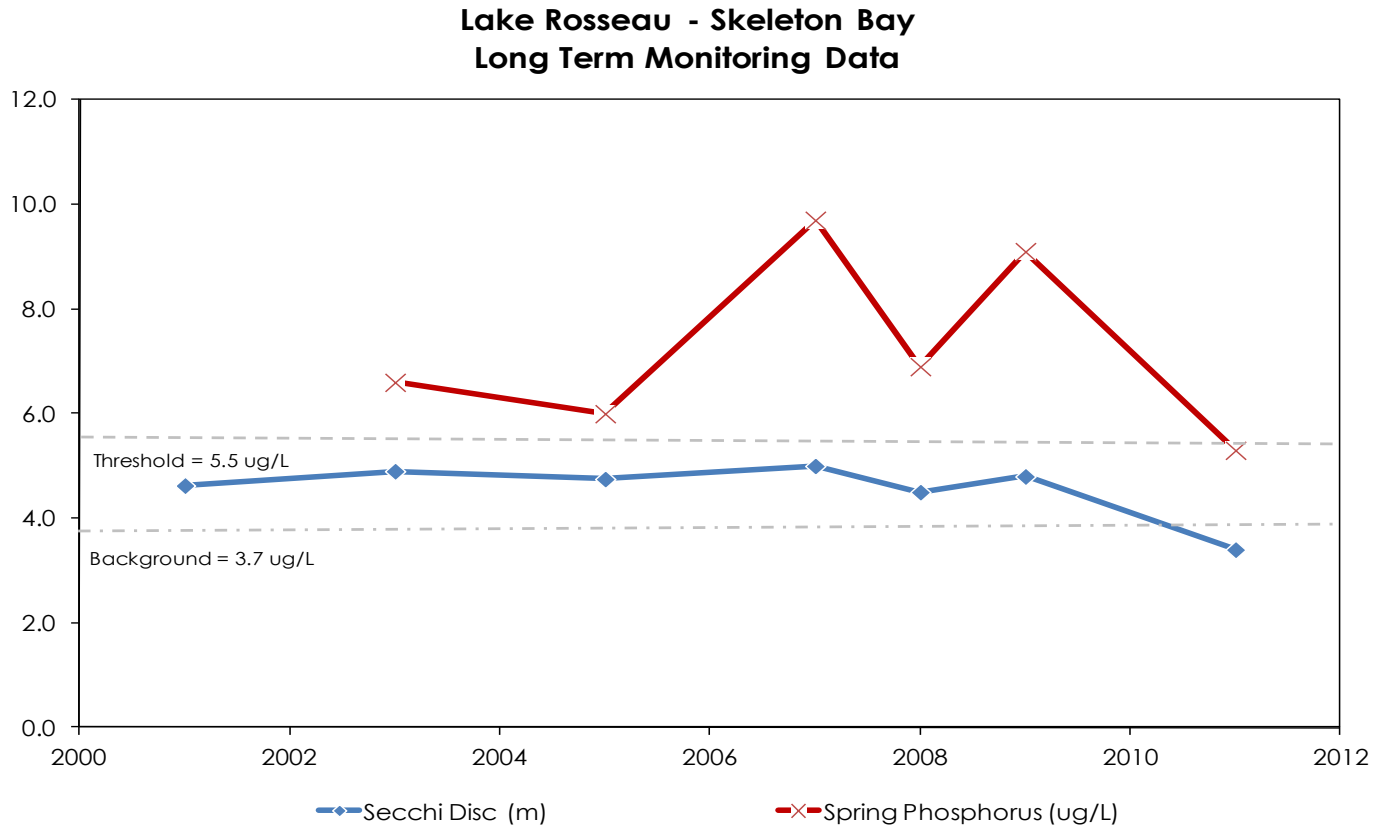


Lake Rosseau – Skeleton Bay

Municipality:	**Muskoka Lakes**	Watershed:	**Lake Rosseau**
Surface Area:	**1.71 km²**	Watershed Area (excluding lake):	**15.89 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**Yes**
Wetland Area:	**3.76 %**	Secchi Depth (10-year average):	**4.6 m**
Phosphorus (10-year average):	**7.3 µg/L**	Sensitivity:	**Moderate**

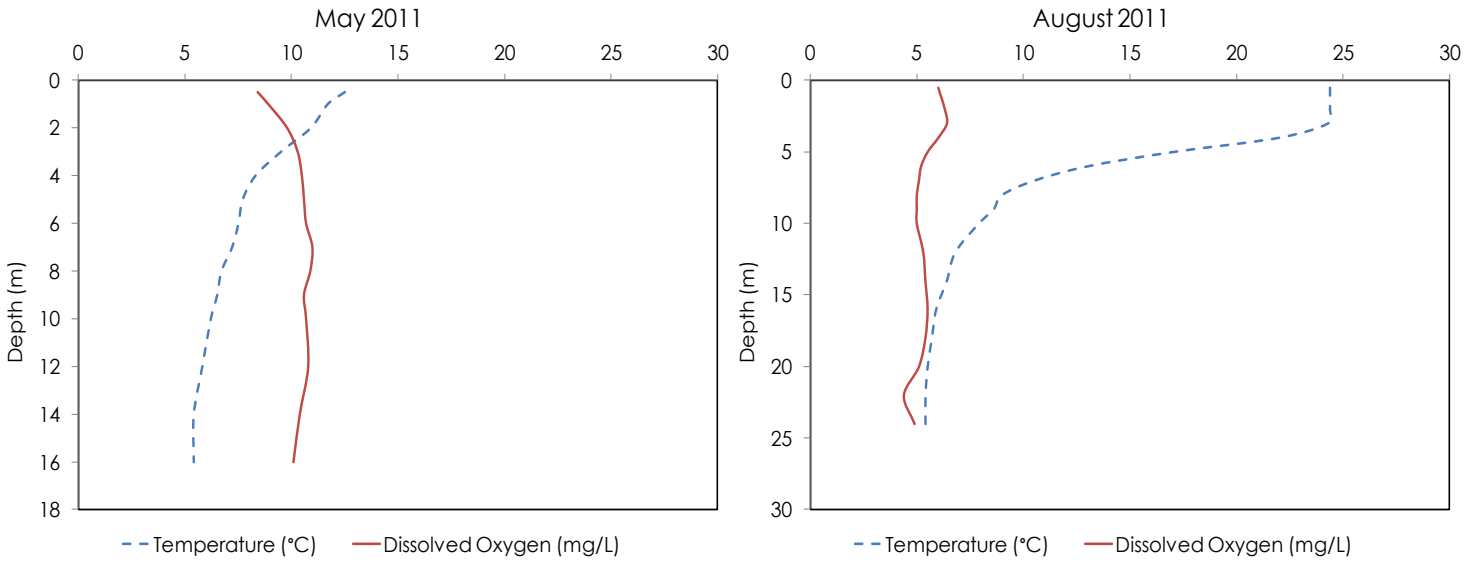


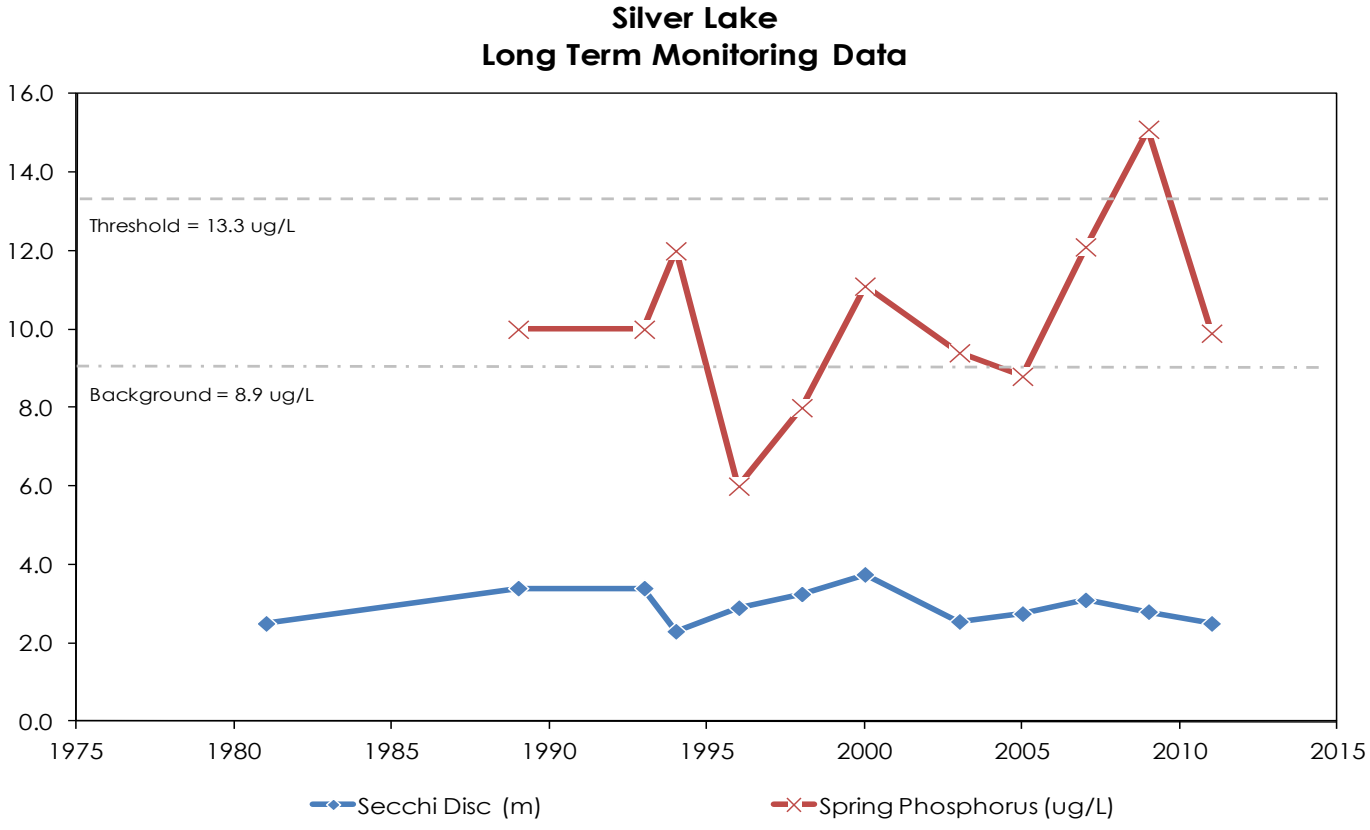




Silver Lake

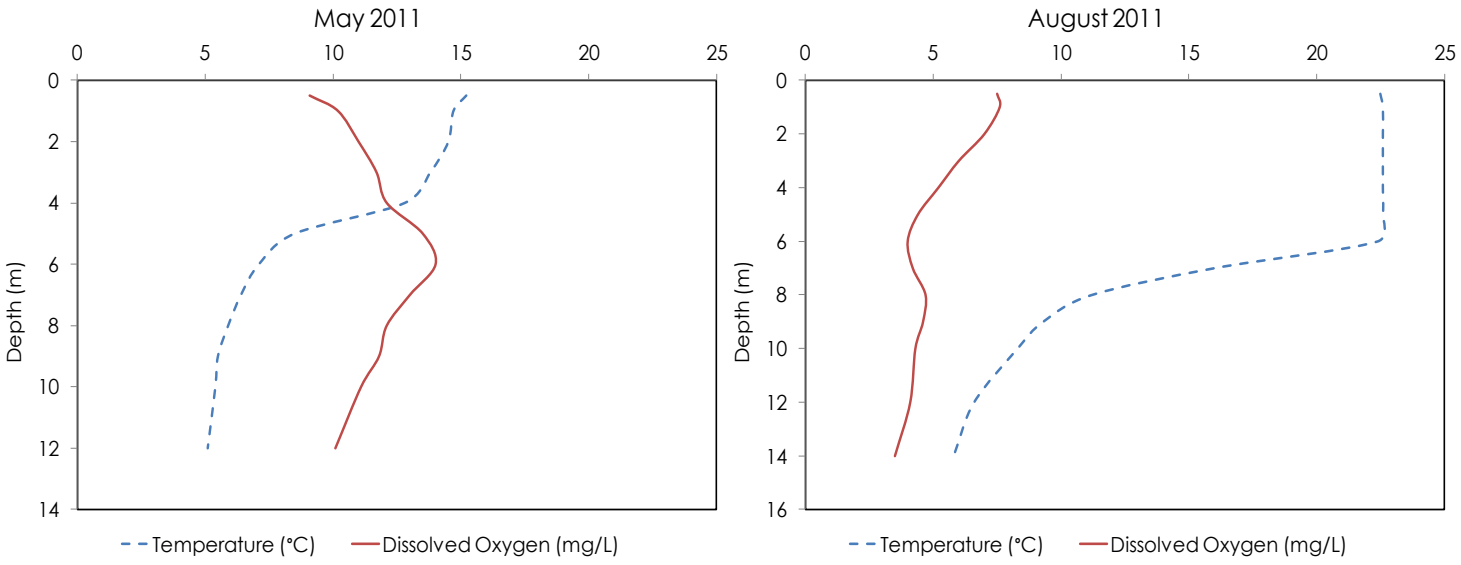
Municipality:	**Gravenhurst**	Watershed:	**Lake Muskoka**
Surface Area:	**0.57 km²**	Watershed Area (excluding lake):	**8.13 km²**
Maximum Depth:	**14 m**	Lake Trout Lake?	**No**
Wetland Area:	**12 %**	Secchi Depth (10-year average):	**2.7 m**
Phosphorus (10-year average):	**11.1 µg/L**	Sensitivity:	**Moderate**

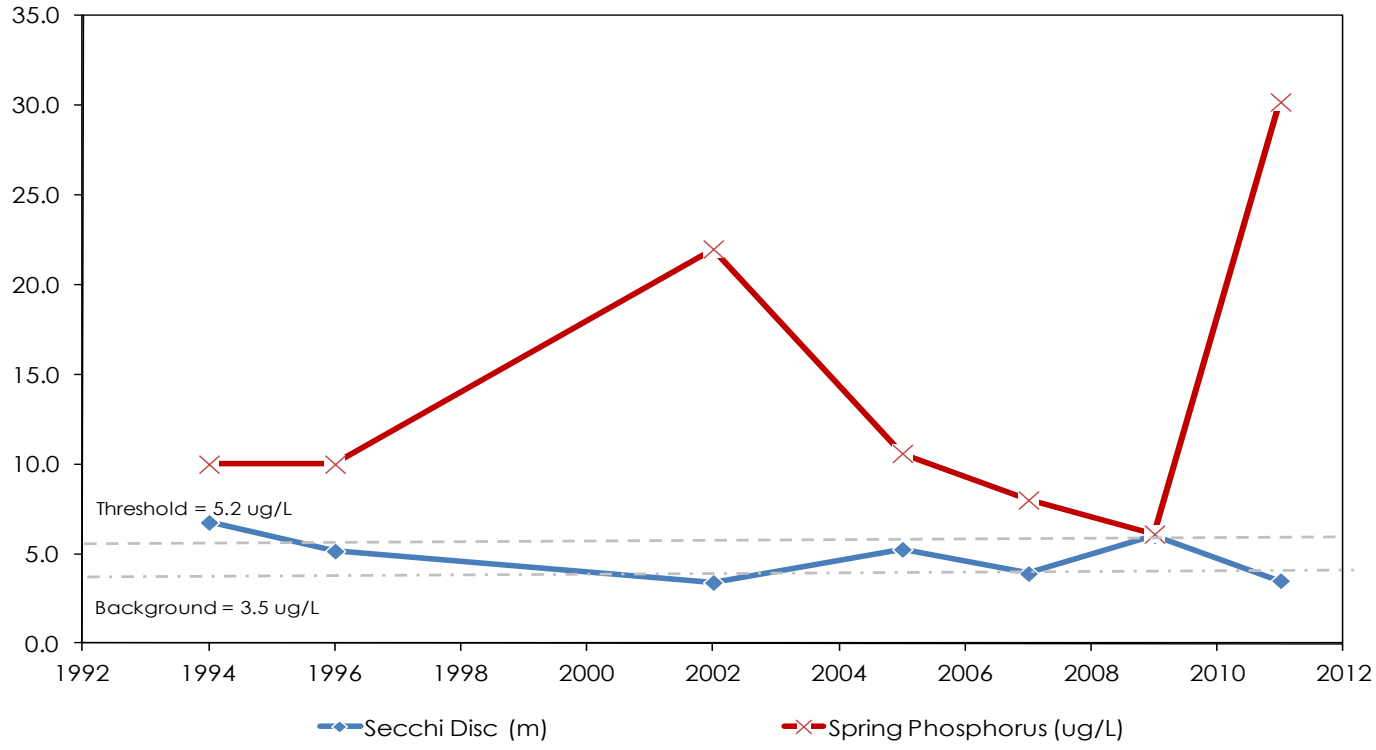




Silver Lake

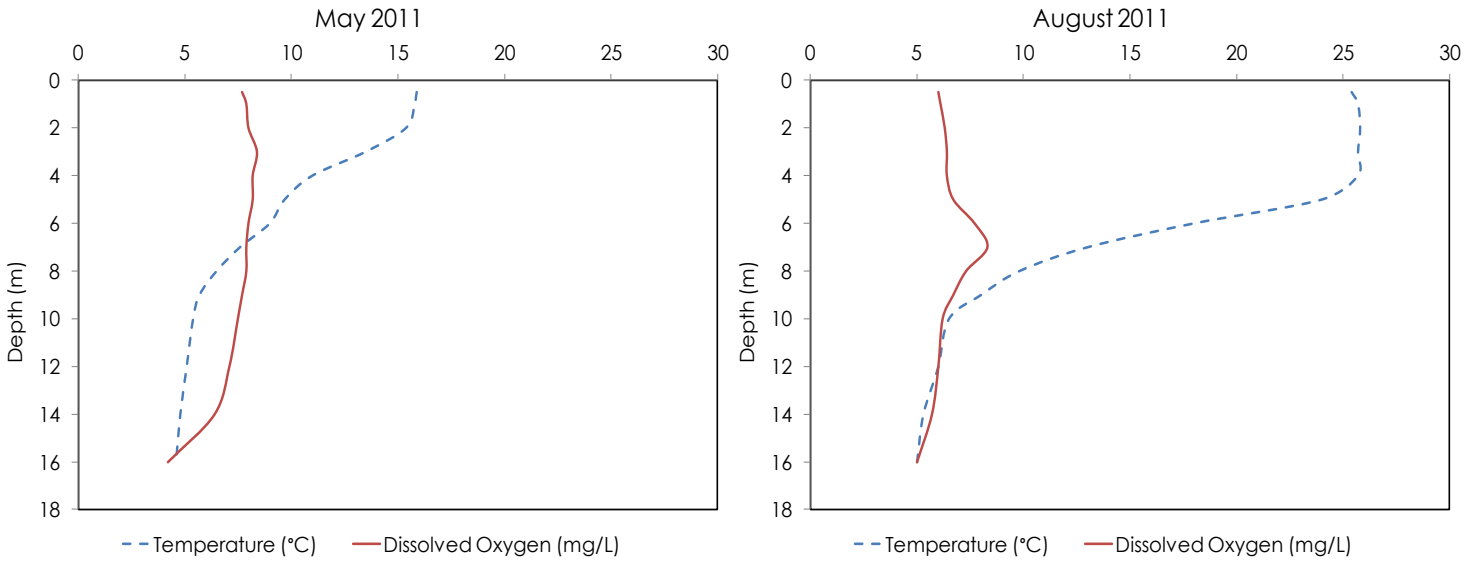
Municipality:	**Muskoka Lakes**	Watershed:	**Lake Muskoka**
Surface Area:	**0.57 km²**	Watershed Area (excluding lake):	**0.6 km²**
Maximum Depth:	**14 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**4.4 m**
Phosphorus (10-year average):	**15.4 µg/L**	Sensitivity:	**High (OT)**

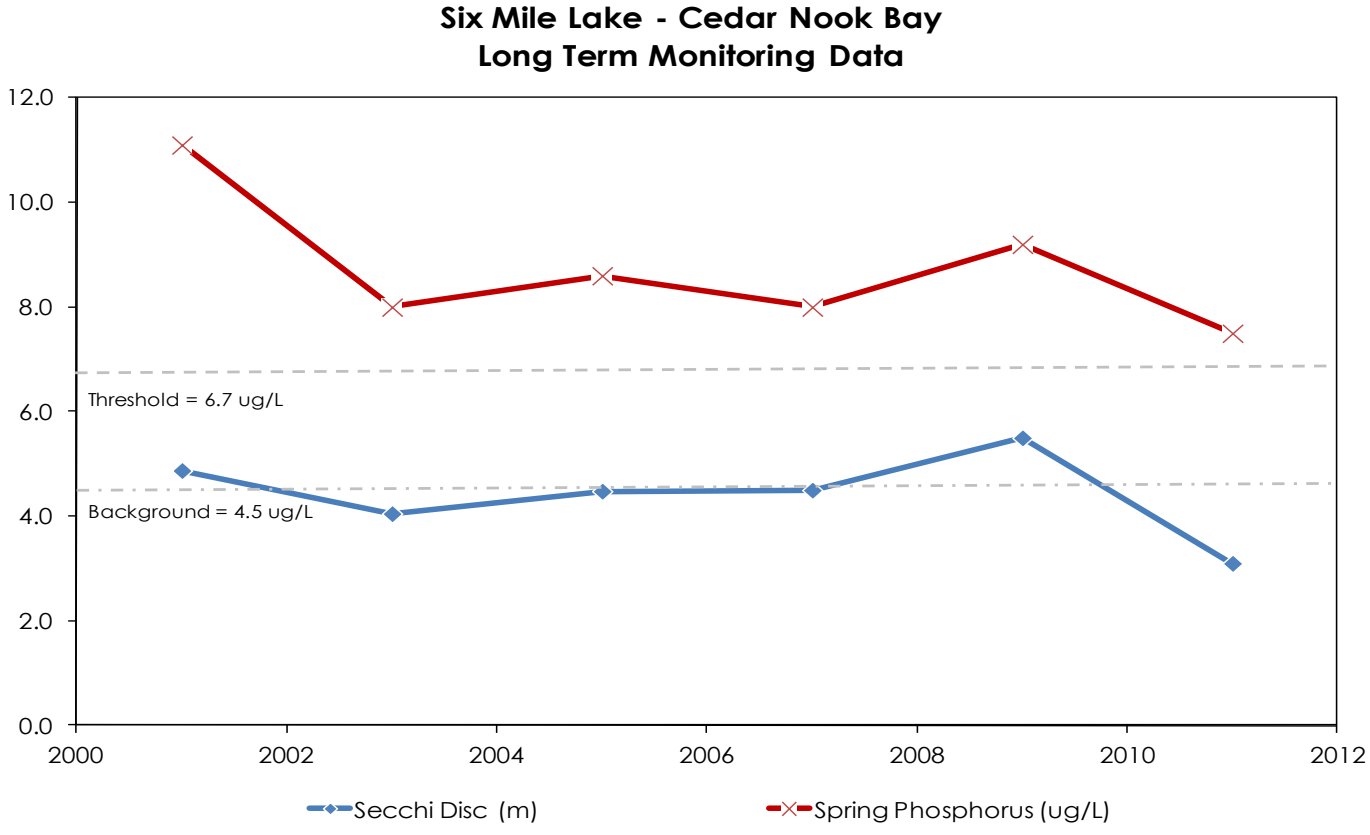




Six Mile Lake – Cedar Nook Bay

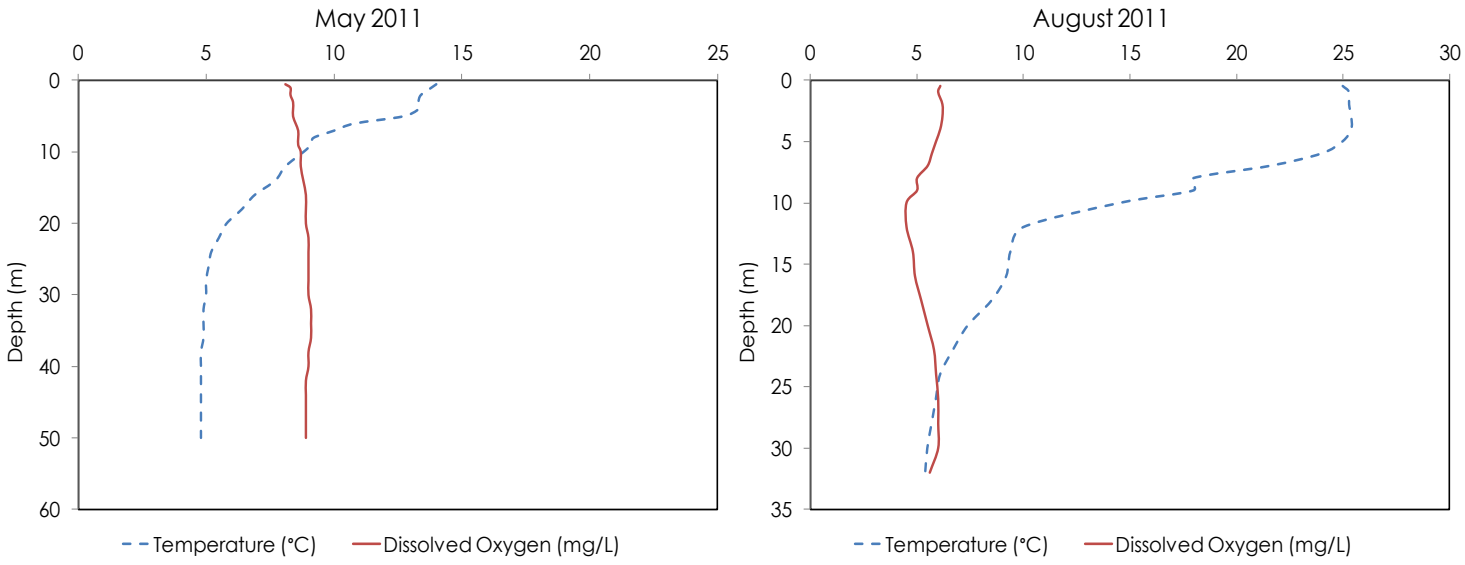
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**0.23 km²**	Watershed Area (excluding lake):	**2.11 km²**
Maximum Depth:	**18 m**	Lake Trout Lake?	**No**
Wetland Area:	**4.34 %**	Secchi Depth (10-year average):	**4.3 m**
Phosphorus (10-year average):	**8.3 µg/L**	Sensitivity:	**Moderate (OT)**

