Office: Data: _____ Photos: _____ Hours: _____
Property Issues Reported: _____

The Couchiching Conservancy
P.O. Box 704 • Orillia ON L3V 6K7

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Couchiching Conservancy Water Quality Monitoring Program

Site Name: _____ Year: _____ Month: _____Day:____ Time:_____

Name: _____ Volunteer Hours: _____

Name: _____ Volunteer Hours: _____

Weather in past 48 hours: _____

Air Temp _____°C **Water Temp**. _____°C **Depth** (cm):_____

Parameter	Measurement
pH	
Dissolved Oxygen	ppm
Low Range Phosphate*	ppm
Turbidity	JTU
Alkalinity	ppm
Nitrate Nitrogen*	ppm
Chlorides	ppm
Conductivity	µS

***The first time in the year that nitrate nitrogen or phosphate is 1 ppm or higher, a sample needs to be sent to Aquatic and Environmental Laboratory Inc (see instructions on page 2).
If you took a sample, where did you bring it?(Conservancy office / AEL Inc.)

Site details: (plants, wildlife, pollutants, human activity)

Did you see any minnows? (Y / N) If so, how many?: Approx:_____
Did you see any benthic invertebrates? (Y / N) If so, how many?: Approx:_____

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Interpreting Results/Healthy Range:

Water Temperature: Temperature preference among species vary widely. All species can tolerate slow seasonal changes rather than rapid changes. Thermal stress or shock occurs when temperatures change more than 1 to 2 degrees Celsius in 24 hours.

pH: A range of 6.5 – 8.2 is optimal for most organisms. Rapidly growing algae or Submerged Aquatic Vegetation (SAV) remove carbon dioxide from the water during photosynthesis. This can result in a significant increase in pH levels.

Dissolved Oxygen: DO levels below 3 ppm are stressful to most aquatic organisms. DO levels below 2 or 1 ppm will not support fish. Levels of 5 to 6 are usually required for growth an activity.

Low Range Phosphate: Total phosphorous levels higher than 0.03 ppm contribute to increased plant growth (eutrophication). Total phosphorous levels above 0.1 ppm may stimulate plant growth sufficiently to surpass natural eutrophication rates.

Turbidity: The ideal range for turbidity in stream water is generally considered to be between 0 and 40 JTU.

Alkalinity: High Alkalinity in a body of water means that it is more stable and resistant to changes in pH. A Total Alkalinity of 100 to 200 ppm will stabilize the pH in a stream. Levels between 20 and 200 ppm are typically found in fresh water.

Nitrate Nitrogen: Unpolluted waters generally have a nitrate-nitrogen level below 1 ppm. Nitrate-nitrogen levels above 10 ppm are considered unsafe for drinking water.

Chloride: Fresh water bodies typically have a chloride concentration between 1 and 100 ppm. Long-term exposure to chloride concentrations of 120 ppm and above are harmful to aquatic ecosystems. Chloride concentrations of 640 ppm or higher are immediately toxic to freshwater organisms.

Conductivity: Conductivity in water is affected by the presence of inorganic dissolved solids carrying a charge such as chloride, nitrate, phosphate, sodium, calcium, iron. Each stream has a relatively consistent range of conductivity. Once a baseline for a stream is established, changes in conductivity can indicate changes in water sources and/or pollution. Freshwater streams typically have a conductivity between 100 and 1000 microsiemens (μS/cm)

<u>If something falls outside of the healthy range described above, please follow this protocol:</u>

1. Finish all of your tests.
2. Re-do the tests outside of the healthy range
3. If you get the same result a second time, and it is for anything but nitrates or phosphates, record the result and wrap up.
4. If it is nitrates or phosphates, collect a water sample using the provided kit
5. Either drop the water sample off at the Couchiching Conservancy office, or directly to:

Aquatic and Environmental Laboratory Inc: 3239 Penetanguishene Rd., Barrie, On (Craighurst) 705-722-5227, Hours: Mon – Thurs 9 am to 4:30 pm and Fri 9 am to 3 pm