**Langlois**

## Lake Overview

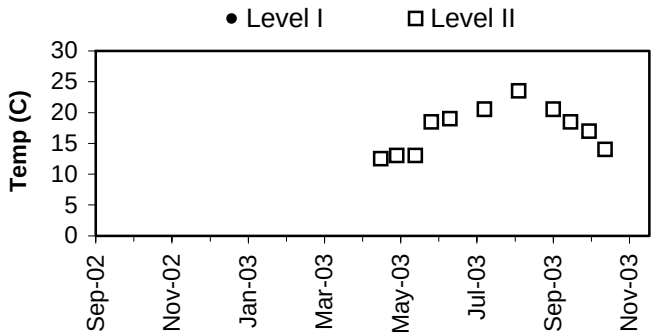
Volunteer monitoring began at Lake Langlois in water year 2001 and continued through 2003. The data indicate that this lake is relatively low in primary productivity (oligotrophic) with excellent water quality. Since the lake surface makes up 17% of the drainage area, direct precipitation is important, in addition to watershed inputs. Land use analysis of 2002 aerial photographs showed less than 1% of the surrounding watershed has been developed for uses other than agriculture or forestry, with a Girl Scout camp occupying a large portion of the watershed and shoreline.

Lake Langlois has a public access boat launch. Lake users and residents should monitor the shallow areas for Eurasian milfoil, Brazilian elodea and other noxious aquatic weed invaders.

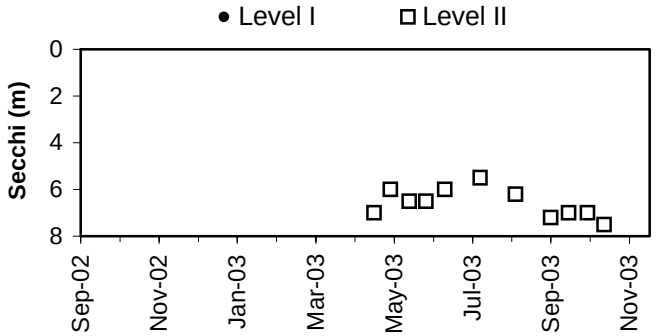
## Physical Parameters

Secchi transparency ranged between 5.5 and 8.2m through the sample season. Surface water temperatures reached 23.5 degrees Celsius during the same period. Water level and precipitation data were not collected for the year.

*Lake Temperature*




*Secchi Depth*

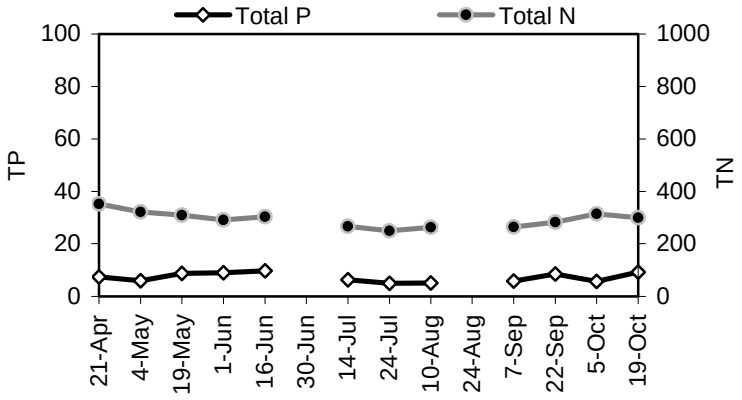



*Lake Level and Precipitation*

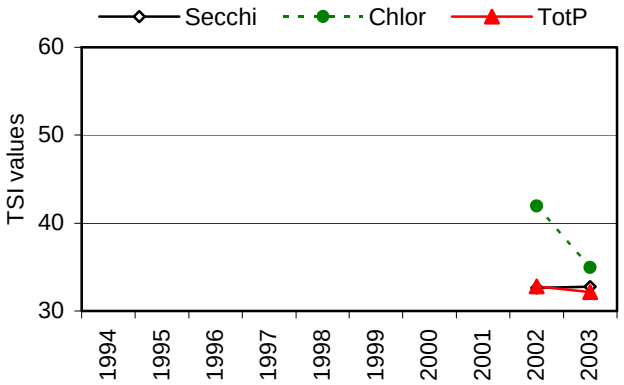
No Data Available

**Langlois**

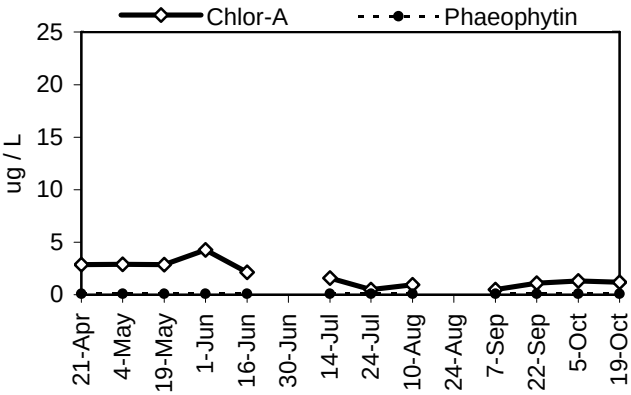
*Nutrient Analysis*




*TSI Ratings*




*Chlorophyll a Concentrations (ug/L)*




| Common algae | Group |
|---|---|
| *Cyclotella* sp. | diatom-chrysophyte |
| *Dinobryon* spp. | chrysophyte |
| unidentified species | chrysophyte |