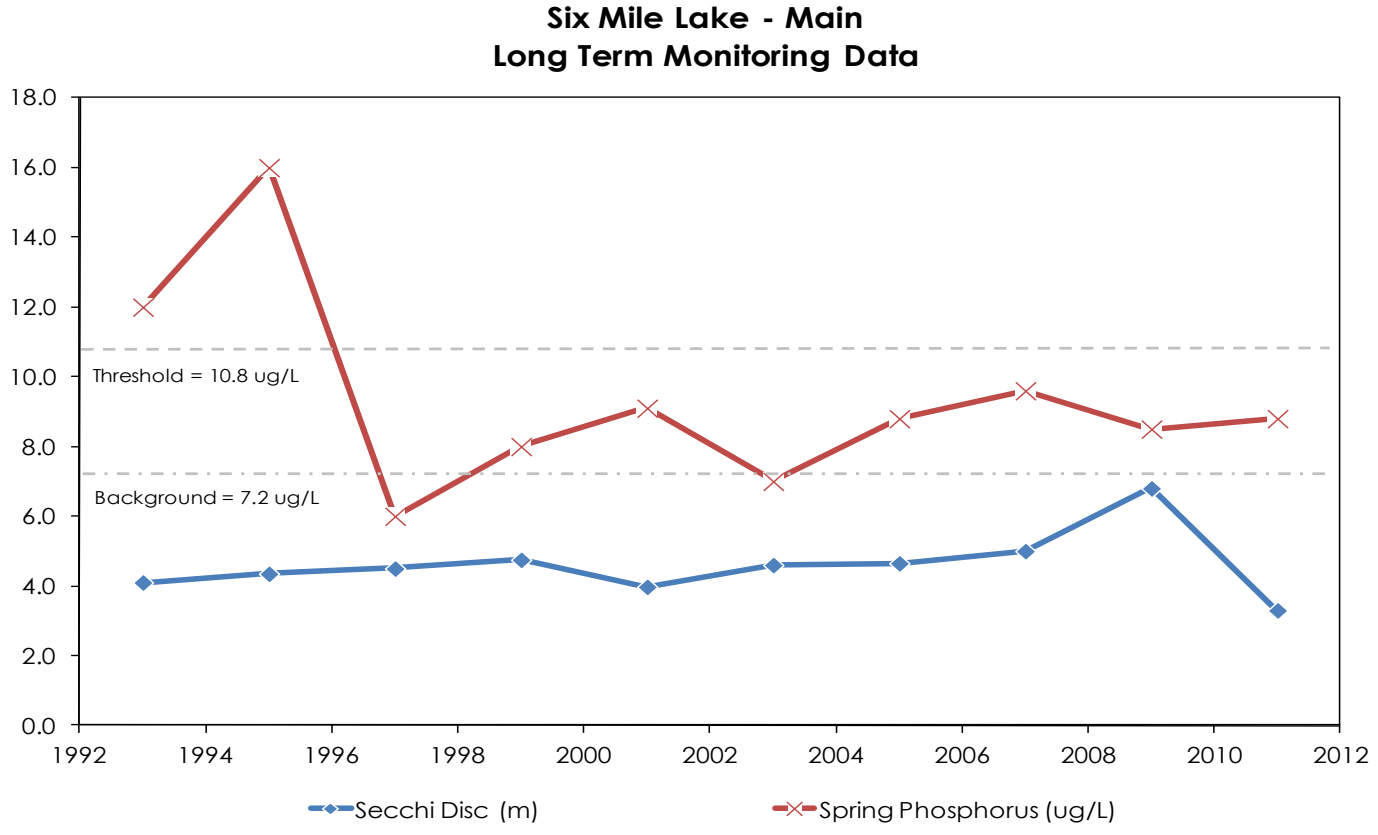




Six Mile Lake – Main

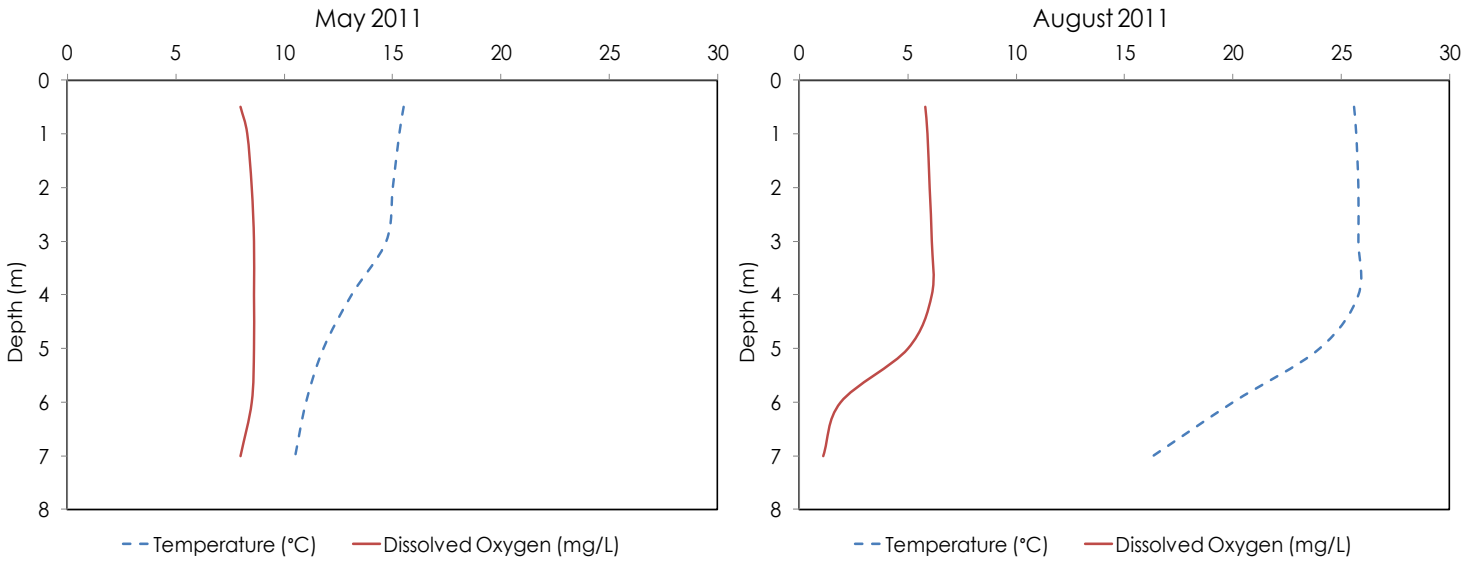
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**12.8 km²**	Watershed Area (excluding lake):	**32.2 km²**
Maximum Depth:	**46 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**4.9 m**
Phosphorus (10-year average):	**8.5 µg/L**	Sensitivity:	**Moderate**

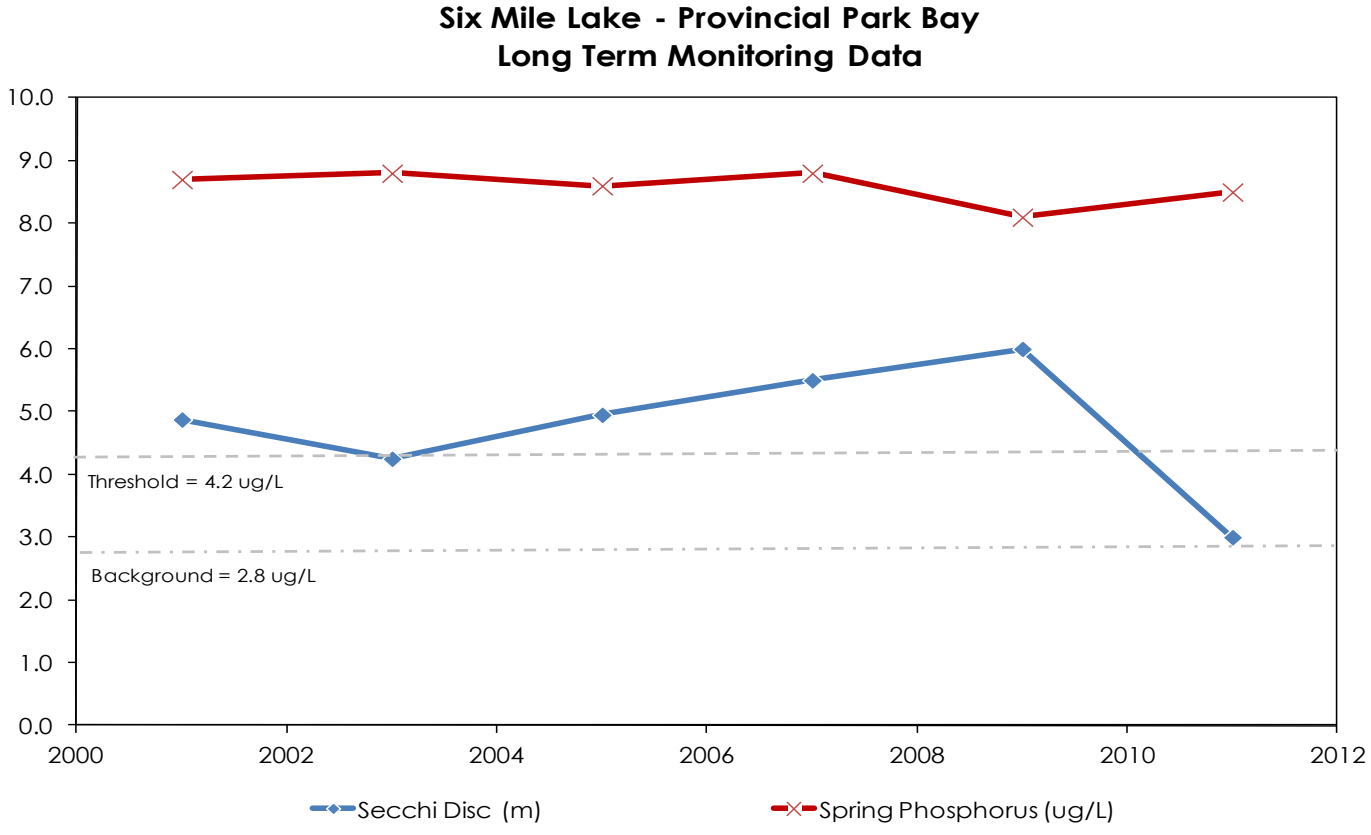




Six Mile Lake – Provincial Park Bay

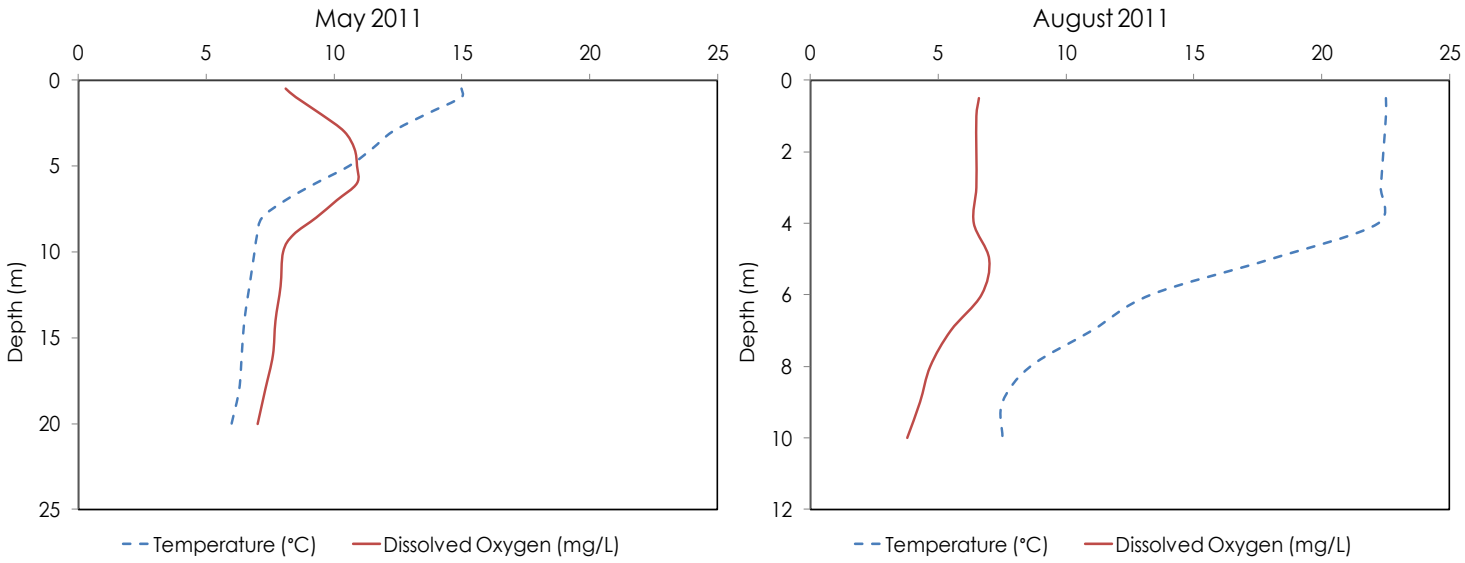
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**1.35 km²**	Watershed Area (excluding lake):	**3.75 km²**
Maximum Depth:	**7 m**	Lake Trout Lake?	**No**
Wetland Area:	**5.34 %**	Secchi Depth (10-year average):	**4.7 m**
Phosphorus (10-year average):	**8.6 µg/L**	Sensitivity:	**High (OT)**

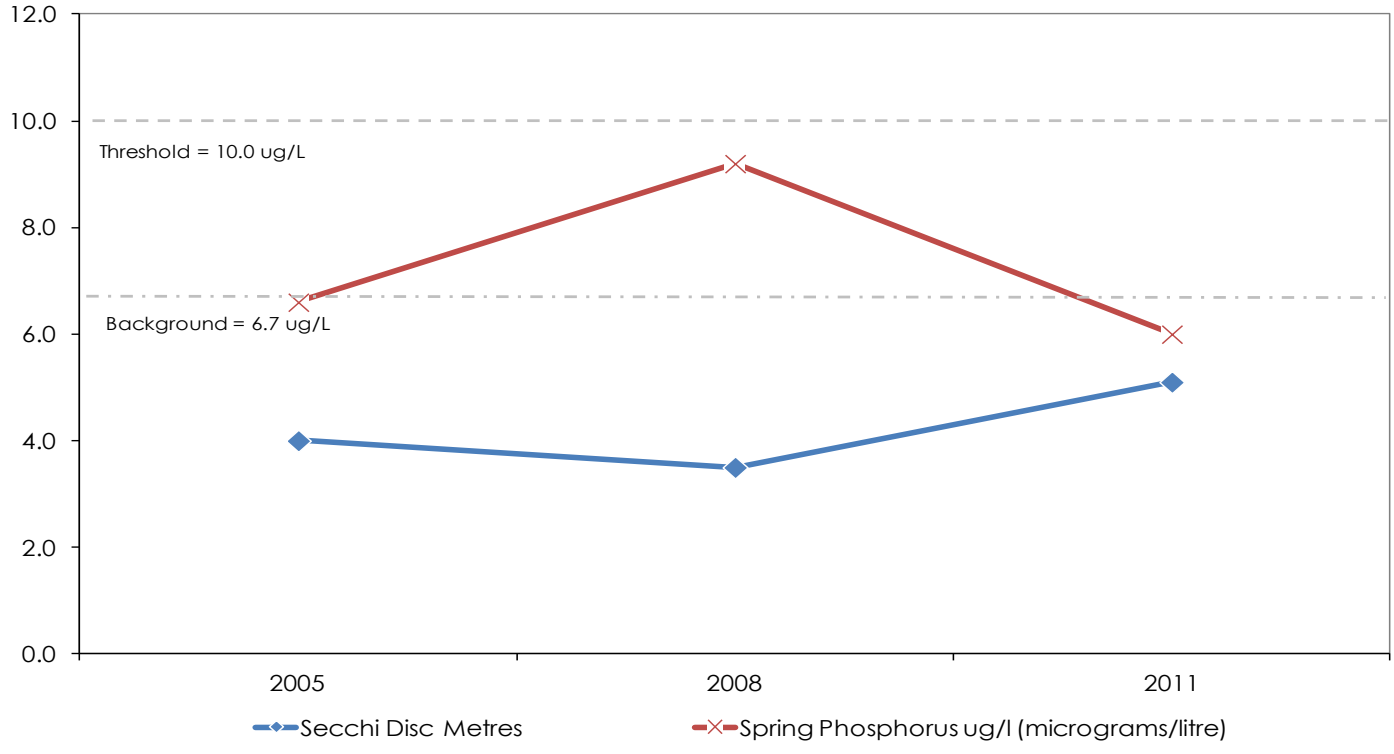




Sixteen Mile Lake

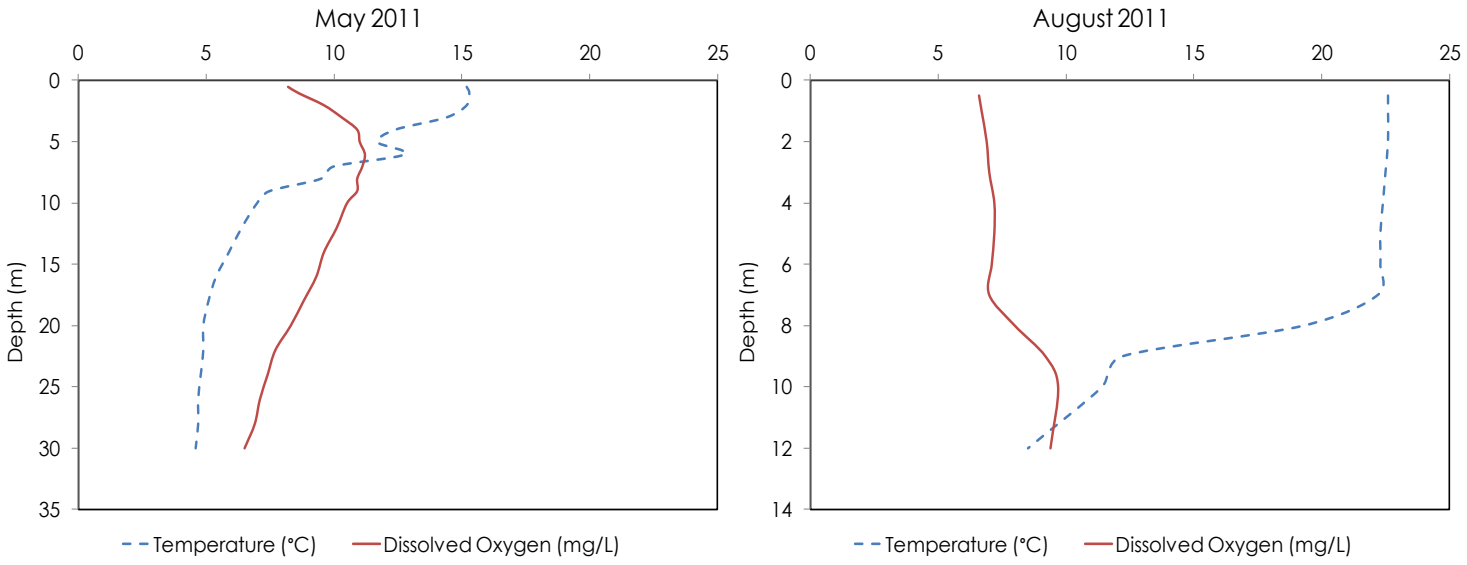
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.8 km²**	Watershed Area (excluding lake):	**4.55 km²**
Maximum Depth:	**10 m**	Lake Trout Lake?	**No**
Wetland Area:	**23.41 %**	Secchi Depth (10-year average):	**4.2 m**
Phosphorus (10-year average):	**7.3 µg/L**	Sensitivity:	**Moderate**

