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MINISTRY OF THE ENVIRONMENT
LAKE PARTNER PROGRAM
BELLWOOD ACRES ROAD
PO BOX 39
DORSET ON POA 1E0

Lake Partner Hotline
1-800-470-8322

For additional information please refer to these other publications:
The Great Ontario Dip-In
Seven hints on protecting your lake

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Lake Partner Program
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Our many partners include you and:

Federation of Ontario Cottagers' Associations
Lake of the Woods District Property Owners Association
Ministry of Natural Resources
District Municipality of Muskoka
Kawartha Fisheries Association
Laurentian University
Muskoka Lakes Association
City of Greater Sudbury
Catawaqui Region Conservation Authority
Mississippi Valley Region Conservation Authority
Sir Sandford Fleming College
Ontario Federation of Anglers and Hunters
Toronto Region Conservation Authority

PIBS 3636e01

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Ontario's Lake Partner Program

Four levels of participation

- A closer look at your lake
- Great Ontario Dip-In
- Lake Partner - Shield Lakes
- Lake Partner - Off-Shield Lakes
- Lake Partner Detailed

Four Levels of Participation

Where and When	What and Why
<p>Great Ontario Dip-In All lakes. Canada Day Week around the July 1 holiday.</p>	<ul style="list-style-type: none"> • One water clarity measurement using a Secchi disc. • Provides a snapshot of water clarity across Ontario.
<p>Lake Partner - Shield Lakes All lakes on the Canadian Shield each year. One spring water sample, shortly after ice-out, and Secchi disc readings at a minimum of every two weeks, until fall. Larger lakes may be sampled at more than one location.</p>	<ul style="list-style-type: none"> • Spring turnover total phosphorus is the preferred way to estimate a lake's nutrient status. Secchi disc readings are used to detect trends in water clarity in the lake.
<p>Lake Partner -Off-Shield Lakes All lakes off the Canadian Shield are sampled monthly for total phosphorus starting shortly after ice-out. Secchi disc readings taken at a minimum of every two weeks, until fall.</p>	<ul style="list-style-type: none"> • Lakes with generally higher nutrient levels are evaluated using the mean of several open water total phosphorus values. Secchi disc readings are used to detect trends in water clarity in the lake.
<p>Lake Partner Detailed The Ministry staff of the <i>Inland Lakes Group</i> at the <i>Dorset Environmental Science Centre</i> will conduct more intensive studies where necessary. This will usually follow a request from an MOE regional office for more detailed sampling.</p>	<ul style="list-style-type: none"> • Specific lake sampling methods to evaluate water chemistry or lake biology are conducted on a more intensive schedule.

The Ontario Lake Partner Program

The Ministry of Environment and Energy (MOEE) monitors Ontario's recreational lakes in partnership with cottagers and residents. The goal of the Lake Partner Program is to create a valuable, long-term database to evaluate the nutrient status of Ontario's inland lakes. The lakes' nutrient status will reflect land use changes in the watershed and assist in our efforts to conserve and protect our inland lakes.

As a volunteer, you can take water samples for total phosphorus (TP) analysis and measure water clarity using a Secchi disc. A Secchi disc is a round, flat disc with alternating black and white quadrants that can be lowered into a lake to visually measure water clarity, indicated by the midpoint between where the disc disappears on the way down and reappears on the way back up.



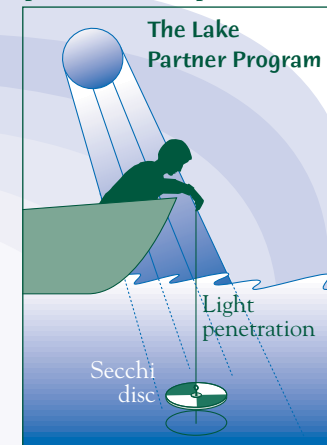
Secchi Disc

To volunteer: all you have to do is call the MOEE at 1-800-470-8322 for more instructions and your Lake Partner kit, including the Secchi disc.

If your lake is already being sampled by a volunteer, you will still receive the data generated prior to the next season and you will receive a Great Ontario Dip-In kit including a Secchi disc (if required).

Measuring water clarity

Secchi disc readings. The Great Ontario Dip-In brochure provides information on making a Secchi disc and registering measurements. For copies call 1-800-470-8322. To register a Secchi or water clarity measurement, follow these simple steps.



Anchor your boat over the deepest part of the lake. Lower your Secchi disc over the shady side of the boat. It should be attached to a rope marked in metres. You will note that at a certain depth the disc will disappear from view on the way down and reappear on the way back up.

The average of these two readings is your Secchi disc reading. Fax, phone, email or post the reading to the Lake Partner office. Two business reply envelopes are provided in the kit. One for the Great Ontario Dip-In reading and one for the seasonal water clarity readings. These readings are included in the end-of-season report.

Evaluating your Secchi disc readings

If your Secchi disc appears yellow or green as it is lowered into the lake it means that algae are controlling the light penetration in your lake. In this case you can use the Secchi readings to estimate your lake's nutrient status.

INTERPRETING YOUR SECCHI DISC RESULTS	
Secchi Reading	Lake Nutrient Status
Over 5m	Oligotrophic-unenriched, few nutrients
3.0m to 4.9m	Mesotrophic-moderately enriched, some nutrients
Less than 2.9m	Eutrophic-enriched, higher levels of nutrients

Secchi readings can be used to track changes between years in the algal communities in these types of lakes. If your Secchi disc appears orange or brown as it is lowered into the lake then the light penetration in your lake is being controlled by dissolved organic carbon (DOC) and you must use your total phosphorus values to estimate the nutrient status of your lake.

Collecting total phosphorus samples

A water quality sample is collected by filling a clean collection bottle with lake water, decanting into the pair of borosilicate tubes and sample bottle and mailing to the Lake Partner Program in the prepaid box.

Attach your collection bottle to a weight and rope. Attaching your marked Secchi disc rope to a hammer and taping the bottle to the hammer works very well. Lower the bottle through the water to a depth of twice your Secchi disc reading and raise back up to the surface. In shallow lakes, sample no closer than one metre off the bottom as not to disturb the bottom sediment.

Evaluating your total phosphorus results

Phosphorus is the nutrient that controls the growth of algae in most Ontario lakes. For this reason any increase in phosphorus in the lake will increase the quantity of algae that can grow. High levels of phosphorus can lead to algal blooms and in some cases affect the habitat of cold water fish such as lake trout. A general guideline exists to characterize your lake based on the total phosphorus that you have measured.

INTERPRETING YOUR TOTAL PHOSPHORUS RESULTS	
Total Phosphorous	Lake Nutrient Status
10ug/L or less	Oligotrophic-unenriched, few nutrients
11 to 20ug/L	Mesotrophic-moderately enriched, some nutrients
21ug/L or more	Eutrophic-enriched, higher levels of nutrients

By sampling the total phosphorus each year it is possible to detect an increase in the nutrient status of your lake. It is important to note that several years of data must be collected to first observe the normal, between-year-differences before a trend can be identified.

I want to get involved with Ontario's Lake Partner Program

Lake name _____
 Site _____
 Global Positioning System (GPS) _____
 Township/County _____
 Your Name _____
 Address _____
 Apt. _____
 City _____
 Province _____
 Postal Code _____
 Phone/Fax number _____
 Email address _____

Lake Partner Report - please send me a copy available at www.ene.gov.on.ca

I am a member of a cottage association Yes No

Name of association _____

Mail this form to:

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 Dorset Environmental Science Centre
 Lake Partner Program
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 P.O. Box 39
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