## Nutrient Analysis and TSI Ratings

Total phosphorus and total nitrogen remained stable and in relatively constant proportion to each other through the sampling period. The N:P ratio ranged from 31 to 54. The 2003 TSI values were close together, well below the threshold for oligotrophy.

Midsummer samples collected by King County Lake Stewardship Program staff in 2003 confirmed that the water in Langlois does not completely mix on an annual basis. Deep water in the lake is anoxic and contains high amounts of nutrients and sulfur compounds that remain in the deep water and do not mix up into water that contains planktonic algae.

## Chlorophyll and Algae

Chlorophyll content was higher in April through early June, but generally remained at low values throughout the sample season. The algae were dominated by the diatom-chrysophyte *Cyclotella* and by *Dinobryon* species, with a variety of other diatoms, dinoflagellates, chlorophytes and unidentified algae also represented. Bluegreen algae were present only in trace amounts.

No Level I Data
Available For This Lake

**Langlois** **2003 Level II Data**

| Date (2003) | Temp (°C) | Secchi (m) | Chl-*a* (µg/l) | TP (µg/l) | TN (µg/l) | Algae Obsv. | N:P | Calculated TSI | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Secc | chl-a | TP | |
| 21-Apr | 12.5 | 7.0 | 2.9 | 7.4 | 352 | | 48 | 31.9 | 40.9 | 33.0 | Lots of plankton on surface. |
| 4-May | 13.0 | 6.0 | 2.9 | 6.0 | 321 | 2 | 54 | 34.1 | 41.0 | 30.0 | |
| 19-May | 13.0 | 6.5 | 2.9 | 8.8 | 309 | | 35 | 33.0 | 40.9 | 35.5 | |
| 1-Jun | 18.5 | 6.5 | 4.3 | 9.0 | 291 | 2 | 32 | 33.0 | 44.8 | 35.8 | |
| 16-Jun | 19.0 | 6.0 | 2.1 | 9.8 | 303 | 1 | 31 | 34.1 | 38.0 | 37.1 | |
| 30-Jun | | | | | | | | | | | No sample. |
| 14-Jul | 20.5 | 5.5 | 1.6 | 6.3 | 267 | 1 | 42 | 35.4 | 35.2 | 30.7 | Logs in lake growing thick algae. |
| 28-Jul | | | | | | | | | | | No sample. |
| 11-Aug | 23.5 | 6.2 | 1.0 | 5.1 | 263 | 1 | 52 | 33.7 | 30.2 | 27.6 | |
| 24-Aug | 21.5 | 8.0 | | | | 1 | | | | | Samples were lost; missing data. |
| 8-Sep | 20.5 | 7.2 | 0.6 | 5.9 | 264 | 1 | 45 | 31.5 | | 29.8 | Chlor-a value was <MDL. Reported as .6µgl. |
| 22-Sep | 18.5 | 7.0 | 1.1 | 8.5 | 283 | 1 | 33 | 31.9 | 31.5 | 35.0 | |
| 6-Oct | 17.0 | 7.0 | 1.3 | 5.8 | 314 | 0 | 54 | 31.9 | 33.1 | 29.5 | |
| 20-Oct | 14.0 | 7.5 | 1.2 | 9.3 | 300 | 1 | 32 | 30.9 | 32.4 | 36.3 | |
| | Temp (°C) | Secchi (m) | Chl-*a* (µg/l) | TP (µg/l) | TN (µg/l) | Algae Obsv. | N:P | Calculated TSI | | | |
| | | | | | | | | Secc | chl-a | TP | |
| **Mean** | 17.6 | 6.7 | 2.0 | 7.4 | 297.0 | 1.1 | 42 | 32.9 | 36.8 | 32.8 | **TSI Average = 33.8** |
| **Median** | 18.5 | 6.8 | 1.6 | 7.4 | 300.0 | 1 | 42 | 33.0 | 36.6 | 33.0 | |
| **Min** | 12.5 | 5.5 | 0.6 | 5.1 | 263.0 | 0 | 31 | 30.9 | 30.2 | 27.6 | |
| **Max** | 23.5 | 8.0 | 4.3 | 9.8 | 352.0 | 2 | 54 | 35.4 | 44.8 | 37.1 | |
| **Count** | 12 | 12 | 11 | 11 | 11 | 10 | 11 | 11 | 10 | 11 | |