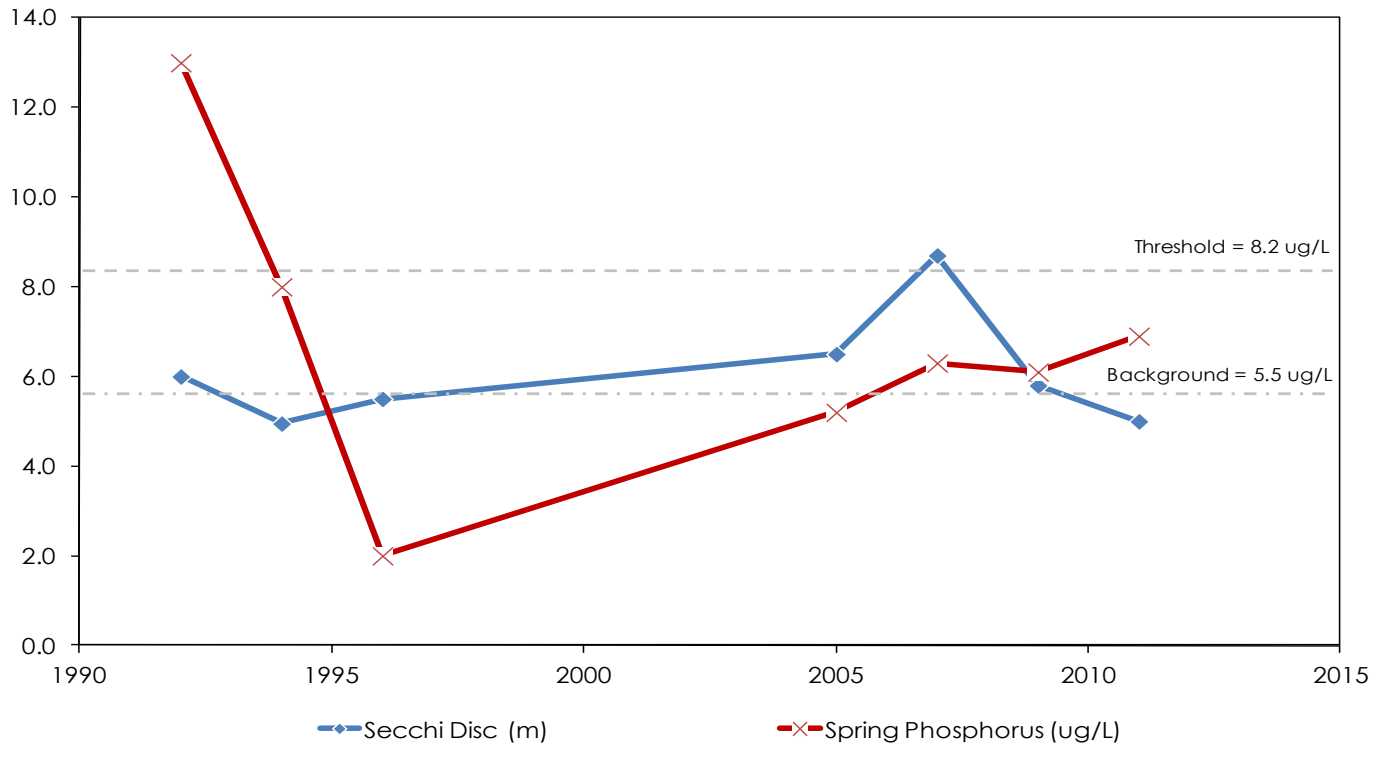




Solitaire Lake

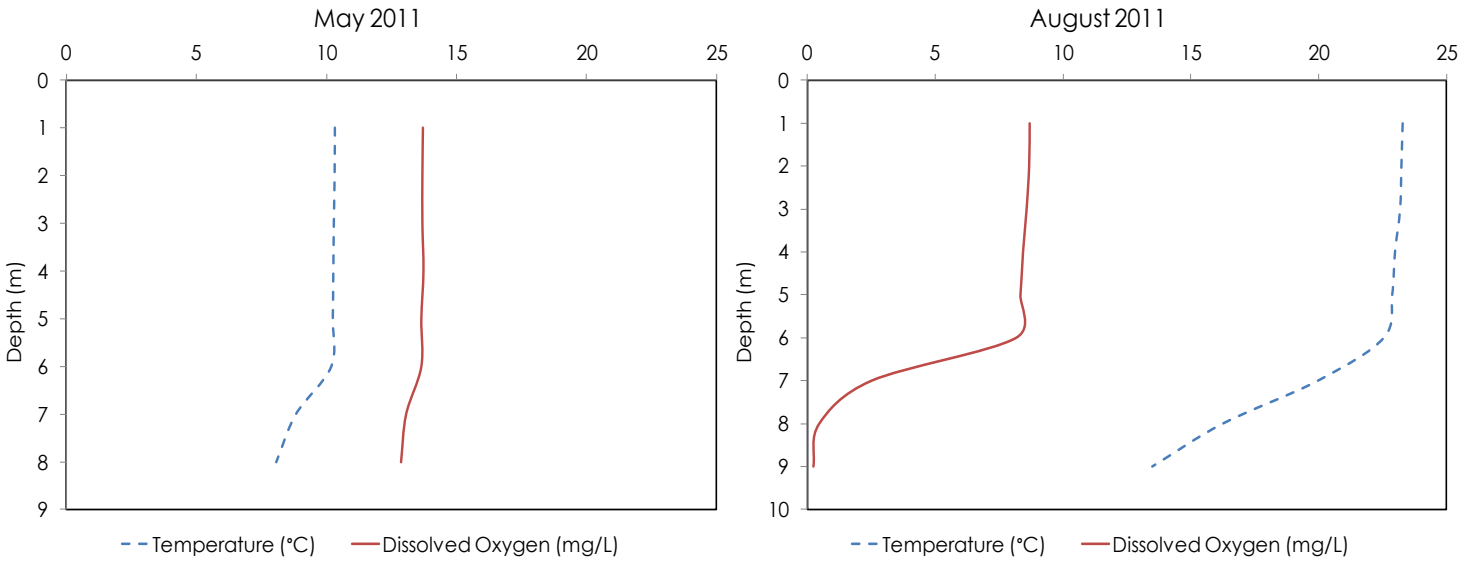
Municipality:	**Lake of Bays**	Watershed:	**Lake Vernon**
Surface Area:	**1.22 km²**	Watershed Area (excluding lake):	**2.58 km²**
Maximum Depth:	**27 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**6.5 m**
Phosphorus (10-year average):	**6.1 µg/L**	Sensitivity:	**Moderate**



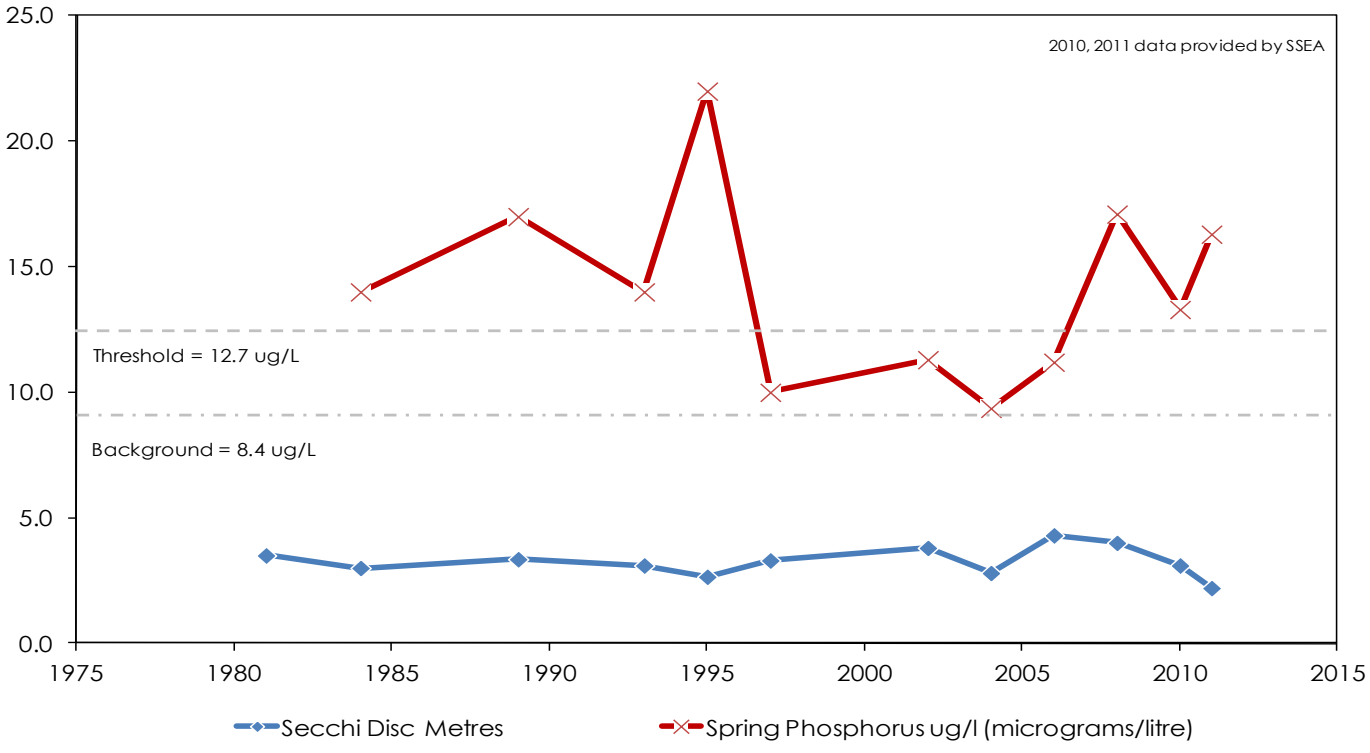


South Bay

Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**1.61 km²**	Watershed Area (excluding lake):	**12.19 km²**
Maximum Depth:	**11 m**	Lake Trout Lake?	**No**
Wetland Area:	**20 %**	Secchi Depth (10-year average):	**3.4 m**
Phosphorus (10-year average):	**13.1 µg/L**	Sensitivity:	**Moderate (OT)**

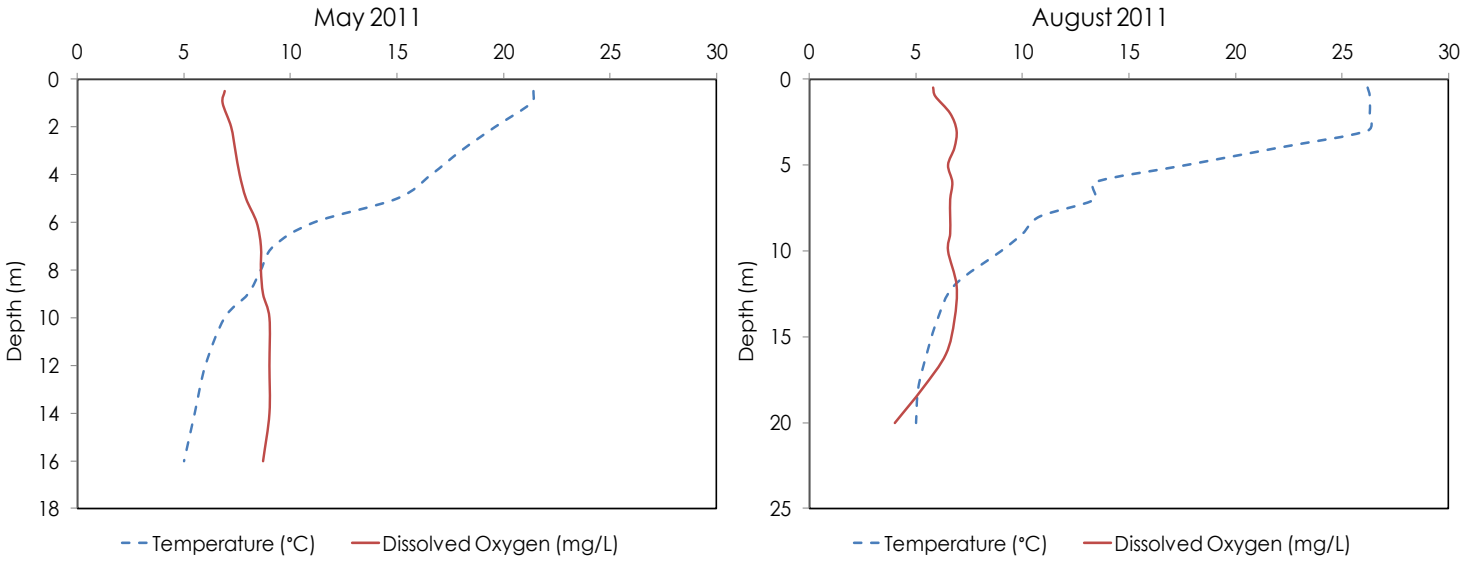


South Bay
Long Term Monitoring Data

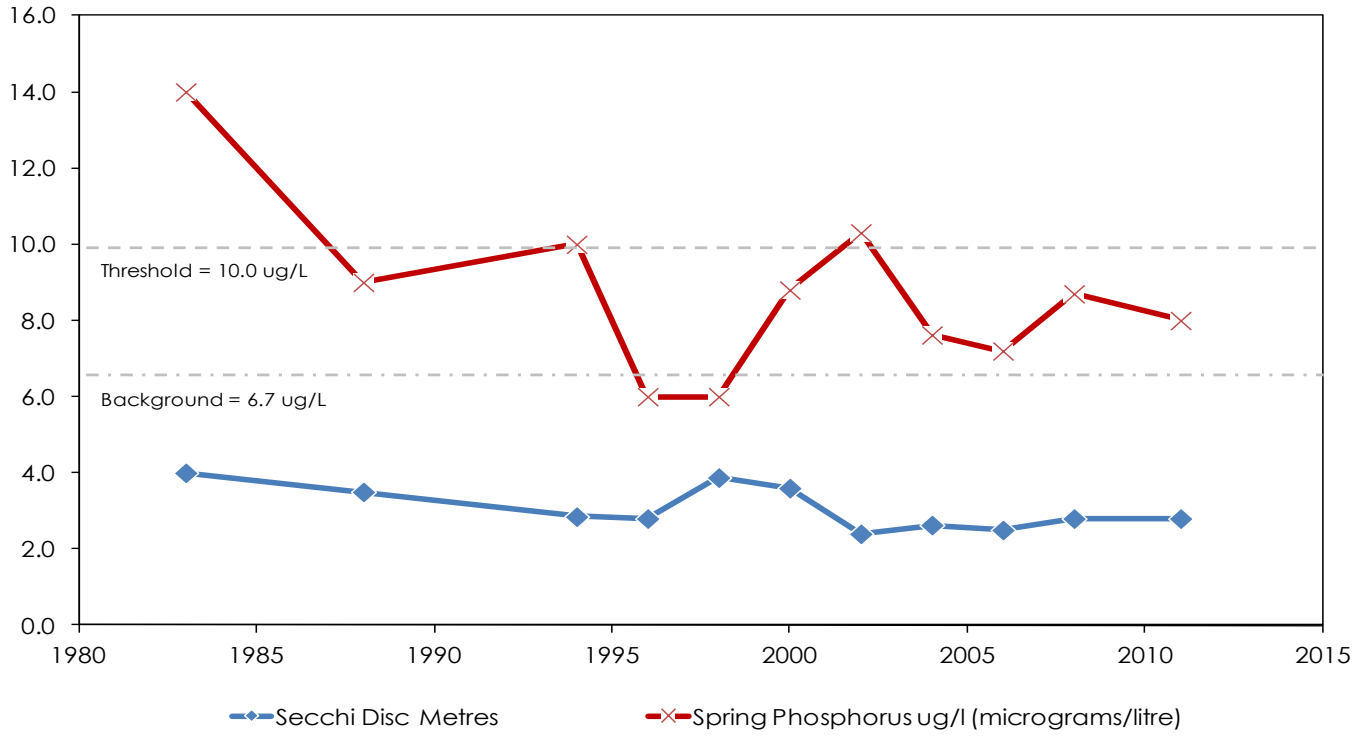


South Muldrew Lake

Municipality:	**Gravenhurst**	Watershed:	**Morrison Lake**
Surface Area:	**2.7 km²**	Watershed Area (excluding lake):	**13.3 km²**
Maximum Depth:	**18 m**	Lake Trout Lake?	**No**
Wetland Area:	**6.62 %**	Secchi Depth (10-year average):	**2.6 m**
Phosphorus (10-year average):	**8.4 µg/L**	Sensitivity:	**Moderate**

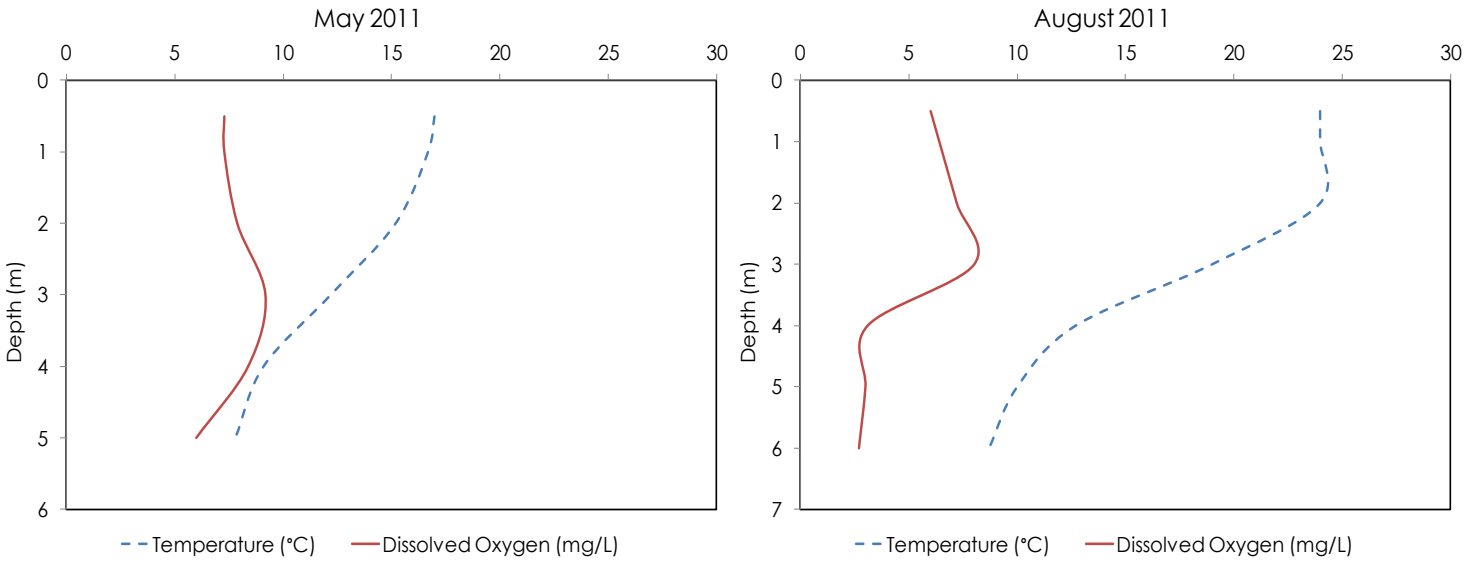


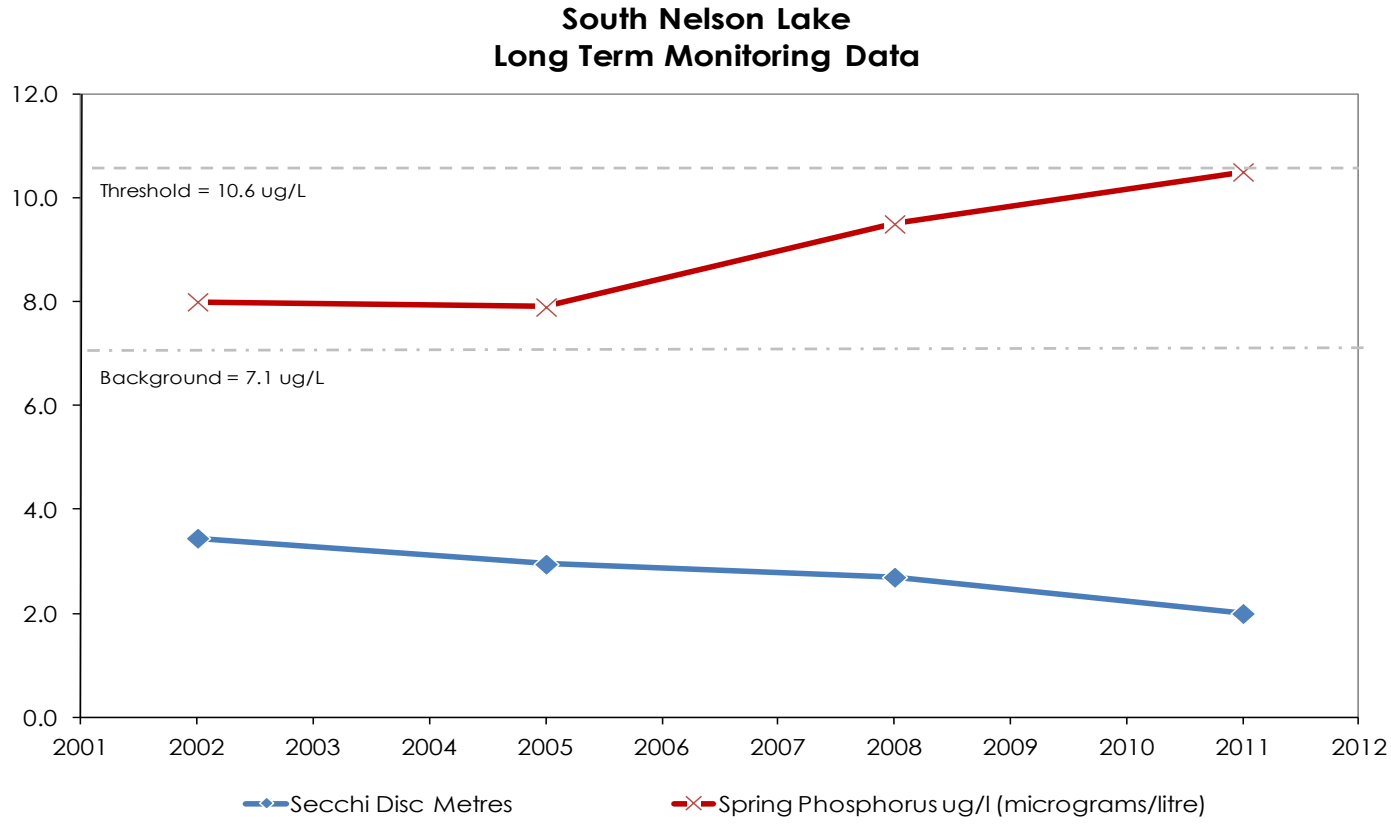
South Muldrew Lake
Long Term Monitoring Data



