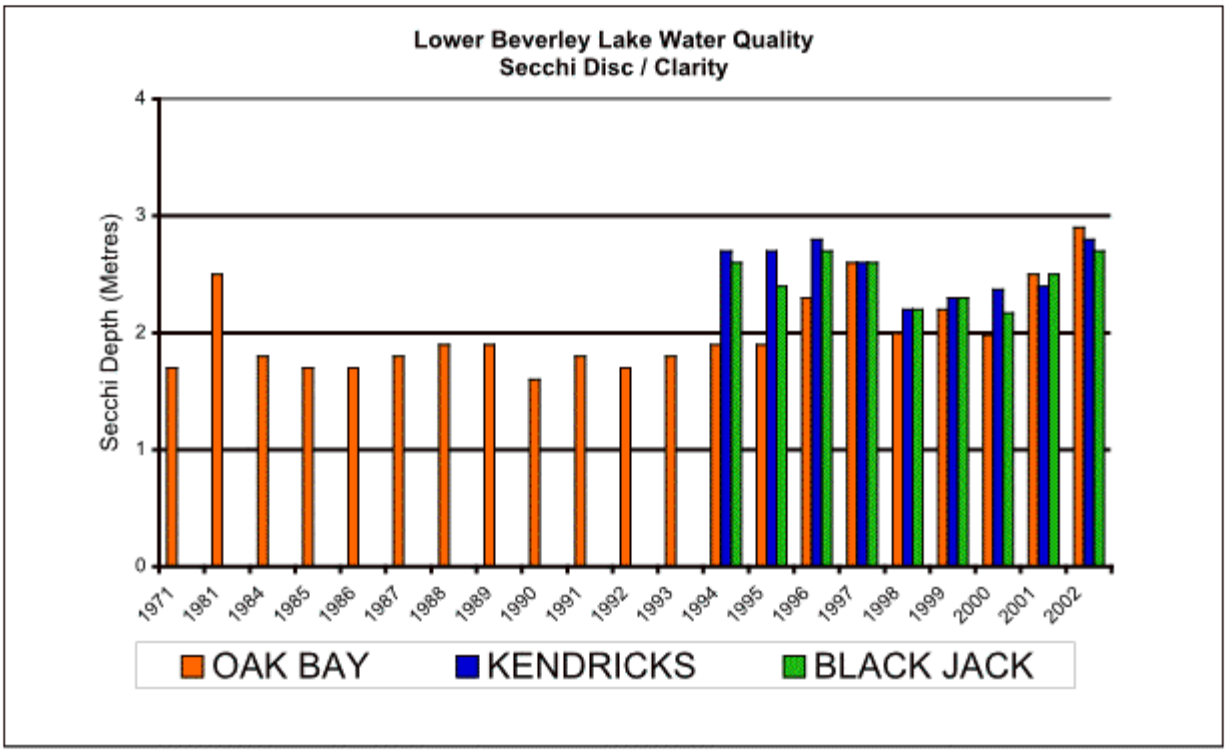
Lower Beverley Lake

Water Quality Test Results Through 2002

Water Clarity

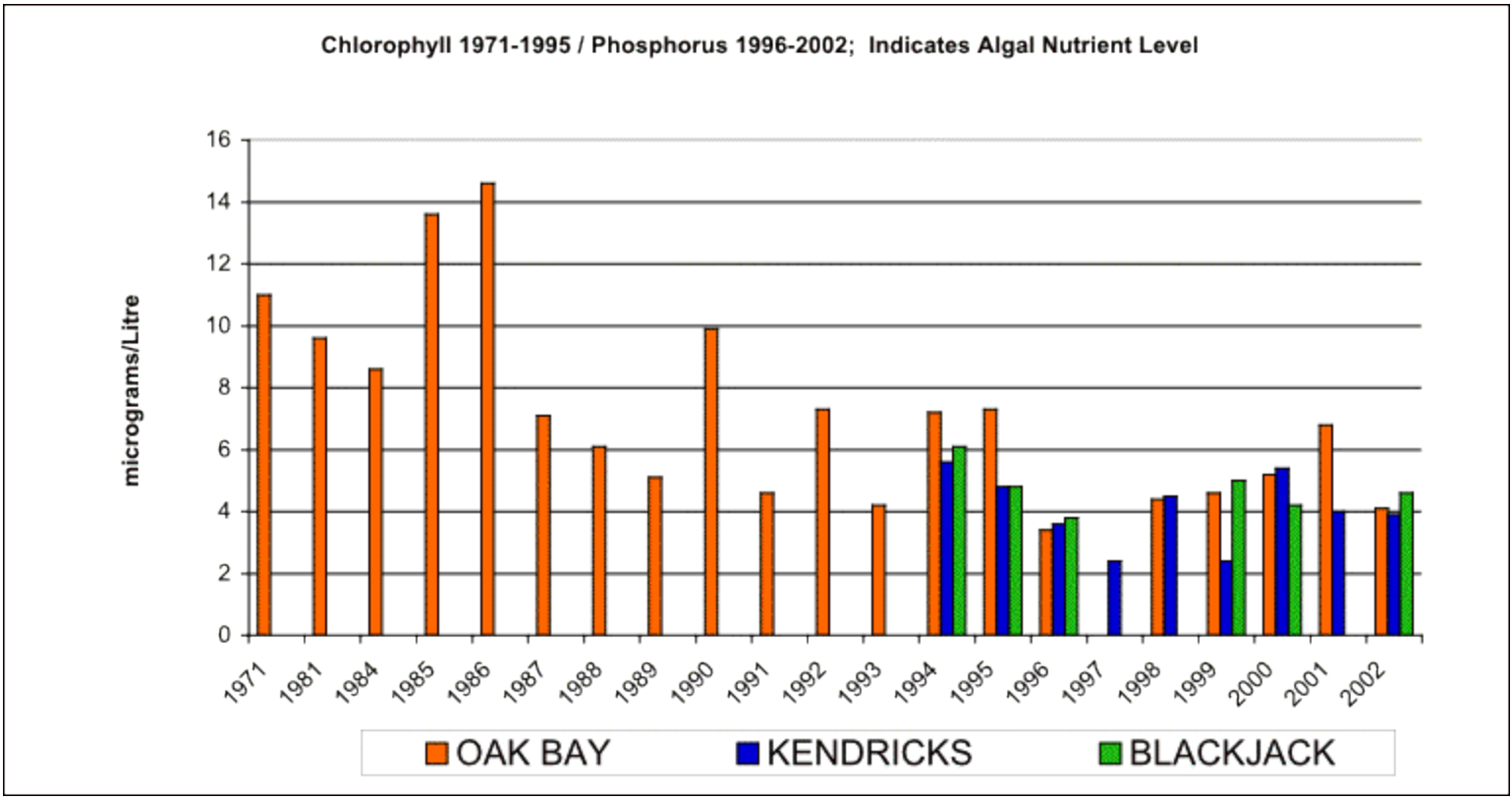
Measurements are made with a Secchi disc to determine the depth of effective light penetration into the lake. The greater this depth, the clearer the water. If the Secchi disc reading is less than 3 metres, the lake is considered "enriched" (too many nutrients). Data available back to 1971 indicate LBL measurements have been consistently in the enriched range at less than 3 metres, but generally improving since 1990. Clarity sampling was expanded in 1994 to include Kendricks Bay and the area north of Black Jack Island, in addition to Oak Bay (the area south of the Narrows near the mouth of Morton Creek). In 1998, measurements were initiated at the Upper Lake dam in Delta to monitor input into LBL, and indicate Upper Beverley Lake water quality is generally slightly better.

Clarity measurements benefit from low rainfall and low lake levels. Results deteriorated in 1998, due in part to unusually high water levels in early July that resulted in increased watershed runoff. Clarity improved in 1999 consistent with a regional trend attributed to low rainfall, and nutrients staying on land and in wetlands. Environment Canada reported that 2001 was the driest year since 1972 [fifth driest / third warmest on record] and Lower Beverley Lake levels were unusually low, contributing to the best clarity since 1998. Unusual conditions continued in 2002 with significant high water levels in June followed by extraordinary low levels in August, which along with evidence of Zebra Mussel infestation contributed to the best clarity measurements ever recorded in LBL.