South Nelson Lake

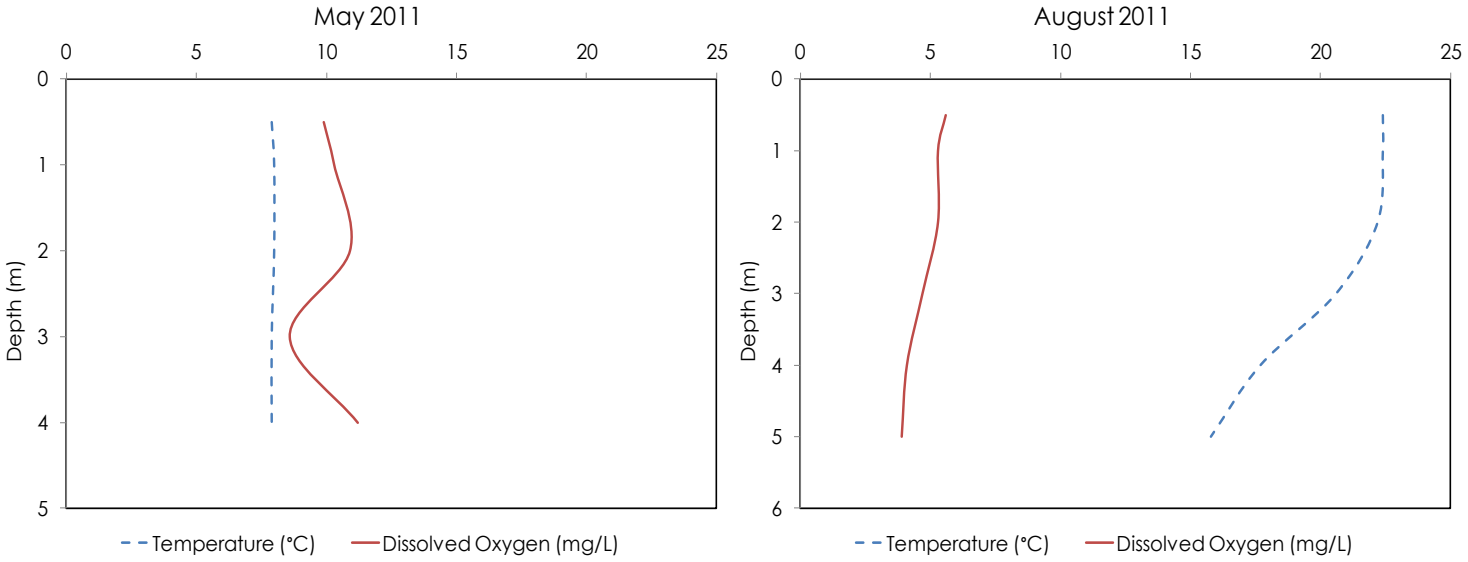
Municipality:	**Lake of Bays**	Watershed:	**Dwight Bay**
Surface Area:	**0.15 km²**	Watershed Area (excluding lake):	**2.84 km²**
Maximum Depth:	**6 m**	Lake Trout Lake?	**No**
Wetland Area:	**6.2 %**	Secchi Depth (10-year average):	**2.8 m**
Phosphorus (10-year average):	**9.0 µg/L**	Sensitivity:	**Moderate**



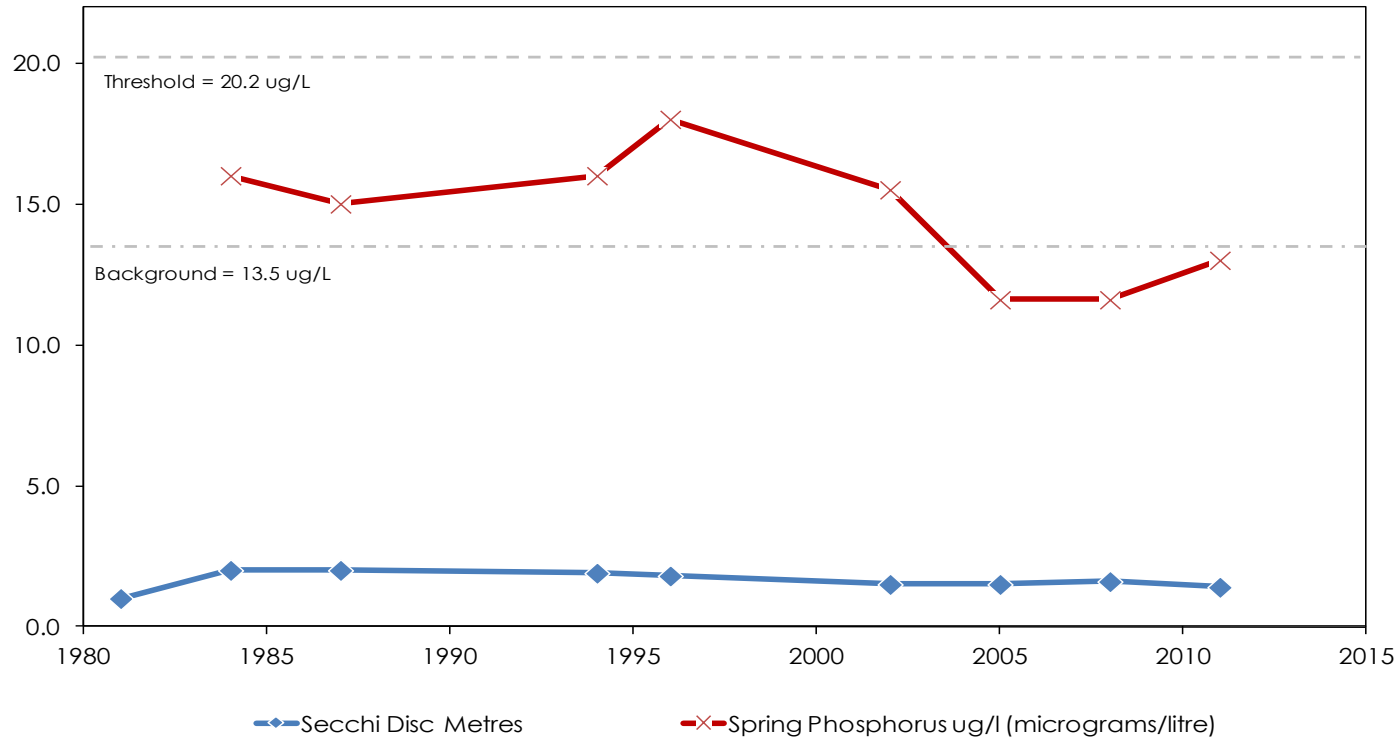


Stoneleigh Lake

Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**0.54 km²**	Watershed Area (excluding lake):	**6.19 km²**
Maximum Depth:	**5 m**	Lake Trout Lake?	**No**
Wetland Area:	**29 %**	Secchi Depth (10-year average):	**1.5 m**
Phosphorus (10-year average):	**12.9 µg/L**	Sensitivity:	**Moderate**

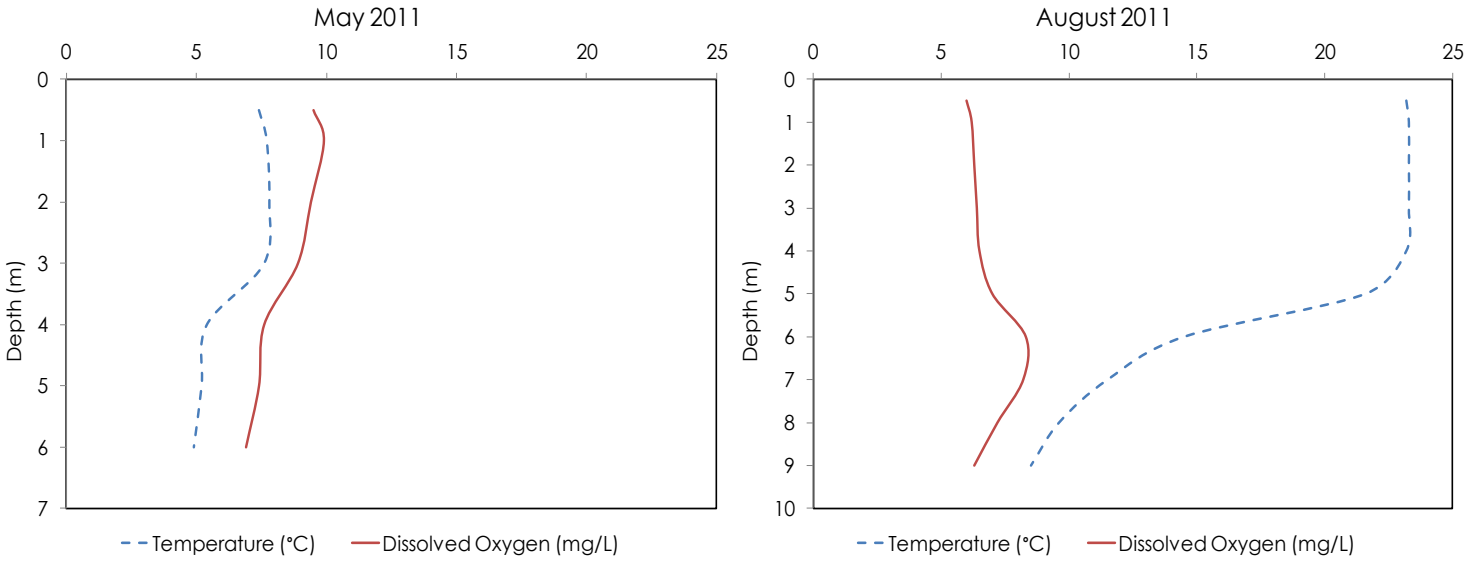


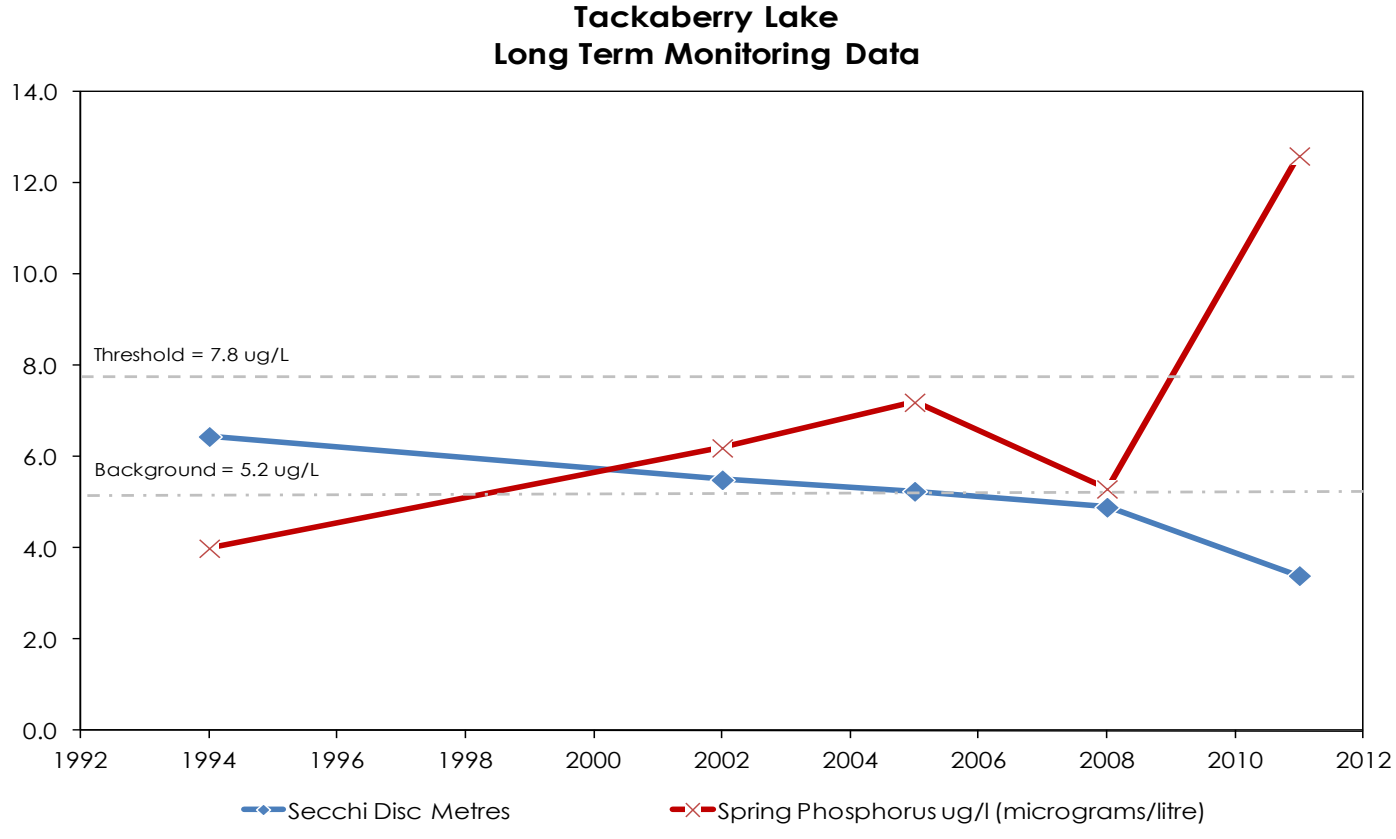
Stoneleigh Lake
Long Term Monitoring Data



Tackaberry Lake

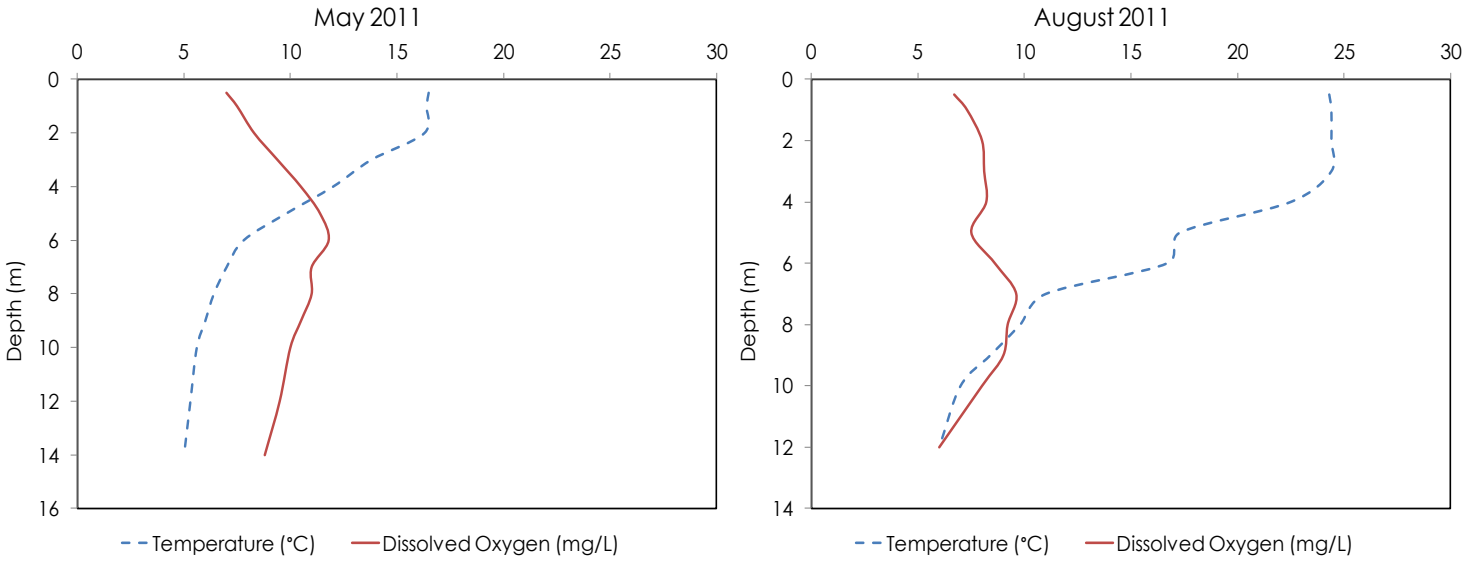
Municipality:	**Lake of Bays**	Watershed:	**Muskoka River**
Surface Area:	**0.11 km²**	Watershed Area (excluding lake):	**0.59 km²**
Maximum Depth:	**12 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**4.8 m**
Phosphorus (10-year average):	**7.8 µg/L**	Sensitivity:	**Moderate**

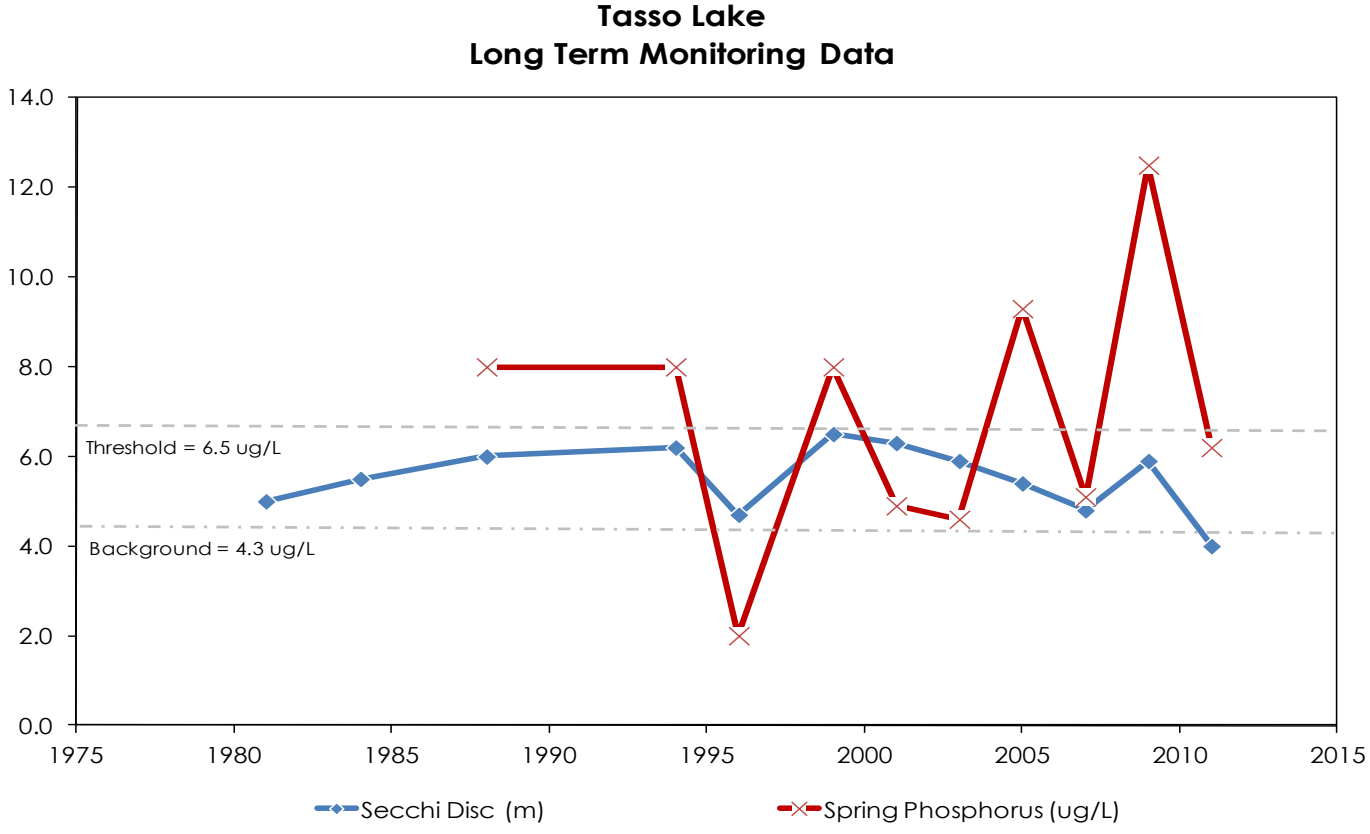




Tasso Lake

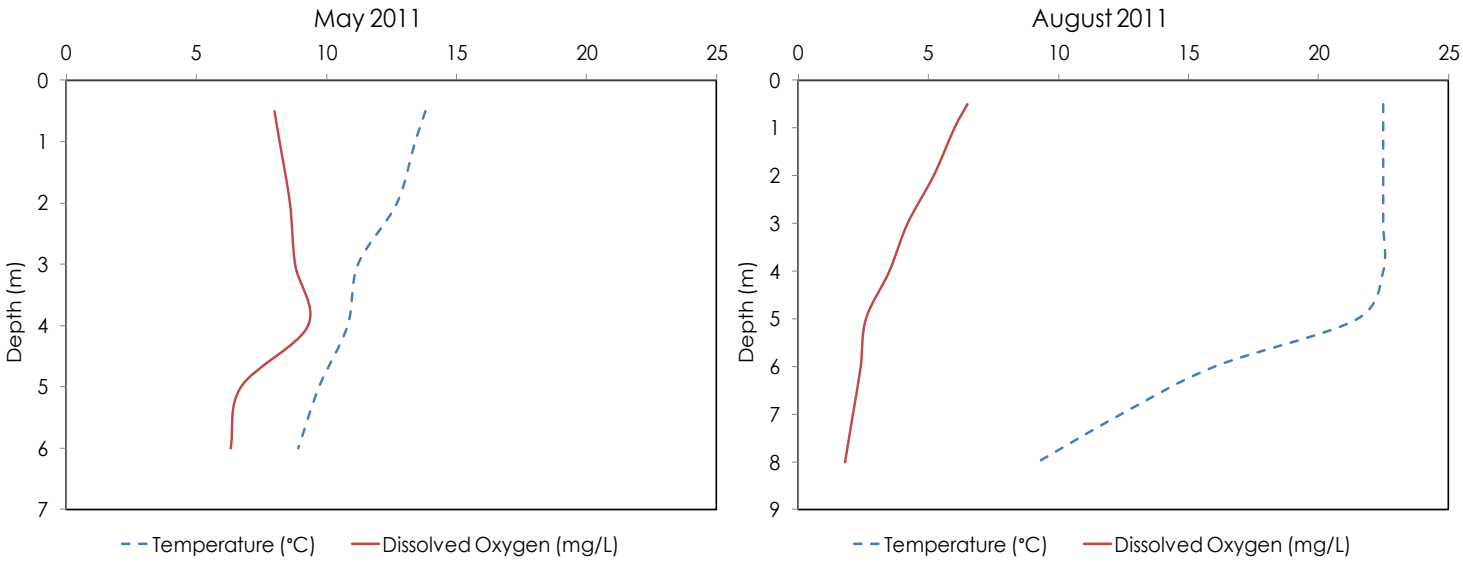
Municipality:	**Lake of Bays**	Watershed:	**Lake Vernon**
Surface Area:	**1.83 km²**	Watershed Area (excluding lake):	**11.07 km²**
Maximum Depth:	**18 m**	Lake Trout Lake?	**Yes (AC)**
Wetland Area:	**6.68 %**	Secchi Depth (10-year average):	**5.2 m**
Phosphorus (10-year average):	**7.5 µg/L**	Sensitivity:	**Moderate**



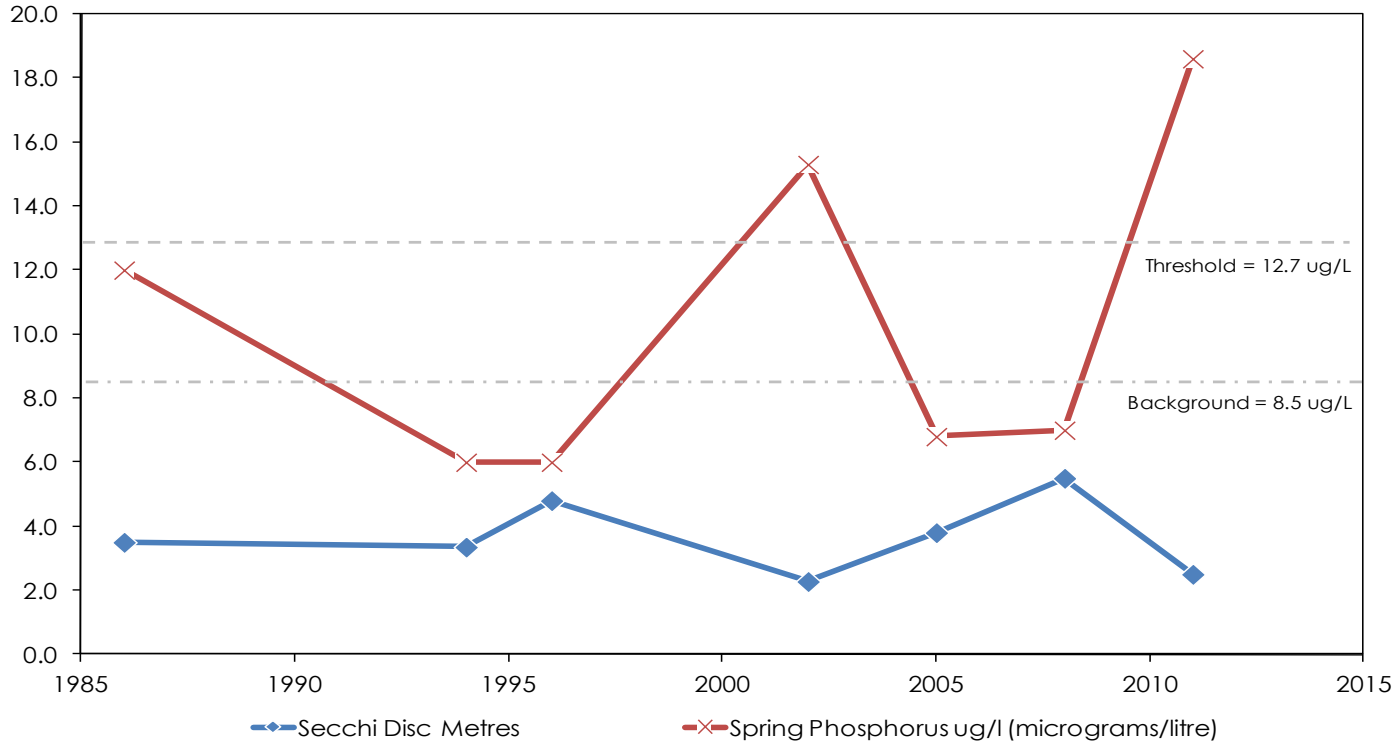


Three Mile Lake

Municipality:	**Gravenhurst**	Watershed:	**Sparrow Lake**
Surface Area:	**0.85 km²**	Watershed Area (excluding lake):	**5.75 km²**
Maximum Depth:	**8 m**	Lake Trout Lake?	**No**
Wetland Area:	**11 %**	Secchi Depth (10-year average):	**3.5 m**
Phosphorus (10-year average):	**11.9 µg/L**	Sensitivity:	**Moderate**

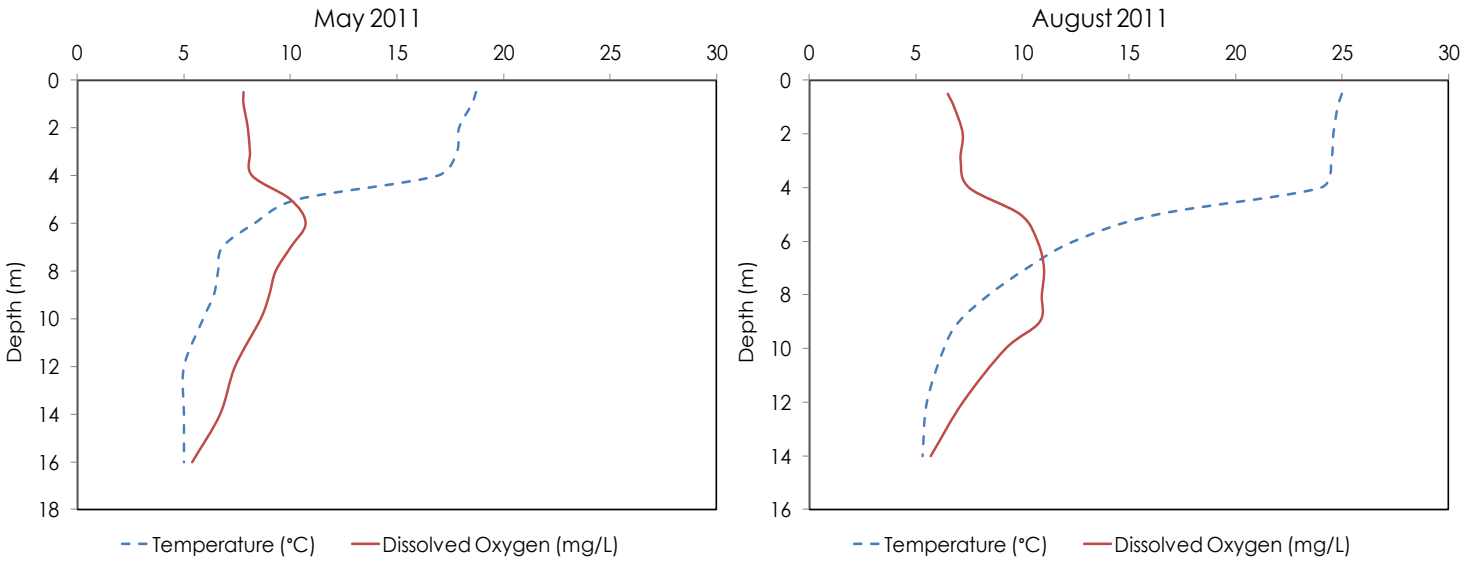


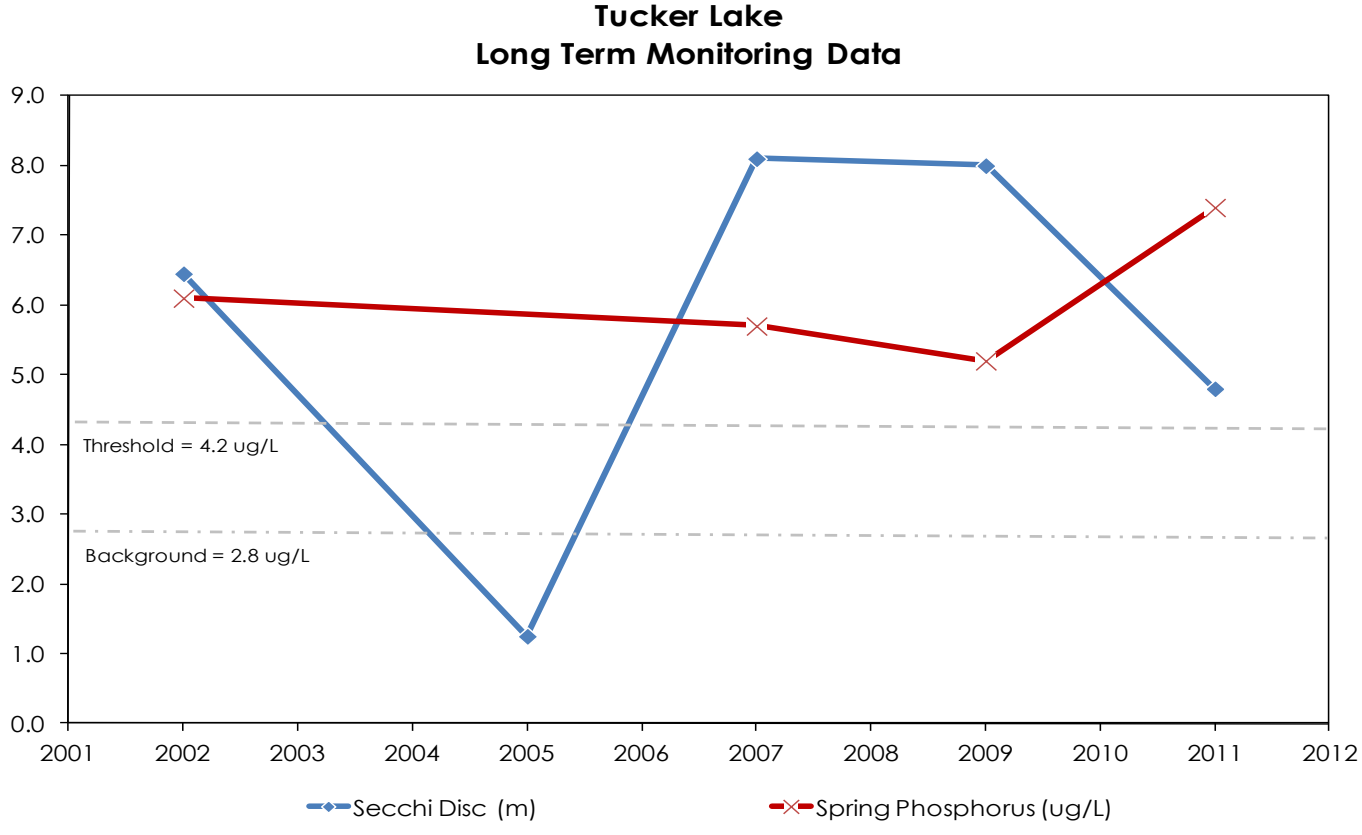
Three Mile Lake
Long Term Monitoring Data



Tucker Lake

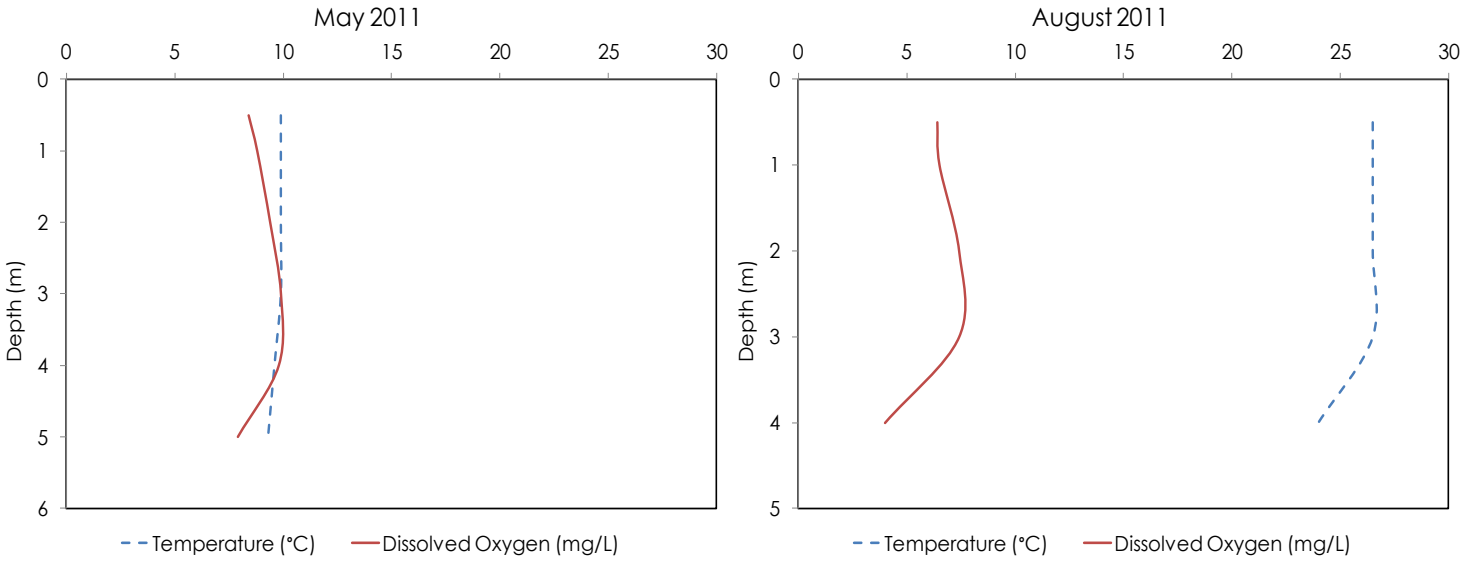
Municipality:	**Huntsville**	Watershed:	**Mary Lake**
Surface Area:	**0.21 km²**	Watershed Area (excluding lake):	**0.59 km²**
Maximum Depth:	**16 m**	Lake Trout Lake?	**No**
Wetland Area:	**0 %**	Secchi Depth (10-year average):	**5.7 m**
Phosphorus (10-year average):	**6.1 µg/L**	Sensitivity:	**High**

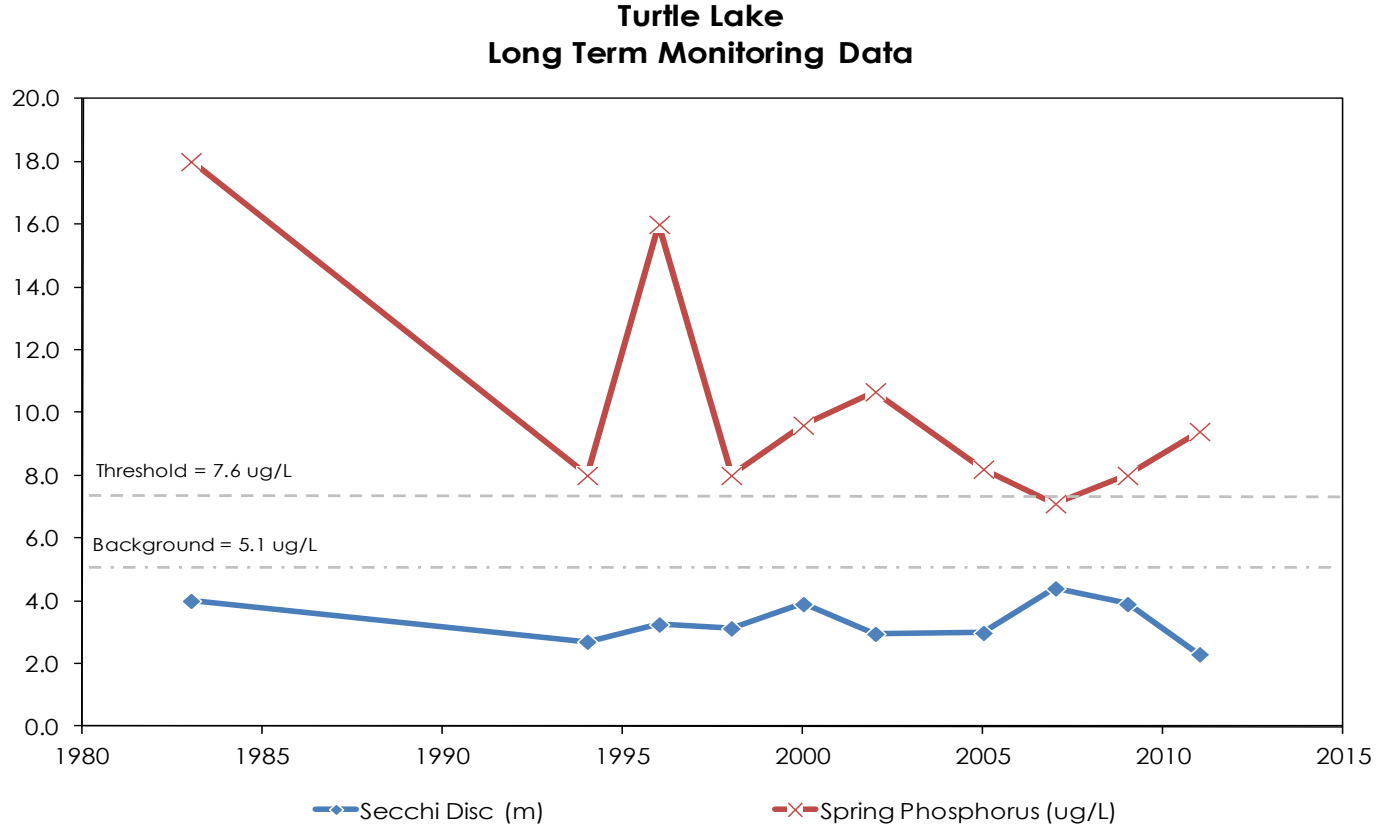




Turtle Lake

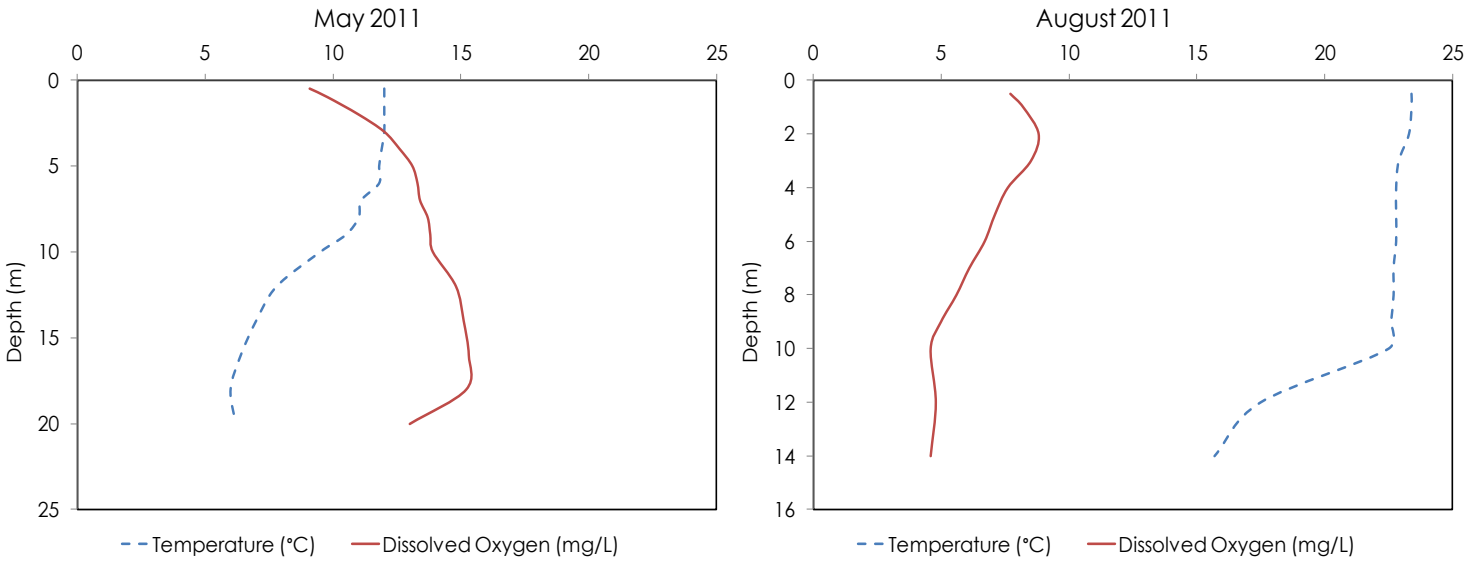
Municipality:	**Gravenhurst**	Watershed:	**Morrison Lake**
Surface Area:	**0.3 km²**	Watershed Area (excluding lake):	**0.8 km²**
Maximum Depth:	**5 m**	Lake Trout Lake?	**No**
Wetland Area:	**14.68 %**	Secchi Depth (10-year average):	**3.3 m**
Phosphorus (10-year average):	**8.7 µg/L**	Sensitivity:	**Moderate (OT)**

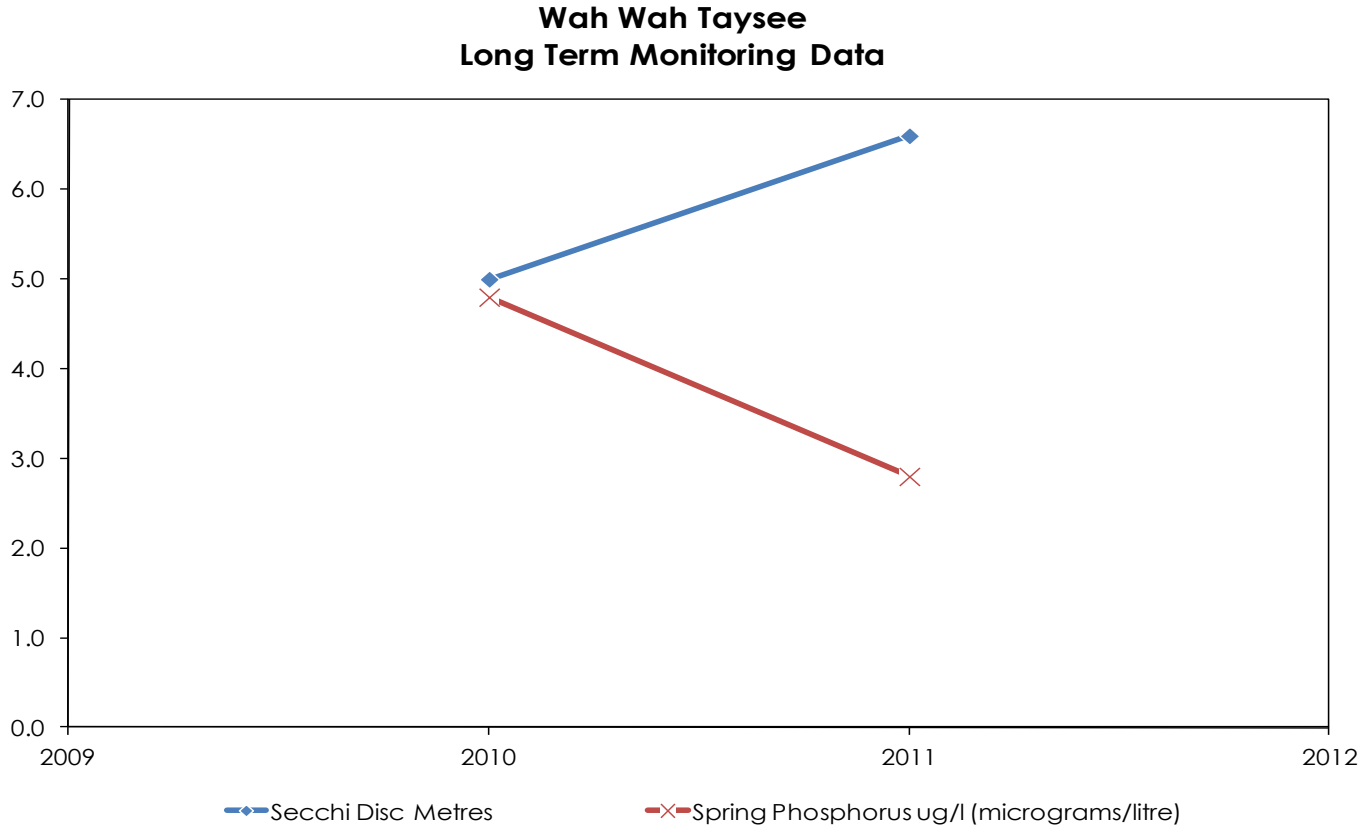




Wah Wah Taysee

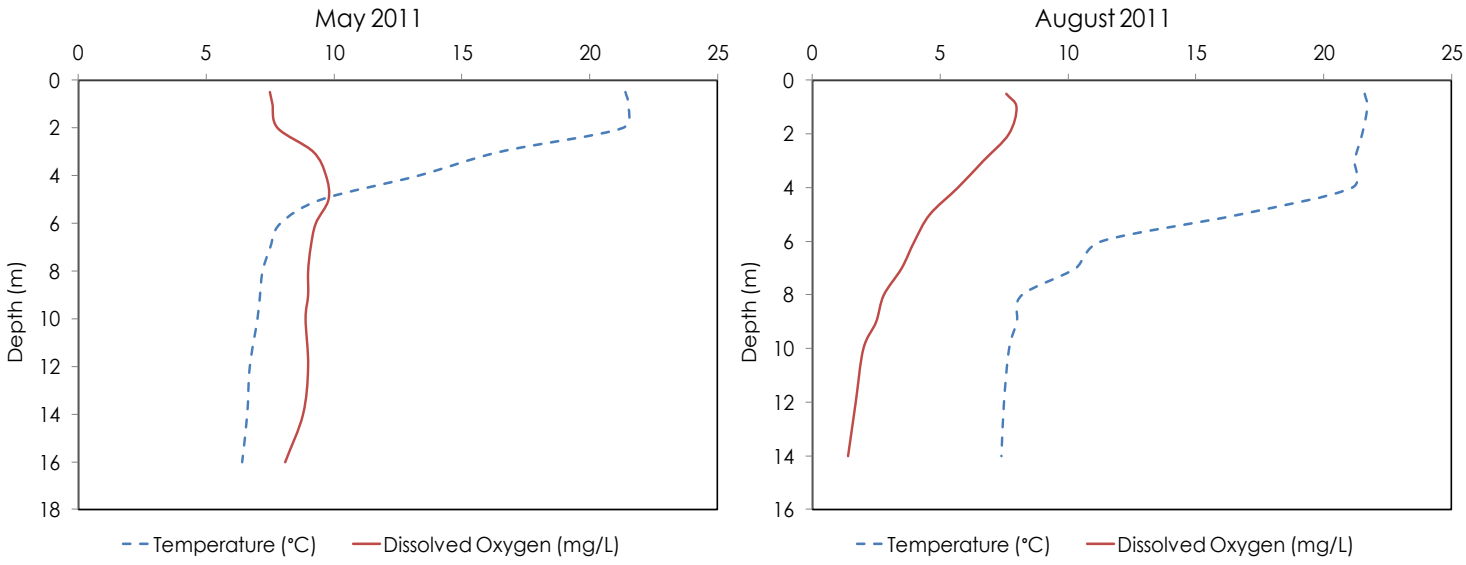
Municipality:	**Georgian Bay**	Watershed:	**West**
Surface Area:	**Not Available**	Watershed Area (excluding lake):	**Not Available**
Maximum Depth:	**16 m**	Lake Trout Lake?	**Not Applicable**
Wetland Area:	**Not Available**	Secchi Depth (10-year average):	**5.8 m**
Phosphorus (10-year average):	**3.8 µg/L**	Sensitivity:	**Not Available**