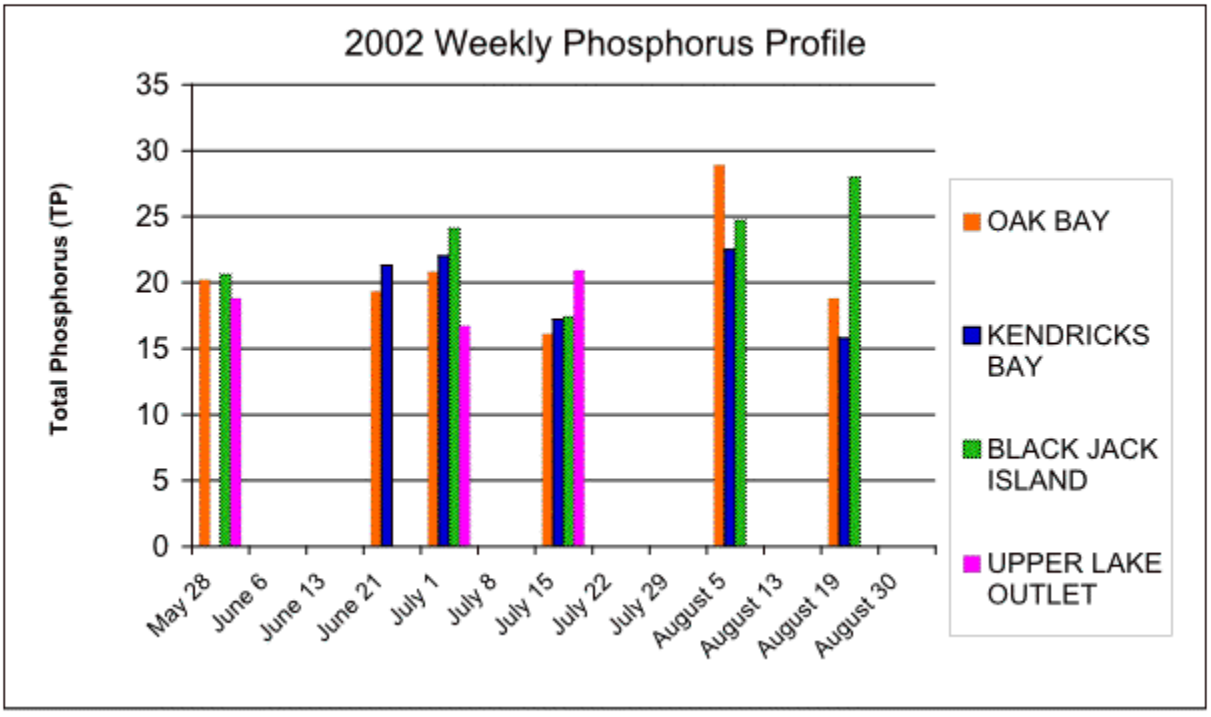


Algal Level

Water clarity is an indirect measure of the algal density in the lake, which is affected by the level of nutrients present. Water samples are chemically analyzed to determine the nutrient level (**the lower the level the better**). Chlorophyll concentration measurements (an indicator of the amount of microscopic algae in the water) were used through 1995: 4 or more micrograms/Litre indicates high algal density and is considered "enriched" (too many nutrients). LBL measurements were above this level through 1995. In 1995 the Ministry changed the analysis to phosphorus concentration (the single most important nutrient governing the level of algae in the water). On phosphorus measurements, we improved and fell into the "moderately enriched" (some nutrients) category (equivalent to 2 to 4 mg/L on the combined Chlorophyll / Phosphorus chart below), until our improving trend reversed in 1998. In 1999 nutrient levels fell in many Ontario lakes, and measurements in Kendricks Bay matched this trend regaining a moderately enriched condition, although Oak Bay and Black Jack Island remained enriched. Measurements in 2000/2001 were at or above the enriched threshold. We participated in an MOE study in 2002 expanding phosphorus measurements to provide full season coverage in all test locations, and nutrient levels were the lowest since 1999.



The expanded phosphorus testing in 2002 provided a weekly profile of the change in nutrient level as the lake progressed through its seasonal cycle. The earliest measurement after ice-out is considered most representative, and measurements hovered at the [20 microgram/Litre] ***"moderately enriched"***threshold through July. Phosphorus measurements increased in August reflecting seasonal algal blooms. It should be noted that the Black Jack Island / input from Cooligan Creek results in late August showed significantly higher nutrient levels than other sample locations.



ZEBRA MUSSELS

In 1998, we were able to expand our testing to include participation in the Federation of Ontario Cottagers Association (FOCA) Zebra Mussel Monitoring Program. The analyses indicated the presents of the first stage of Zebra Mussel activity in 4 of 5 areas sampled in Lower Beverley Lake (Kendricks Bay, mouth of Delta/Mill Creek, Marble Island/Dawson Bay, and Oak Bay). There had been no indications of adult Zebra Mussels through 2001, but many cottagers reported significant infestation in 2002.

WATER TESTING OVERVIEW

Both Lower and Upper Beverley Lakes are among more than 20% of approximately 500 lake locations sampled across Ontario in 2002 classified as "***enriched***" (high in nutrients) with comparatively poor clarity (less than 3 metres). Invading species also can affect clarity, and LBL was highlighted among lakes that exhibit improving water clarity with recent Zebra Mussel infestation. Maintaining and evaluating long-term data is the heart of the Lake Partner Program philosophy and crucial to understanding lake quality trends. Our current testing program includes clarity and phosphorus measurements at Oak Bay (unsettled area/infrequent input through Morton Creek from the Rideau chain), Kendricks Bay (LBL deep basin), Black Jack Island (input from Cooligan Creek), and Upper Lake dam (inlet).