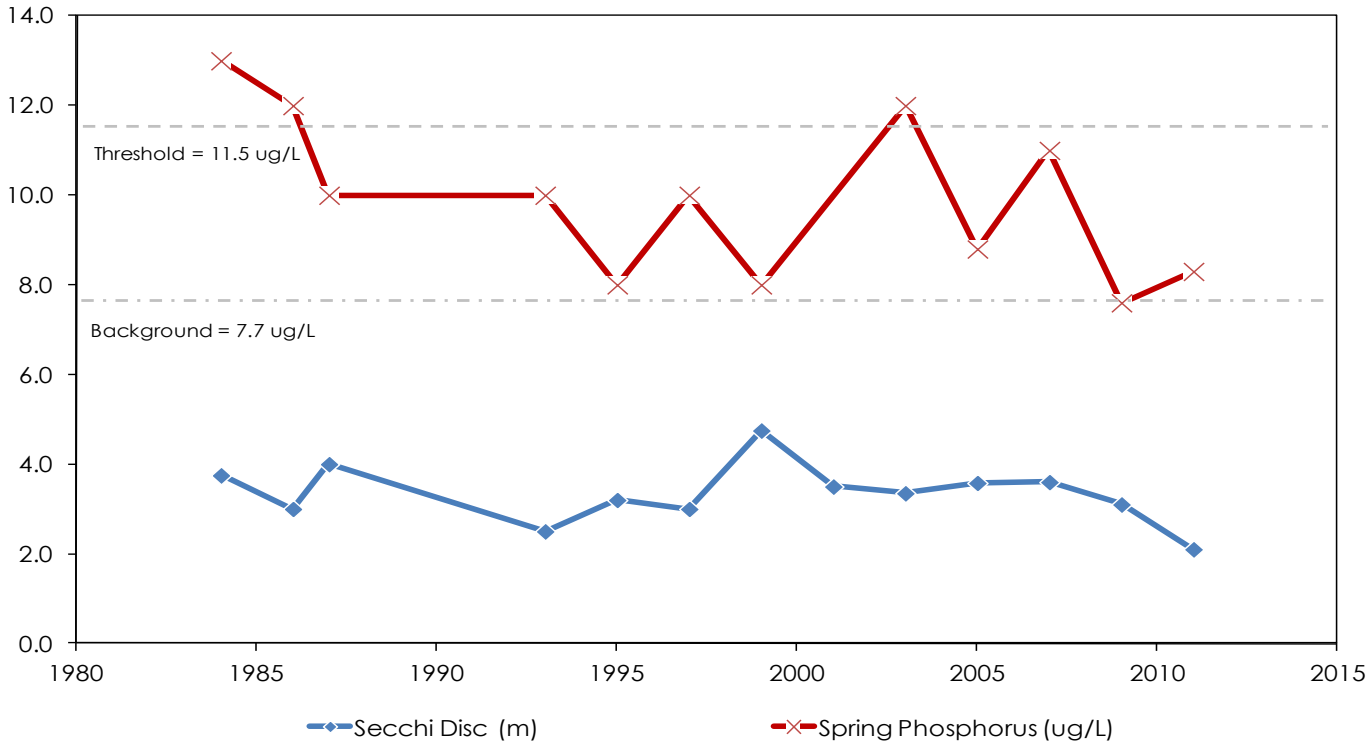


Lake Waseosa

Municipality:	**Huntsville**	Watershed:	**Lake Vernon**
Surface Area:	**1.65 km²**	Watershed Area (excluding lake):	**6.75 km²**
Maximum Depth:	**20 m**	Lake Trout Lake?	**No**
Wetland Area:	**15 %**	Secchi Depth (10-year average):	**3.1 m**
Phosphorus (10-year average):	**9.5 µg/L**	Sensitivity:	**Moderate**

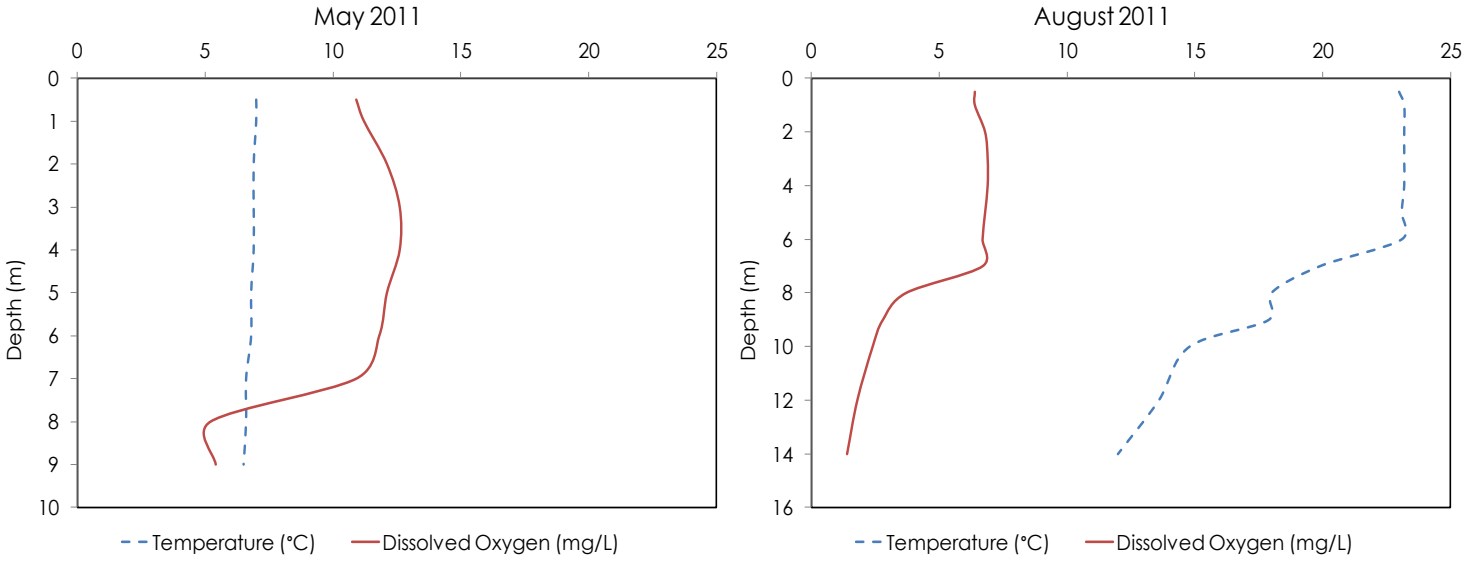


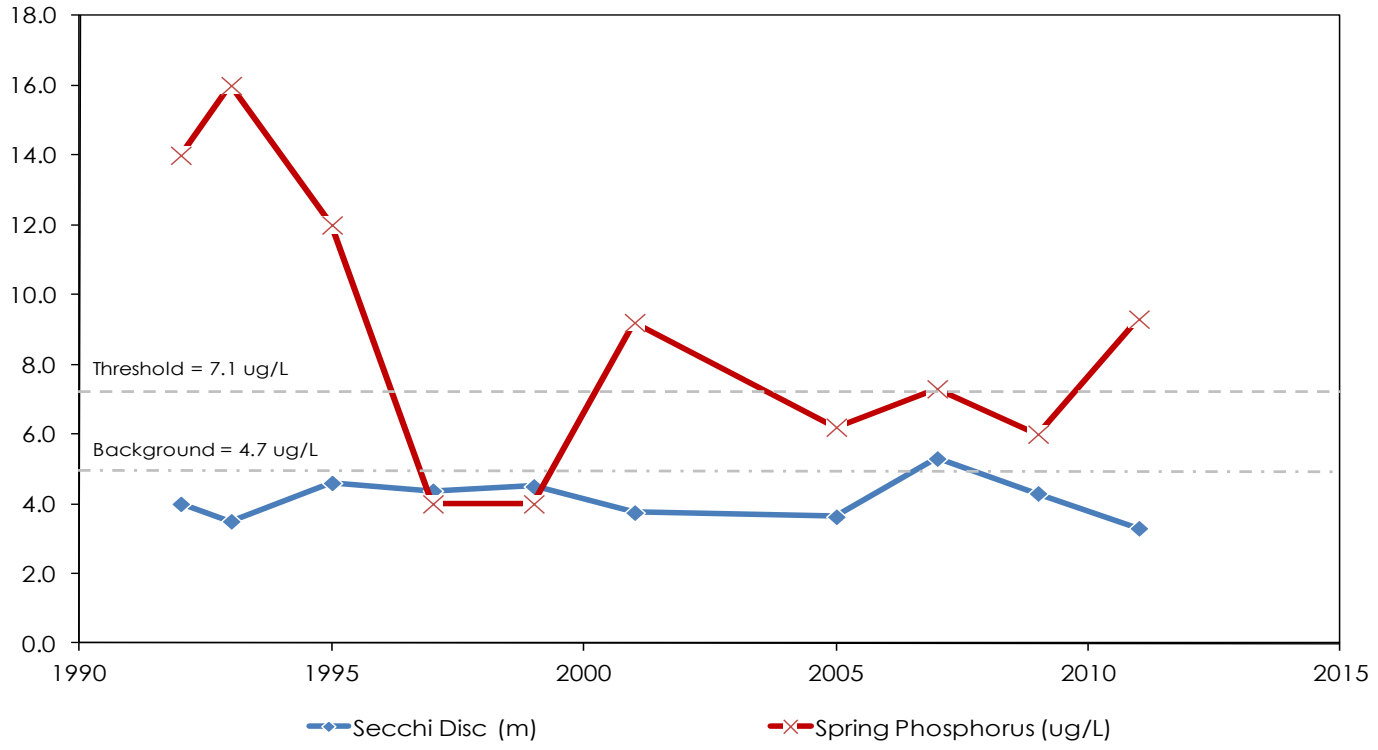
Lake Waseosa
Long Term Monitoring Data



Wood Lake

Municipality:	**Bracebridge**	Watershed:	**Muskoka River**
Surface Area:	**3.9 km²**	Watershed Area (excluding lake):	**13.2 km²**
Maximum Depth:	**13 m**	Lake Trout Lake?	**No**
Wetland Area:	**3.79 %**	Secchi Depth (10-year average):	**4.1 m**
Phosphorus (10-year average):	**7.2 µg/L**	Sensitivity:	**Moderate (OT)**





2011 Land Use Survey Data Tables

The District Municipality of Muskoka

Brooks Lake

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Overgrowth	2,053.00	92.52	Mixed Forest	27,567.97	60.66	Crib Dock	6
Rock	4.00	0.18	Thinned Forest	5,652.25	12.44	Floating Dock	3
Wetland	40.00	1.80	Wetland	1,787.97	3.93		
Stone Shore Wall	122.00	5.50	Road	3,459.64	7.61		
			Buffered Lawn	1,589.55	3.50		
			Unbuffered Lawn	5,386.37	11.85		
Total	2,219.00	100.00	**Total**	45,443.75	100.00	**Total**	9
Natural	2,097.00	94.50	**Natural**	29,355.94	64.60		
Altered	122.00	5.50	**Altered**	16,087.81	35.40		

Flatrock Lake

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Overgrowth	3,918.02	34.33	Mixed Forest	164,879.29	76.70		
Rock	5,161.95	45.23	Thinned Forest	11,770.26	5.48		
Rapids/Falls	104.48	0.92	Rock	667.77	0.31		
Shrub	1,984.98	17.39	Rock Barren	26,759.71	12.45		
Wetland	242.76	2.13	Rapids/Falls	1,791.36	0.83		
			Shrub	816.52	0.38		
			Wetland	8,284.19	3.85		
Total	11,412.19	100.00	**Total**	214,969.10	100.00	**Total**	0
Natural	11,412.19	100.00	**Natural**	203,198.84	94.52		
Altered	0.00	0.00	**Altered**	11,770.26	5.48		

High Lake

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Natural Beach	56.16	0.98	Mixed Forest	47,391.99	41.46	Crib Boathouse	1
Overgrowth	3,248.10	56.54	Thinned Forest	39,698.67	34.73	1 Slip Crib Boathouse	1
Rock	1,764.19	30.71	Rock Barren	10,251.02	8.97	Crib Dock	17
Rapids/Falls	18.35	0.32	Rapids/Falls	320.53	0.28	Floating Dock	18
Shrub	340.00	5.92	Road	4,447.63	3.89	Pole Dock	20
Man Made Beach	233.53	4.06	Buffered Lawn	9,504.90	8.32	Marine Railway	3
Concrete Ramp	13.45	0.23	Unbuffered Lawn	2,684.06	2.35		
Wooden Shore Wall	71.23	1.24					
Total	5,745.01	100.00	**Total**	114,298.90	100.00	**Total**	60
Natural	5,426.80	94.46	**Natural**	57,963.54	50.71		
Altered	318.21	5.54	**Altered**	56,335.26	49.29		

Mirror Lake

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Overgrowth	1,657.44	62.63	Mixed Forest	3,725.43	6.88	1 Slip Crib Boathouse	20
Rock	606.34	22.91	Thinned Forest	23,421.37	43.23	2 Slip Crib Boathouse	5
Shrub	14.53	0.55	Buffered Lawn	15,257.63	28.16	Floating Boathouse	1
Man Made Beach	15.02	0.57	Unbuffered Lawn	11,776.61	21.74	1 Slip Floating Boathouse	1
Stone Shore Wall	353.14	13.34				Pole Boathouse	1
						Crib Dock	14
						Cantilever Dock	3
						Floating Dock	10
						Pole Dock	10
						Deck	1
Total	2,646.47	100.00	**Total**	54,181.04	100.00	**Total**	66
Natural	2,278.31	86.09	**Natural**	3,725.43	6.88		
Altered	368.16	13.91	**Altered**	50,455.61	93.12		

Myers Lake

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Overgrowth	1,211.16	27.85	Mixed Forest	28,409.76	33.00	1 Slip Crib Boathouse	2
Rock	1,066.49	24.52	Thinned Forest	25,459.03	29.57	Crib Dock	27
Shrub	1,564.65	35.98	Wetland	3,929.22	4.56	Cantilever Dock	2
Wetland	50.00	1.15	Road	797.24	0.93	Floating Dock	22
Rock Barren	33.44	0.77	Rock Barren	9,301.47	10.80	Pole Dock	4
Man Made Beach	343.12	7.89	Buffered Lawn	3,319.53	3.86	Deck	2
Stone Shore Wall	79.85	1.84	Unbuffered Lawn	14,880.56	17.28		
Total	4,348.71	100.00	**Total**	86,096.81	100.00	**Total**	59
Natural	3,925.74	90.27	**Natural**	41,640.45	48.36		
Altered	422.97	9.73	**Altered**	44,456.36	51.64		

Lake Rosseau – East Portage Bay

Shoreline			Backlot			Structures	
Type	**Length (m)**	**Percent**	**Type**	**Area (m²)**	**Percent**	**Type**	**Count**
Overgrowth	775.99	10.28	Mixed Forest	49,928.30	33.67	1 Slip Crib Boathouse	14
Rock	5,480.77	72.64	Thinned Forest	36,165.10	24.39	2 Slip Crib Boathouse	16
Shrub	732.01	9.70	Rock Barren	22,855.01	15.41	3 Slip Crib Boathouse	3
Man Made Beach	332.14	4.40	Other	5,557.42	3.75	Crib Dock	7
Natural Ramp	29.87	0.40	Road	6,229.05	4.20	Floating Dock	19
Stone Shore Wall	194.28	2.57	Buffered Lawn	2,043.16	1.38	Cottage	4
			Unbuffered Lawn	25,495.51	17.19	Shed	1
						Other	1
Total	7,545.06	100.00	**Total**	148,273.55	100.00	**Total**	65
Natural	7,018.64	93.02	**Natural**	72,783.31	49.09		
Altered	526.42	6.98	**Altered**	75,490.24	50.91		

Benthic Macroinvertebrate Monitoring

Monitoring bottom-dwelling aquatic invertebrate communities has been part of The District Municipality of Muskoka's Lake System Health Biological Monitoring Program since 2003. In biological monitoring, composition of the aquatic invertebrate community, the pattern of abundances of different species collected, indicates the health of the ecosystem.

Aquatic invertebrates, such as worms, mollusks, insects, crustaceans, and mites, are common indicators in biological-monitoring programs. These animals are sensitive indicators of the health, or condition of lakes and streams, and different species have different sensitivities to environmental changes such as pollution or habitat alteration. Aquatic invertebrates live between 1 and 3 years and are in constant contact with lake sediments. Contamination and toxicity of sediments affects those animals that are sensitive. For example, lake acidification is accompanied by both a decline in the total number of species present, and an increase in the abundance of those species able to tolerate acidity.

Reference-Condition Approach

One of the challenges of biological monitoring is that the composition of healthy invertebrate communities varies from place to place, and from time to time. We therefore have to understand natural variability to be able to make reliable conclusions about whether or not the community that we find in a given lake is normal or not. One way to determine what normal looks like is to sample *reference sites*. Reference sites are locations where human impacts (such as pollution, shoreline alteration, and development) are minimal and the aquatic ecosystem is considered to be in the best condition found in Muskoka.

Biological-monitoring assessments can make judgments about the condition of lakes by comparing samples from a given lake of interest (a test lake) against a set of samples from reference lakes. In short, reference lakes define what normal Muskoka invertebrate communities should look like in the absence or near-absence of human influence. Atypical sites, which are biologically different from reference sites, warrant further study to determine why their communities are unusual.

Because we need information from minimally-impacted reference sites before we can evaluate our lakes, much of the focus of our biomonitoring program to-date has been on sampling reference sites. Since reference sites are assumed to be in excellent condition, it doesn't make sense to *report* their condition; however, because their communities act as a benchmark for assessing other lakes, it is informative to understand invertebrate-community composition in reference lakes, and to watch for changes in reference lake composition over time. This report serves to characterize reference lake community structure, and gives a preliminary assessment of local test lakes.

Data Analysis

Biological monitoring programs yield large data tables. You can envision such tables as columns of numbers, each column representing the counts of different species collected at a given location. It is very difficult to pick-out ecological patterns in such complex datasets, so it is common practice to simplify data tables into a manageable number of indices that represent meaningful ecological patterns. This is similar to the way stock-market performance is measured using indices like the TSX or the Dow Jones Industrial Average. The District of Muskoka uses several indices to simplify bioassessments, as described in Table 1.

Table 1: Indices used to summarize aquatic invertebrate composition in Muskoka.

Indicator	What it tells us
Number of taxa collected (Richness)	The number of taxa is a measure of biological diversity. Richness increases with increasing habitat diversity, suitability, and water quality; therefore, the healthier a site's community, the greater its number of taxa.
Percent of collection made-up of mayflies, dragonflies, damselflies, and caddisflies (% EOT)	Ephemeroptera (mayflies), Odonata (dragonflies and damselflies), and Trichoptera (caddisflies) are very sensitive to pollution and habitat alteration. They should be prominent in healthy ecosystems, but their numbers will decline in response to stress imposed by human activities.
Percent of collection made-up of midges (% Chironomidae)	Midges (true flies in the family Chironomidae) are tolerant of pollution and habitat changes so their dominance indicates water quality problems.
Percent of collected animals that are predators (% predators)*	In a healthy ecosystem, the numbers of predators and prey are maintained within a narrow range. Extreme fluctuations in this balance signify that the ecosystem is sick.
Percent of collected animals that are adapted to feeding on coarse plant matter (% shredders)*	Shredders are a group of plant eaters adapted to breaking down leaves, wood, and other plant matter that originates on land but gets transported into waterbodies. Such animals should be abundant if there is a good connection between a lake and its watershed. In addition to recycling nutrients, shredders are food for other animals.
Percent of collected animals that are adapted to feeding by collecting small pieces of organic matter (% collector/gatherers)*	Collector-gatherers feed on small pieces of organic matter that arise from the processing activities of shredders (described above). Their presence indicates a good population of shredders, which provide them with food. Like shredders, these animals perform a vital role in energy cycling, and are prey for other animals.
Organic pollution score (Hilsenhoff index value)	The Hilsenhoff index combines information about the abundances of different types of animals collected at a site with information about those animals' sensitivities to sewage pollution, farm wastes, and other sources of nutrients like phosphorus, nitrogen, and carbon. High values of this index indicate pollution; low values indicate good water quality.

* In healthy ecosystems, the proportion of the aquatic-invertebrate community that is made-up of predators, shredders, collector/gatherers, and other animals is maintained within a narrow range. Marked divergences in abundances of any type of animal signifies a stressed ecosystem.

How do your local sites fare?

The Aquatic Invertebrate Data Sheet provides a preliminary evaluation of your lake. If your sites are reference lakes, assumed to reflect the best ecosystem conditions in Muskoka, no assessment is warranted. For test locations, assessments can be made by comparing test-site index values against the averages for Muskoka reference lakes, which are provided in the shaded box at bottom right.

In general,

1. Richness should be high (close to the average for Muskoka or above).

2. % EOT will decrease and % Chironomids will increase over time with water quality impairment.

3. % Predators should be less than the other types of benthos (shredders, collector/gatherers) and these percentages should remain relatively constant over time.

4. The Hilsenhoff Index value should be close to the average for Muskoka or less, as a lower value indicates healthier water.

Even though most of the lakes in Muskoka are quite similar, no two lakes are identical and there are various factors that play a role in determining the relative abundances of different types of aquatic invertebrates. Comparing your lake's data to the rest of the lakes in Muskoka is not definite, but it can give you an idea. If there is a trend in all the types of indices and data, either above or below normal, it may indicate your lake's overall quality.

2011 Aquatic Invertebrate Data Sheets

The District Municipality of Muskoka

Ada Lake

Township of Muskoka Lakes

Common Name	Site 5 R						Scientific Name
	2010			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms	1	2		8	2		Turbellaria
Roundworms							Nematoda
Aquatic Earthworms				1	2		Oligochaeta
Leeches		1		2	2		Hirudinaea
Sow Bugs	85	69	69	83	76	67	Isopoda
Clams		2	4	1	2	1	Pelecypoda
Fairy Shrimp	32	45	26	30	24	28	Amphipoda
Crayfish							Decapoda
Mites		5	1	5	2		Hydracarina
Mayflies	4	3	1	1	3	1	Ephemeroptera
Dragonflies	6	10		19	3	9	Anisoptera
Damselflies	2	1		30	7	3	Zygoptera
Stoneflies							Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies	11	5	3	1	2	2	Megaloptera
Caddisflies	3	2	3	4	3	4	Trichoptera
Aquatic Moths					1		Lepidoptera
Beetles							Coleoptera
Snails & Limpets	6	2	10	9	11	4	Gastropoda
Midges	25	15	16	10	10	16	Chironomidae
Horse & Deer Flies	1						Tabanidae
Mosquitos							Culicidae
No-see-ums		1		2	1		Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	176	163	133	206	151	135	
Number of Taxa	11	14	9	15	16	10	
							Muskoka Average *
Richness	15			16			**13**
% EOT	7			18			**26**
% Chironimids	12			7			**12**
% Predators	11			20			**24**
% Shredders	2			2			**2**
% Collectors/Gatherers	83			72			**69**
Hilsenhoff Index	6.96			6.99			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Bella Lake

Township of Lake of Bays

Common Name	Site 3 2011			Scientific Name
	1	2	3	
Hydras				Coelenterata
Flatworms				Turbellaria
Roundworms	1			Nematoda
Aquatic Earthworms	2	3	1	Oligochaeta
Leeches	2	7	6	Hirudinaea
Sow Bugs	74	55	121	Isopoda
Clams	1	2	9	Pelecypoda
Fairy Shrimp	34	23	39	Amphipoda
Crayfish				Decapoda
Mites	5	2	1	Hydracarina
Mayflies	1	1		Ephemeroptera
Dragonflies		1	2	Anisoptera
Damselflies	3	4	2	Zygoptera
Stoneflies				Plecoptera
True Bugs				Hemiptera
Fishflies & Alderflies				Megaloptera
Caddisflies	5	19	7	Trichoptera
Aquatic Moths				Lepidoptera
Beetles	1		1	Coleoptera
Snails & Limpets		1	1	Gastropoda
Midges	17	27	8	Chironomidae
Horse & Deer Flies				Tabanidae
Mosquitos		2	1	Culicidae
No-see-ums		2	1	Ceratopogonidae
Craneflies				Tipulidae
Blackflies				Simuliidae
Misc. True Flies				Misc. Diptera
Total Count	146	149	200	
Number of Taxa	13	14	14	
				Muskoka Average *
Richness	16			**13**
% EOT	9			**26**
% Chironimids	11			**12**
% Predators	8			**24**
% Shredders	6			**2**
% Collectors/Gatherers	83			**69**
Hilsenhoff Index	7.14			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Bigwind Lake
Town of Bracebridge

Common Name	Site 5 R												Scientific Name
	2004			2005			2008			2011			
	1	2	3	1	2	3	1	2	3	1	2	3	
Hydras													Coelenterata
Flatworms				1		3	3	2				1	Turbellaria
Roundworms							2				1		Nematoda
Aquatic Earthworms		1	7	3		4		1		10		1	Oligochaeta
Leeches			1	3	2	2				2		1	Hirudinaea
Sow Bugs													Isopoda
Clams		1		1				1	1				Pelecypoda
Fairy Shrimp	79	63	60	85	46	66	100	112	43	76	94	110	Amphipoda
Crayfish				1	2		1	1					Decapoda
Mites	1	1	1		7	8	12	5	4	1	4		Hydracarina
Mayflies	5	5	6	8	11	5	10	31	3	39	24	17	Ephemeroptera
Dragonflies	8	6	2	12	25	6	7	12	6	4	17	4	Anisoptera
Damselflies		10	3	10	8		8	26	38	7	23	21	Zygoptera
Stoneflies													Plecoptera
True Bugs			1			1							Hemiptera
Fishflies & Alderflies		3	1					7	2	1			Megaloptera
Caddisflies	1	1	1	5	8	12	5	2	1	11	2	4	Trichoptera
Aquatic Moths													Lepidoptera
Beetles	1	2	1			1	7		6	4	2	3	Coleoptera
Snails & Limpets						1							Gastropoda
Midges	16	13	16	5	7	5	29	34	62	4	9	1	Chironomidae
Horse & Deer Flies													Tabanidae
Mosquitos						1	3	3					Culicidae
No-see-ums	1	4		4	1		1	3	2				Ceratopogonidae
Craneflies				2									Tipulidae
Blackflies													Simuliidae
Misc. True Flies	2		1										Misc. Diptera
Total Count	114	110	101	141	119	118	188	240	168	159	176	163	
Number of Taxa	9	12	13	13	10	13	13	14	11	11	9	10	
													Muskoka Average *
Richness	15			18			15			13			**13**
% EOT	15			30			25			35			**26**
% Chironimids	14			5			21			3			**12**
% Predators	15			25			25			19			**24**
% Shredders	1			7			1			3			**2**
% Collectors/Gatherers	84			67			73			77			**69**
Hilsenhoff Index	6.06			5.82			6.10			5.86			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Buck Lake
Town of Huntsville

Common Name	Site 2 R									Scientific Name
	2004			2005			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms	3	2			3	28	18	17	3	Turbellaria
Roundworms	1	2			1					Nematoda
Aquatic Earthworms	4	3	2				2	1		Oligochaeta
Leeches	1		1	1						Hirudinaea
Sow Bugs										Isopoda
Clams										Pelecypoda
Fairy Shrimp	44	20	39	47	37	55	90	72	114	Amphipoda
Crayfish										Decapoda
Mites	8	8	9	24	7	13	21	11	5	Hydracarina
Mayflies	13	6	5	15	15	6	2	1	1	Ephemeroptera
Dragonflies	21	16	14	14	16	2	4	7	7	Anisoptera
Damselflies	11	6	12	31	27	17	2	4	1	Zygoptera
Stoneflies										Plecoptera
True Bugs				1				1		Hemiptera
Fishflies & Alderflies	3	42	6	5		1		1		Megaloptera
Caddisflies				1			2	1		Trichoptera
Aquatic Moths										Lepidoptera
Beetles		1		2		2				Coleoptera
Snails & Limpets	2	4	3	4	2	12	5			Gastropoda
Midges	18	27	20	8	6	7	16	8	1	Chironomidae
Horse & Deer Flies		1	1							Tabanidae
Mosquitos					1					Culicidae
No-see-ums	3	4	4				1	3		Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies				2	5	7				Misc. Diptera
Total Count	132	142	116	155	120	150	163	127	132	
Number of Taxa	13	14	12	9	11	11	11	12	7	
										Muskoka Average *
Richness	15			15			13			**13**
% EOT	27			34			8			**26**
% Chironimids	17			5			6			**12**
% Predators	45			46			25			**24**
% Shredders	0			0			1			**2**
% Collectors/Gatherers	52			50			73			**69**
Hilsenhoff Index	5.84			5.87			5.85			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Chub Lake
Town of Huntsville

Common Name	Site 2 [R]												Scientific Name
	2006			2007			2010			2011			
	1	2	3	1	2	3	1	2	3	1	2	3	
Hydras													Coelenterata
Flatworms													Turbellaria
Roundworms			1				2	1					Nematoda
Aquatic Earthworms			1			2	6	3	2	1			Oligochaeta
Leeches								36	14				Hirudinaea
Sow Bugs							1						Isopoda
Clams	2						1	7	1	1	3	2	Pelecypoda
Fairy Shrimp	7	7	3				4	12	39	11	19	20	Amphipoda
Crayfish													Decapoda
Mites	1	9	3		1	2	5	4		5	7		Hydracarina
Mayflies	8	35	46		4	4	6	12	20	13	22	34	Ephemeroptera
Dragonflies	8	12	12	1	1	4	4	2	7	4	8	4	Anisoptera
Damselflies	3	4	8	1	1	3	1	2	1	4	3	4	Zygoptera
Stoneflies							1		1				Plecoptera
True Bugs													Hemiptera
Fishflies & Alderflies	2						4			9	1		Megaloptera
Caddisflies	3	6	5		3	1	2	7	18	8	5	10	Trichoptera
Aquatic Moths		2								1	1		Lepidoptera
Beetles	1		1				1	2	1			1	Coleoptera
Snails & Limpets	6		1			7	5	4	4	9	6	1	Gastropoda
Midges	49	21	22	7	27	40	57	11	37	21	19	22	Chironomidae
Horse & Deer Flies							1	1			1		Tabanidae
Mosquitos					1	4	1	4					Culicidae
No-see-ums		3	3	1		2	2	2		1			Ceratopogonidae
Craneflies								1					Tipulidae
Blackflies													Simuliidae
Misc. True Flies							1	1	1				Misc. Diptera
Total Count	90	99	106	10	38	69	105	112	146	88	95	98	
Number of Taxa	11	9	12	4	7	10	19	18	13	13	9	12	
													Muskoka Average *
Richness	15			10			21			15			**13**
% EOT	51			20			23			42			**26**
% Chironimids	31			23			29			22			**12**
% Predators	24			5			25			19			**24**
% Shredders	5			3			8			9			**2**
% Collectors/Gatherers	68			76			60			65			**69**
Hilsenhoff Index	5.87			6.67			6.38			5.83			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Gilleach Lake

Town of Bracebridge

Common Name	Site 2 R 2011			Scientific Name
	1	2	3	
Hydras				Coelenterata
Flatworms				Turbellaria
Roundworms				Nematoda
Aquatic Earthworms	4	2		Oligochaeta
Leeches	1	1	1	Hirudinaea
Sow Bugs				Isopoda
Clams				Pelecypoda
Fairy Shrimp	110	97	99	Amphipoda
Crayfish				Decapoda
Mites	1			Hydracarina
Mayflies	18	4		Ephemeroptera
Dragonflies	10		4	Anisoptera
Damselflies				Zygoptera
Stoneflies				Plecoptera
True Bugs				Hemiptera
Fishflies & Alderflies			3	Megaloptera
Caddisflies	18	12	9	Trichoptera
Aquatic Moths				Lepidoptera
Beetles	3	2		Coleoptera
Snails & Limpets				Gastropoda
Midges	5	7	8	Chironomidae
Horse & Deer Flies				Tabanidae
Mosquitos				Culicidae
No-see-ums			1	Ceratopogonidae
Craneflies				Tipulidae
Blackflies				Simuliidae
Misc. True Flies				Misc. Diptera
Total Count	170	125	125	
Number of Taxa	9	7	7	
				Muskoka Average *
Richness	11			**13**
% EOT	18			**26**
% Chironimids	5			**12**
% Predators	6			**24**
% Shredders	9			**2**
% Collectors/Gatherers	84			**69**
Hilsenhoff Index	5.78			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Go Home Lake
Township of Georgian Bay

Common Name	Site 1 R						Scientific Name
	2008			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms	1	3	2	3	1		Turbellaria
Roundworms							Nematoda
Aquatic Earthworms				4	8	1	Oligochaeta
Leeches	16	10	6		6	35	Hirudinaea
Sow Bugs					1		Isopoda
Clams				2	4	2	Pelecypoda
Fairy Shrimp	30	38	27	62	80	1	Amphipoda
Crayfish							Decapoda
Mites	7	23	28	32	9	6	Hydracarina
Mayflies					2	3	Ephemeroptera
Dragonflies				3	1		Anisoptera
Damselflies							Zygoptera
Stoneflies					2		Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies			1	1	1		Megaloptera
Caddisflies	1	1	6	1	1	10	Trichoptera
Aquatic Moths							Lepidoptera
Beetles				2	3	1	Coleoptera
Snails & Limpets		1		30	7	7	Gastropoda
Midges	46	23	35	1	6	48	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos					1		Culicidae
No-see-ums		4	3	4	2		Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	101	103	108	145	135	114	
Number of Taxa	6	8	8	12	17	10	
							Muskoka Average *
Richness	9			17			**13**
% EOT	3			6			**26**
% Chironimids	34			14			**12**
% Predators	32			28			**24**
% Shredders	3			3			**2**
% Collectors/Gatherers	64			55			**69**
Hilsenhoff Index	6.51			6.41			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Gull Lake
Town of Gravenhurst

Common Name	Site 1 R 2011			Scientific Name
	1	2	3	
Hydras				Coelenterata
Flatworms	2		1	Turbellaria
Roundworms				Nematoda
Aquatic Earthworms	1		2	Oligochaeta
Leeches				Hirudinaea
Sow Bugs	11	9	11	Isopoda
Clams				Pelecypoda
Fairy Shrimp	84	96	59	Amphipoda
Crayfish		1		Decapoda
Mites	1	8	14	Hydracarina
Mayflies	5	4	2	Ephemeroptera
Dragonflies	5	1	3	Anisoptera
Damselflies				Zygoptera
Stoneflies				Plecoptera
True Bugs				Hemiptera
Fishflies & Alderflies		1	1	Megaloptera
Caddisflies	5	2	1	Trichoptera
Aquatic Moths				Lepidoptera
Beetles	2	11		Coleoptera
Snails & Limpets	1		1	Gastropoda
Midges		5	6	Chironomidae
Horse & Deer Flies				Tabanidae
Mosquitos				Culicidae
No-see-ums		1		Ceratopogonidae
Craneflies				Tipulidae
Blackflies				Simuliidae
Misc. True Flies				Misc. Diptera
Total Count	117	139	101	
Number of Taxa	10	11	11	
				Muskoka Average *
Richness	14			**13**
% EOT	8			**26**
% Chironimids	3			**12**
% Predators	14			**24**
% Shredders	2			**2**
% Collectors/Gatherers	83			**69**
Hilsenhoff Index	6.03			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Hoc Roc River

Town of Gravenhurst

Common Name	Site 1												Scientific Name
	2008			2009			2010			2011			
	1	2	3	1	2	3	1	2	3	1	2	3	
Hydras													Coelenterata
Flatworms							1			3	5	1	Turbellaria
Roundworms	7	2	4										Nematoda
Aquatic Earthworms		1	1	2		1	3	2	2	1	4		Oligochaeta
Leeches	1			1	1	2		1	1	1	1	1	Hirudinaea
Sow Bugs	15	44	38	202	211	387	120	138	90	24	19	43	Isopoda
Clams				5	1		1	3	3	3	2	2	Pelecypoda
Fairy Shrimp	16	22	11	19	45	6	55	12	15	18	71	62	Amphipoda
Crayfish				1									Decapoda
Mites	34	34	24					2	1	5	1	1	Hydracarina
Mayflies			2	2			3			12	2	2	Ephemeroptera
Dragonflies		1		2	3	6	3		5	8	9	4	Anisoptera
Damselflies	9	1	8	1		2	2	3	3	24	42	11	Zygoptera
Stoneflies													Plecoptera
True Bugs		1		3			4	1					Hemiptera
Fishflies & Alderflies	1	1		7	7	3	9	2	1	8		2	Megaloptera
Caddisflies			2	7	2		1		4	8	4	1	Trichoptera
Aquatic Moths										1			Lepidoptera
Beetles				1	1	1				5	3	2	Coleoptera
Snails & Limpets				4	4	1				14	4	6	Gastropoda
Midges	7	9	15	10	7	4	12	30	35	34	25	58	Chironomidae
Horse & Deer Flies			1			1		1			2		Tabanidae
Mosquitos													Culicidae
No-see-ums										1			Ceratopogonidae
Craneflies	5	6	4										Tipulidae
Blackflies													Simuliidae
Misc. True Flies		1		1									Misc. Diptera
Total Count	95	123	110	268	282	414	214	195	160	170	194	196	
Number of Taxa	6	8	8	16	10	11	12	11	11	17	15	14	
													Muskoka Average *
Richness	16			17			15			18			**13**
% EOT	7			3			4			23			**26**
% Chironimids	10			2			14			21			**12**
% Predators	35			4			7			25			**24**
% Shredders	5			1			1			3			**2**
% Collectors/Gatherers	62			93			91			67			**69**
Hilsenhoff Index	7.04			7.65			7.34			6.54			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Hoc Roc River
Town of Gravenhurst

Common Name	Site 2			Site 3[R]			Scientific Name
	2010			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms				1	2		Turbellaria
Roundworms							Nematoda
Aquatic Earthworms	1		1	15	10	5	Oligochaeta
Leeches							Hirudinaea
Sow Bugs	4	40	6	1			Isopoda
Clams				1		2	Pelecypoda
Fairy Shrimp		1					Amphipoda
Crayfish						1	Decapoda
Mites	1	1		2	3	1	Hydracarina
Mayflies	1	1	1	6	8	9	Ephemeroptera
Dragonflies		2		5	3	5	Anisoptera
Damselflies		1		16		4	Zygoptera
Stoneflies							Plecoptera
True Bugs						2	Hemiptera
Fishflies & Alderflies	2	2	5				Megaloptera
Caddisflies		7	3	4	3	8	Trichoptera
Aquatic Moths						1	Lepidoptera
Beetles			1	5	10	9	Coleoptera
Snails & Limpets		4	3	16	7	9	Gastropoda
Midges	2	26	45	38	104	63	Chironomidae
Horse & Deer Flies				1	1	2	Tabanidae
Mosquitos							Culicidae
No-see-ums		1		2		2	Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies		1	1				Misc. Diptera
Total Count	11	87	66	113	151	123	
Number of Taxa	6	12	9	14	10	15	
							Muskoka Average *
Richness	14			15			**13**
% EOT	10			7			**26**
% Chironimids	45			5			**12**
% Predators	10			18			**24**
% Shredders	6			2			**2**
% Collectors/Gatherers	80			78			**69**
Hilsenhoff Index	6.84			6.04			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Kahshe Lake
Town of Gravenhurst

Common Name	Site 2 R									Scientific Name
	2004			2005			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms							1	1		Turbellaria
Roundworms					2					Nematoda
Aquatic Earthworms	2			1						Oligochaeta
Leeches	1						2	1		Hirudinaea
Sow Bugs	78	79	49	51	41	31	74	74	62	Isopoda
Clams							1			Pelecypoda
Fairy Shrimp	28	21	40	29	50	35	66	48	56	Amphipoda
Crayfish								1	1	Decapoda
Mites	2	2	12	6	5	11	13	1	3	Hydracarina
Mayflies	1	1	2	14	11	10	13	11	14	Ephemeroptera
Dragonflies	2		2	9	4	5	6	12	5	Anisoptera
Damselflies				5	7	11	4	3	12	Zygoptera
Stoneflies										Plecoptera
True Bugs					1					Hemiptera
Fishflies & Alderflies				1						Megaloptera
Caddisflies					2	3	2		1	Trichoptera
Aquatic Moths										Lepidoptera
Beetles	1	1	2		2		1	1		Coleoptera
Snails & Limpets	1	1	1	3		1	2	3		Gastropoda
Midges	7	3	5	8	5	5	6	9	3	Chironomidae
Horse & Deer Flies										Tabanidae
Mosquitos										Culicidae
No-see-ums			1					1		Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies										Misc. Diptera
Total Count	123	108	114	127	130	112	191	166	157	
Number of Taxa	10	7	9	10	11	9	13	13	9	
										Muskoka Average *
Richness	12			14			15			**13**
% EOT	2			22			16			**26**
% Chironimids	4			5			4			**12**
% Predators	8			18			13			**24**
% Shredders	0			1			1			**2**
% Collectors/Gatherers	92			79			85			**69**
Hilsenhoff Index	7.23			6.62			6.77			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Leech Lake
Town of Bracebridge

Common Name	Site 1 R									Scientific Name
	2006			2007			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms										Turbellaria
Roundworms	6	7	22				1			Nematoda
Aquatic Earthworms					2		1			Oligochaeta
Leeches	1				2		1		1	Hirudinaea
Sow Bugs										Isopoda
Clams	2	5	1	2		3	1		2	Pelecypoda
Fairy Shrimp	46	37	54	65	52	37	73	87	120	Amphipoda
Crayfish										Decapoda
Mites	3	5	10	2	1	1		1	3	Hydracarina
Mayflies	1	2	3			1		3		Ephemeroptera
Dragonflies	13	13	23	7	3	2	2	6	3	Anisoptera
Damselflies	3	2	5	1				2	3	Zygoptera
Stoneflies										Plecoptera
True Bugs		1								Hemiptera
Fishflies & Alderflies	2	1	2				1	2	2	Megaloptera
Caddisflies	2	3	7	1	1	2	7	13	8	Trichoptera
Aquatic Moths							1			Lepidoptera
Beetles		5	1						1	Coleoptera
Snails & Limpets	8	18	9	3	7	19	5	3	5	Gastropoda
Midges	29	8	6	13	18	23	17	5	12	Chironomidae
Horse & Deer Flies										Tabanidae
Mosquitos							1			Culicidae
No-see-ums	1	1		5	9	5				Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies										Misc. Diptera
Total Count	111	108	143	99	95	93	111	122	160	
Number of Taxa	12	14	12	9	9	9	12	9	11	
										Muskoka Average *
Richness	15			12			16			**13**
% EOT	21			6			12			**26**
% Chironimids	12			19			9			**12**
% Predators	25			13			7			**24**
% Shredders	3			1			7			**2**
% Collectors/Gatherers	51			74			81			**69**
Hilsenhoff Index	6.01			6.28			5.96			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Leonard Lake
Township of Muskoka Lakes

Common Name	Site 1 R												Scientific Name
	2005			2006			2010			2011			
	1	2	3	1	2	3	1	2	3	1	2	3	
Hydras													Coelenterata
Flatworms		3	5	1		14		1	3				Turbellaria
Roundworms		3	4	4	2	1							Nematoda
Aquatic Earthworms			1	12		4	7		1	4		1	Oligochaeta
Leeches	2			1		1					4	3	Hirudinaea
Sow Bugs													Isopoda
Clams	3	2	12	3			2	1			2		Pelecypoda
Fairy Shrimp	10	95	56	14	97	47	24	96	46	7	34	51	Amphipoda
Crayfish													Decapoda
Mites	6	3	2			4	9	2	5	3	8	1	Hydracarina
Mayflies	1	3	1	1	4	14	4	9	11	1	2	5	Ephemeroptera
Dragonflies	7	16	13	10	2	5	1	22	5	7	13	3	Anisoptera
Damselflies	4		4	7	7	5	3	13	3		11	2	Zygoptera
Stoneflies										1			Plecoptera
True Bugs											2		Hemiptera
Fishflies & Alderflies													Megaloptera
Caddisflies	1	2	7		3	6	9	4	10	2	4	3	Trichoptera
Aquatic Moths									1				Lepidoptera
Beetles	12	10		7	3		7	8	3				Coleoptera
Snails & Limpets	1	2	11	11	1	3	4	3	1	1			Gastropoda
Midges	8	5	24	7	3	19	32	27	18	9	20	4	Chironomidae
Horse & Deer Flies													Tabanidae
Mosquitos	1												Culicidae
No-see-ums	2	2	2				3		1			2	Ceratopogonidae
Craneflies													Tipulidae
Blackflies													Simuliidae
Misc. True Flies													Misc. Diptera
Total Count	58	146	142	78	122	123	105	186	108	35	100	75	
Number of Taxa	13	12	13	12	9	12	12	11	13	9	10	11	
													Muskoka Average *
Richness	16			14			14			14			**13**
% EOT	17			20			24			25			**26**
% Chironimids	11			9			19			16			**12**
% Predators	27			21			22			29			**24**
% Shredders	3			3			6			4			**2**
% Collectors/Gatherers	60			69			69			66			**69**
Hilsenhoff Index	5.68			5.98			5.96			6.09			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake of Bays Stream
Township of Lake of Bays

Common Name	Site 1 R			Site 2R			Scientific Name
	2004			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms							Turbellaria
Roundworms	1	4			1		Nematoda
Aquatic Earthworms	2	13	13	2			Oligochaeta
Leeches					1		Hirudinaea
Sow Bugs							Isopoda
Clams				4	4	2	Pelecypoda
Fairy Shrimp	4	8	2			1	Amphipoda
Crayfish							Decapoda
Mites	4	2	5	8	2	10	Hydracarina
Mayflies	9	26	21	12	22	22	Ephemeroptera
Dragonflies		1					Anisoptera
Damselflies							Zygoptera
Stoneflies	6	1	15	6	7	17	Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies							Megaloptera
Caddisflies	17	11	26	13	9	12	Trichoptera
Aquatic Moths							Lepidoptera
Beetles	1	1		5	3	7	Coleoptera
Snails & Limpets					1		Gastropoda
Midges	61	65	16	88	75	37	Chironomidae
Horse & Deer Flies	1						Tabanidae
Mosquitos				1	1		Culicidae
No-see-ums				2	2		Ceratopogonidae
Craneflies		1	1				Tipulidae
Blackflies			5	5		2	Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	106	133	104	146	128	110	
Number of Taxa	10	11	9	11	12	9	
							Muskoka Average *
Richness	13			15			**13**
% EOT	32			23			**26**
% Chironimids	41			52			**12**
% Predators	11			18			**24**
% Shredders	16			9			**2**
% Collectors/Gatherers	70			68			**69**
Hilsenhoff Index	5.70			5.80			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Mary Lake
Town of Huntsville

Common Name	Site 1									Scientific Name
	2007			2008			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms				1			5	12	9	Turbellaria
Roundworms						4				Nematoda
Aquatic Earthworms	28	30	24	8	5	10	24	26	21	Oligochaeta
Leeches	1			1						Hirudinaea
Sow Bugs	29	19	17	32	8	5	103	192	91	Isopoda
Clams			2				2		7	Pelecypoda
Fairy Shrimp	30	47	45	59	62	48	53	64	120	Amphipoda
Crayfish										Decapoda
Mites				28	10			1	2	Hydracarina
Mayflies		12	8	6	12	20	5		2	Ephemeroptera
Dragonflies	1		2					1	1	Anisoptera
Damselflies			1							Zygoptera
Stoneflies										Plecoptera
True Bugs										Hemiptera
Fishflies & Alderflies	5	4	5		1	2	5	5	4	Megaloptera
Caddisflies	4	17	5	8	5	21	9	24	32	Trichoptera
Aquatic Moths				1						Lepidoptera
Beetles			1					2	3	Coleoptera
Snails & Limpets	4	1	1				10	9	6	Gastropoda
Midges	18	17	17	8	23	30	8	6	12	Chironomidae
Horse & Deer Flies					1					Tabanidae
Mosquitos	1									Culicidae
No-see-ums		2	1			1				Ceratopogonidae
Craneflies						4				Tipulidae
Blackflies										Simuliidae
Misc. True Flies										Misc. Diptera
Total Count	121	149	129	152	127	145	224	342	310	
Number of Taxa	10	9	13	10	9	10	10	11	13	
										Muskoka Average *
Richness	15			15			13			**13**
% EOT	13			17			8			**26**
% Chironimids	13			14			3			**12**
% Predators	6			11			6			**24**
% Shredders	7			9			7			**2**
% Collectors/Gatherers	86			79			83			**69**
Hilsenhoff Index	6.66			6.17			6.86			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Menominee Lake
Township of Lake of Bays

Common Name	Site 3 R									Scientific Name
	2005			2006			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms			2	2	1	12	10	4	4	Turbellaria
Roundworms		4		8	6	9		6	1	Nematoda
Aquatic Earthworms	3	8	5	1		1	6	13	1	Oligochaeta
Leeches							1			Hirudinaea
Sow Bugs										Isopoda
Clams	3	1		1						Pelecypoda
Fairy Shrimp	6	21	48	20	36	34	13	21	7	Amphipoda
Crayfish			1							Decapoda
Mites	19	6	12	8	8	14	11	13	5	Hydracarina
Mayflies	2	21	7	8	49		5	6	5	Ephemeroptera
Dragonflies	23	20	21	22	4	5	14	5	16	Anisoptera
Damselflies		2	1	4		3	7	2	4	Zygoptera
Stoneflies										Plecoptera
True Bugs							1	1		Hemiptera
Fishflies & Alderflies	2			2		2	1	1		Megaloptera
Caddisflies	9	21	18	1	5	19	9	4	9	Trichoptera
Aquatic Moths										Lepidoptera
Beetles	6	5	8	6	1	6	7	4	3	Coleoptera
Snails & Limpets		5	1	6	2		22	11	12	Gastropoda
Midges	22	13	11	7	4	7	13	9	3	Chironomidae
Horse & Deer Flies	1									Tabanidae
Mosquitos										Culicidae
No-see-ums	7		2				4			Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies				1						Misc. Diptera
Total Count	103	127	137	97	116	112	124	100	70	
Number of Taxa	11	13	13	15	10	11	15	14	12	
										Muskoka Average *
Richness	17			13			16			**13**
% EOT	39			37			29			**26**
% Chironimids	13			6			9			**12**
% Predators	37			31			40			**24**
% Shredders	13			8			8			**2**
% Collectors/Gatherers	46			51			35			**69**
Hilsenhoff Index	5.56			5.38			5.84			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake Muskoka - Muskoka Bay
Town of Gravenhurst

Common Name	Site 1						Scientific Name
	2007			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms					1		Turbellaria
Roundworms							Nematoda
Aquatic Earthworms	10	1	2	13	2	2	Oligochaeta
Leeches							Hirudinaea
Sow Bugs	8	3	7	4	11	16	Isopoda
Clams							Pelecypoda
Fairy Shrimp	30	14	52	42	77	63	Amphipoda
Crayfish							Decapoda
Mites	25	47	39	39	10	6	Hydracarina
Mayflies	6	10	3	3	8	5	Ephemeroptera
Dragonflies	5		8	1	9	6	Anisoptera
Damselflies		3	5		1	3	Zygoptera
Stoneflies							Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies					1	2	Megaloptera
Caddisflies					1		Trichoptera
Aquatic Moths					1		Lepidoptera
Beetles							Coleoptera
Snails & Limpets			1	3	3	3	Gastropoda
Midges	18	22	5	25	8	5	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos							Culicidae
No-see-ums		1	3	2	1	1	Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	102	101	125	132	134	112	
Number of Taxa	7	8	12	9	14	11	
							Muskoka Average *
Richness	10			14			**13**
% EOT	9			10			**26**
% Chironimids	14			10			**12**
% Predators	42			22			**24**
% Shredders	0			1			**2**
% Collectors/Gatherers	55			75			**69**
Hilsenhoff Index	6.10			6.28			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Peninsula Lake
Township of Lake of Bays

Common Name	Site 3 R 2011			Scientific Name
	1	2	3	
Hydras				Coelenterata
Flatworms	2	2	5	Turbellaria
Roundworms				Nematoda
Aquatic Earthworms		2		Oligochaeta
Leeches				Hirudinaea
Sow Bugs	7	13	6	Isopoda
Clams	2			Pelecypoda
Fairy Shrimp	47	87	75	Amphipoda
Crayfish				Decapoda
Mites	8	12	5	Hydracarina
Mayflies	3	3	1	Ephemeroptera
Dragonflies	3	4	2	Anisoptera
Damselflies	1			Zygoptera
Stoneflies				Plecoptera
True Bugs				Hemiptera
Fishflies & Alderflies		3	2	Megaloptera
Caddisflies	1	3	1	Trichoptera
Aquatic Moths				Lepidoptera
Beetles	7	2		Coleoptera
Snails & Limpets	3	1	3	Gastropoda
Midges	10	4	3	Chironomidae
Horse & Deer Flies				Tabanidae
Mosquitos				Culicidae
No-see-ums		1		Ceratopogonidae
Craneflies				Tipulidae
Blackflies				Simuliidae
Misc. True Flies				Misc. Diptera
Total Count	94	137	103	
Number of Taxa	12	13	10	
				Muskoka Average *
Richness		15		**13**
% EOT		7		**26**
% Chironimids		5		**12**
% Predators		18		**24**
% Shredders		5		**2**
% Collectors/Gatherers		78		**69**
Hilsenhoff Index		6.04		**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Pine Lake
Town of Gravenhurst

Common Name	Site 1 R						Site 2 R			Scientific Name
	2008			2010			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms										Turbellaria
Roundworms			2							Nematoda
Aquatic Earthworms	4	2	1	3	10			4	7	Oligochaeta
Leeches				1	1		1	1	1	Hirudinaea
Sow Bugs										Isopoda
Clams				1	1	4				Pelecypoda
Fairy Shrimp	7	10	34	52	20	33	51	29	7	Amphipoda
Crayfish										Decapoda
Mites	21	10	7	4	16	4	7	42	25	Hydracarina
Mayflies	2	2		10	9	5	7	20	8	Ephemeroptera
Dragonflies	3	8	10	16	25	18	10	5	16	Anisoptera
Damselflies	74	65	35	2	2	3	2	2	2	Zygoptera
Stoneflies										Plecoptera
True Bugs		1				1				Hemiptera
Fishflies & Alderflies										Megaloptera
Caddisflies	1	5	8			1	2		2	Trichoptera
Aquatic Moths										Lepidoptera
Beetles		1		4	6	1	9		4	Coleoptera
Snails & Limpets				1		7	3	3	1	Gastropoda
Midges	5	7	6	18	8	25	28	36	26	Chironomidae
Horse & Deer Flies										Tabanidae
Mosquitos							1		1	Culicidae
No-see-ums			3		5		1	1	2	Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies	2									Misc. Diptera
Total Count	119	111	106	112	103	102	122	143	102	
Number of Taxa	9	10	9	11	11	11	12	10	13	
										Muskoka Average *
Richness	13			14			13			**13**
% EOT	63			29			21			**26**
% Chironimids	5			16			25			**12**
% Predators	71			34			36			**24**
% Shredders	4			0			1			**2**
% Collectors/Gatherers	24			61			61			**69**
Hilsenhoff Index	6.43			6.00			6.10			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Ril Lake

Township of Lake of Bays

Common Name	Site 3 R						Site 4 R			Scientific Name
	2009			2010			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms				1		1		1		Turbellaria
Roundworms							4			Nematoda
Aquatic Earthworms		1		4				4	5	Oligochaeta
Leeches		2					1	1	1	Hirudinaea
Sow Bugs										Isopoda
Clams										Pelecypoda
Fairy Shrimp	106	163	95	133	134	34	79	79	44	Amphipoda
Crayfish							2			Decapoda
Mites	19	65	19	10	9	20	12	12	24	Hydracarina
Mayflies	7	20	10	20	11	12	4	21	17	Ephemeroptera
Dragonflies	9	3	3	3	4	15	13	5	1	Anisoptera
Damselflies	4	5	1				3	1	1	Zygoptera
Stoneflies										Plecoptera
True Bugs										Hemiptera
Fishflies & Alderflies		1							1	Megaloptera
Caddisflies	10	12	3	2	1			17	19	Trichoptera
Aquatic Moths										Lepidoptera
Beetles	3	3					3	6	8	Coleoptera
Snails & Limpets		1	1	1	1	4	3	5		Gastropoda
Midges	17	25	28	9	13	12	26	28	42	Chironomidae
Horse & Deer Flies										Tabanidae
Mosquitos									2	Culicidae
No-see-ums		2				2	3	1	5	Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies										Misc. Diptera
Total Count	175	303	160	183	173	100	153	181	170	
Number of Taxa	8	13	8	9	7	8	12	13	13	
										Muskoka Average *
Richness	13			10			17			**13**
% EOT	14			15			20			**26**
% Chironimids	11			8			19			**12**
% Predators	22			14			20			**24**
% Shredders	4			1			7			**2**
% Collectors/Gatherers	74			84			70			**69**
Hilsenhoff Index	5.96			5.94			5.92			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake Rosseau - Brackenrig Bay
Township of Muskoka Lakes

Common Name	Site 1 R 2007			Site 2 R 2011			Scientific Name
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms			1	1			Turbellaria
Roundworms			9			2	Nematoda
Aquatic Earthworms		3			1		Oligochaeta
Leeches		1		1			Hirudinaea
Sow Bugs	46	55	80	110	44	90	Isopoda
Clams					4	2	Pelecypoda
Fairy Shrimp	45	42	42	8	7	4	Amphipoda
Crayfish							Decapoda
Mites	9		6	2	29	3	Hydracarina
Mayflies	5	3	9	5	3	9	Ephemeroptera
Dragonflies	9	5	1		2	4	Anisoptera
Damselflies	1				2		Zygoptera
Stoneflies							Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies	11	1	3			1	Megaloptera
Caddisflies	3	3	3	1	2		Trichoptera
Aquatic Moths				2		1	Lepidoptera
Beetles		1	3				Coleoptera
Snails & Limpets		1	3	4	8	7	Gastropoda
Midges	7	8	12	1	5	10	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos							Culicidae
No-see-ums					2	1	Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	136	123	172	135	109	134	
Number of Taxa	9	11	12	10	12	12	
							Muskoka Average *
Richness	15			17			**13**
% EOT	10			7			**26**
% Chironimids	6			4			**12**
% Predators	13			13			**24**
% Shredders	2			2			**2**
% Collectors/Gatherers	83			77			**69**
Hilsenhoff Index	6.73			7.34			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake Rosseau - Portage Bay
Township of Muskoka Lakes

Common Name	Site 1 R						Scientific Name
	2010			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms							Turbellaria
Roundworms							Nematoda
Aquatic Earthworms	2	1		4			Oligochaeta
Leeches							Hirudinaea
Sow Bugs							Isopoda
Clams					2		Pelecypoda
Fairy Shrimp	117	165	181	87	116	117	Amphipoda
Crayfish							Decapoda
Mites	4	2	3	9	7	21	Hydracarina
Mayflies	16	20	10	3	13	8	Ephemeroptera
Dragonflies	7	9	9	7	4	4	Anisoptera
Damselflies	1	4	4	1	3	2	Zygoptera
Stoneflies							Plecoptera
True Bugs					3		Hemiptera
Fishflies & Alderflies							Megaloptera
Caddisflies	1	3	6	5	5	3	Trichoptera
Aquatic Moths							Lepidoptera
Beetles	2	2	6		1		Coleoptera
Snails & Limpets		2	1	1	1	1	Gastropoda
Midges	12	5	6	23	35	6	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos				2	2	1	Culicidae
No-see-ums			1		1		Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	162	213	227	142	193	163	
Number of Taxa	9	10	10	10	13	9	
							Muskoka Average *
Richness	11			14			**13**
% EOT	15			12			**26**
% Chironimids	4			13			**12**
% Predators	9			13			**24**
% Shredders	2			3			**2**
% Collectors/Gatherers	89			84			**69**
Hilsenhoff Index	5.88			6.05			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

South Muldrew Lake
Town of Gravenhurst

Common Name	Site 1 R									Site 4 R			Scientific Name
	2004			2005			2011			2007			
	1	2	3	1	2	3	1	2	3	1	2	3	
Hydras			1										Coelenterata
Flatworms										2			Turbellaria
Roundworms	1												Nematoda
Aquatic Earthworms	6	10	11			1	1	4	2	3	1		Oligochaeta
Leeches			1				2	4	2				Hirudinaea
Sow Bugs													Isopoda
Clams						1			1				Pelecypoda
Fairy Shrimp	48	83	47	74	84	90	109	82	75	65	78	39	Amphipoda
Crayfish			1				1					1	Decapoda
Mites	7	29	22		3	3	9	9	7	13	7	13	Hydracarina
Mayflies	8	3	5	3	3	5	4	4		4	1	4	Ephemeroptera
Dragonflies	27	9	7	14		1	5	6	3	9	23	18	Anisoptera
Damselflies	20	3	2	8		3	4	13	1	4	6	7	Zygoptera
Stoneflies	1												Plecoptera
True Bugs													Hemiptera
Fishflies & Alderflies	1							1					Megaloptera
Caddisflies		1		3		1	2	1				2	Trichoptera
Aquatic Moths													Lepidoptera
Beetles	4	3	8							3	2		Coleoptera
Snails & Limpets		2		1	2		4	2	3		1		Gastropoda
Midges	5		1	3	7	6	24	8	5	9	11	30	Chironomidae
Horse & Deer Flies													Tabanidae
Mosquitos													Culicidae
No-see-ums	1					1		2	5	7	2	8	Ceratopogonidae
Craneflies													Tipulidae
Blackflies													Simuliidae
Misc. True Flies			1										Misc. Diptera
Total Count	129	143	107	106	99	112	165	136	104	119	132	122	
Number of Taxa	12	9	12	7	5	10	11	12	10	9	10	9	
													Muskoka Average *
Richness	17			11			14			13			**13**
% EOT	22			13			11			21			**26**
% Chironimids	2			5			9			13			**12**
% Predators	38			10			18			33			**24**
% Shredders	0			1			1			1			**2**
% Collectors/Gatherers	60			87			79			66			**69**
Hilsenhoff Index	5.96			6.00			6.16			6.00			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake Vernon - Tawingo College
Town of Huntsville

Common Name	Site 1 R						Site 2R			Scientific Name
	2009			2010			2011			
	1	2	3	1	2	3	1	2	3	
Hydras										Coelenterata
Flatworms										Turbellaria
Roundworms										Nematoda
Aquatic Earthworms	2	1	2	3	3		22			Oligochaeta
Leeches									1	Hirudinaea
Sow Bugs							1			Isopoda
Clams							2			Pelecypoda
Fairy Shrimp	94	94	98	60	64	88	12	122	27	Amphipoda
Crayfish										Decapoda
Mites	3	2	3	7	13	15		20	33	Hydracarina
Mayflies	1	2	7	2	8		1	16	3	Ephemeroptera
Dragonflies							2	1	2	Anisoptera
Damselflies	1	1	4		2	1		5	4	Zygoptera
Stoneflies										Plecoptera
True Bugs							1	2		Hemiptera
Fishflies & Alderflies								1		Megaloptera
Caddisflies	2	6	2	3		1	1	52	19	Trichoptera
Aquatic Moths										Lepidoptera
Beetles	1	1	1					1		Coleoptera
Snails & Limpets				11	6	7	1	4	2	Gastropoda
Midges	2	1	4	14	10	15	80	33	22	Chironomidae
Horse & Deer Flies							1			Tabanidae
Mosquitos									1	Culicidae
No-see-ums						1	1	3	1	Ceratopogonidae
Craneflies										Tipulidae
Blackflies										Simuliidae
Misc. True Flies				1			1	1	0	Misc. Diptera
Total Count	106	108	121	101	106	128	126	261	115	
Number of Taxa	8	8	8	8	7	7	13	13	11	
										Muskoka Average *
Richness	8			10			19			**13**
% EOT	8			5			21			**26**
% Chironimids	2			12			27			**12**
% Predators	5			12			16			**24**
% Shredders	3			1			14			**2**
% Collectors/Gatherers	92			80			68			**69**
Hilsenhoff Index	5.96			6.18			6.06			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Walker Lake
Township of Lake of Bays

Common Name	Site 3[R]						Scientific Name
	2010			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms			1			2	Turbellaria
Roundworms	2						Nematoda
Aquatic Earthworms	3	4		7	2		Oligochaeta
Leeches	1	1	1				Hirudinaea
Sow Bugs							Isopoda
Clams	1	2			2		Pelecypoda
Fairy Shrimp	31	20	28	17	13	46	Amphipoda
Crayfish							Decapoda
Mites	9	7	8	6	18	5	Hydracarina
Mayflies	13	10	3	28	34	54	Ephemeroptera
Dragonflies	5	11	1	11	13	18	Anisoptera
Damselflies	3	2		4	3	9	Zygoptera
Stoneflies							Plecoptera
True Bugs		1					Hemiptera
Fishflies & Alderflies							Megaloptera
Caddisflies	2	1	2	2			Trichoptera
Aquatic Moths	1						Lepidoptera
Beetles	3			3		3	Coleoptera
Snails & Limpets	5	8	6	8	3	4	Gastropoda
Midges	19	26	5	9	9	5	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos							Culicidae
No-see-ums	4	7		5	3	3	Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies			1				Misc. Diptera
Total Count	102	100	56	100	100	149	
Number of Taxa	15	13	10	11	10	10	
							Muskoka Average *
Richness	18			13			**13**
% EOT	21			50			**26**
% Chironimids	19			7			**12**
% Predators	25			30			**24**
% Shredders	2			1			**2**
% Collectors/Gatherers	63			64			**69**
Hilsenhoff Index	6.14			5.71			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.

Lake Waseosa
Town of Huntsville

Common Name	Site 3 R						Scientific Name
	2010			2011			
	1	2	3	1	2	3	
Hydras							Coelenterata
Flatworms				2			Turbellaria
Roundworms	1						Nematoda
Aquatic Earthworms	5	11	1	15	1		Oligochaeta
Leeches		1	1				Hirudinaea
Sow Bugs							Isopoda
Clams							Pelecypoda
Fairy Shrimp	83	114	130	86	98	85	Amphipoda
Crayfish							Decapoda
Mites	35	20	15	11	4	4	Hydracarina
Mayflies	1	6	5	25		10	Ephemeroptera
Dragonflies	5	1	9	15	9	9	Anisoptera
Damselflies		2	5	11	11	5	Zygoptera
Stoneflies							Plecoptera
True Bugs							Hemiptera
Fishflies & Alderflies			1				Megaloptera
Caddisflies	7	10	15	13	16	22	Trichoptera
Aquatic Moths							Lepidoptera
Beetles	2		11	8	3	1	Coleoptera
Snails & Limpets		1	2				Gastropoda
Midges	2	4	3	3	2	3	Chironomidae
Horse & Deer Flies							Tabanidae
Mosquitos							Culicidae
No-see-ums							Ceratopogonidae
Craneflies							Tipulidae
Blackflies							Simuliidae
Misc. True Flies							Misc. Diptera
Total Count	141	170	198	189	144	139	
Number of Taxa	9	10	12	10	8	8	
							Muskoka Average *
Richness	13			10			**13**
% EOT	13			31			**26**
% Chironimids	2			2			**12**
% Predators	21			20			**24**
% Shredders	6			11			**2**
% Collectors/Gatherers	72			70			**69**
Hilsenhoff Index	5.88			5.72			**5.99**

R = Reference Site

* The Muskoka Average is based on 73 samples collected at 44 reference sites between 2004 to 2008. Reference sites from five mesotrophic and nineteen oligotrophic lakes throughout Muskoka were used.