

Morton

Lake Overview

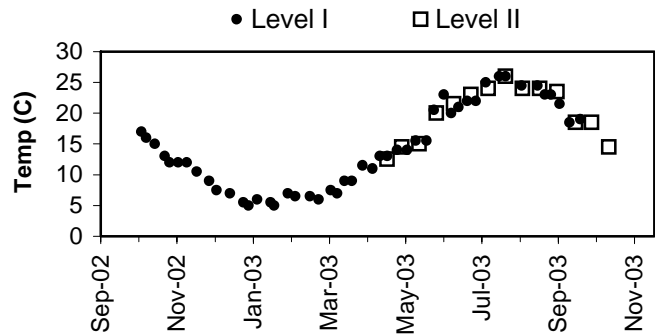
Volunteer monitoring began at Lake Morton in the early 1980s and has continued through 2003. The data indicate this lake is fairly low in primary productivity (oligotrophic - mesotrophic) with very good water quality. Since the lake surface makes up 26% of the drainage area, direct precipitation is very important, in addition to watershed inputs. There are no Class 1 or 2 wetlands in the basin (King County, 1990). Land use analysis of 2002 aerial photographs showed over 74% of the surrounding watershed has been developed for uses other than agriculture.

Lake Morton has a public access boat launch, and residents should keep a watch for early infestations of Eurasian milfoil, Brazilian elodea, and other noxious weeds.

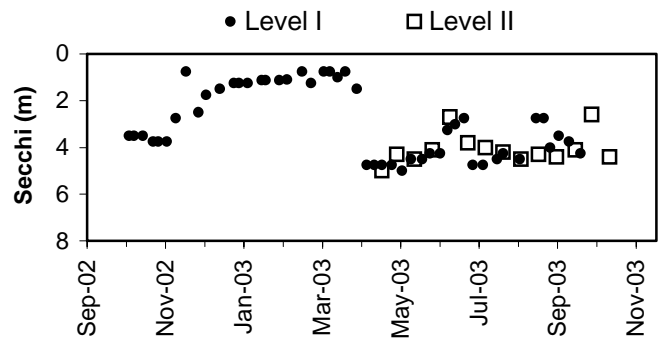
Physical Parameters

Secchi transparency through the year ranged from 0.8 to 5.0m. Water temperatures ranged from 5.0 to 26.0 degrees Celsius. Excellent records of precipitation and water level were kept over the year. The lake level followed the winter high - summer low pattern, consistent with other small lakes in the region.

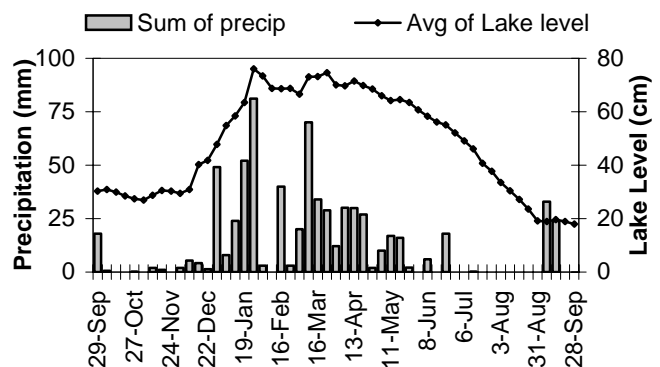
Lake Temperature



Secchi Depth

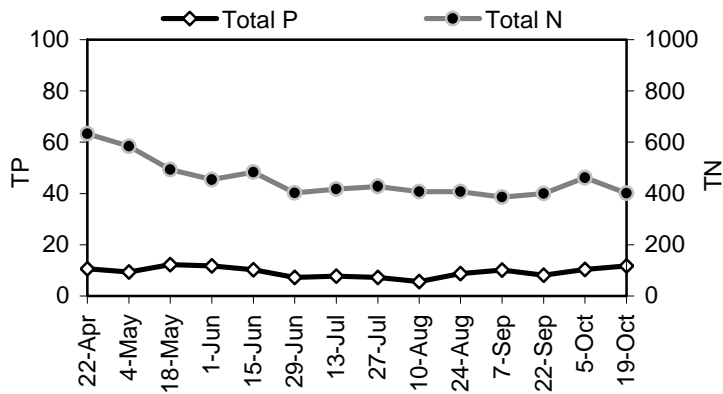


Lake Level and Precipitation

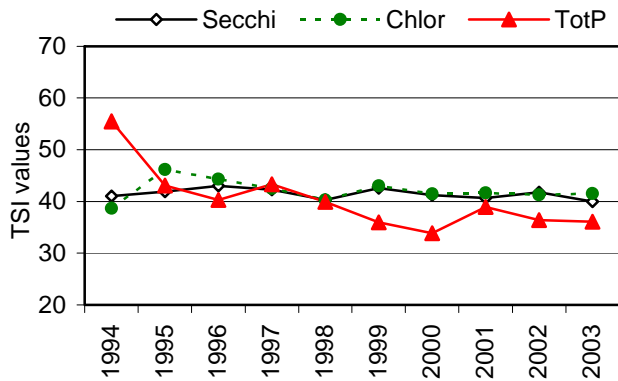


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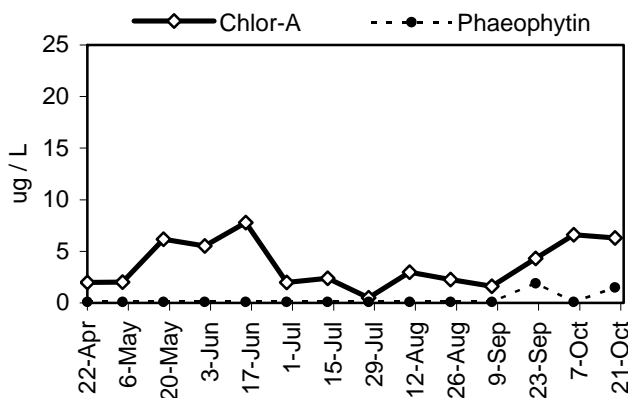
Nutrient Analysis



TSI Ratings



Chlorophyll a Concentrations (ug/L)



Nutrient Analysis and TSI Ratings

Total nitrogen decreased slightly through spring and remained steady throughout the rest of the sample season, while total phosphorus remained fairly constant. The N:P ratio ranged from 34 to 73. The 2003 average TSI values were similar to recent years, on the threshold between oligotrophy and mesotrophy.

Chlorophyll and Algae

Chlorophyll concentrations varied through the season, remaining generally low, but with higher values in late spring and again in fall. Algae commonly occurring in the plankton included the diatom *Asterionella* and the chrysophyte *Dinobryon*, as well as an unidentified chrysophyte species. Bluegreen algae were very rarely encountered.

Common algae

Group

unidentified species	chrysophyte
<i>Dinobryon</i> sp.	chrysophyte
<i>Asterionella formosa</i>	diatom-chrysophyte

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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	
22-Apr	12.5	5.0	2.0	10.6	633	3	60	36.8	37.4	38.2	
4-May	14.5	4.3	2.0	9.4	584	2	62	39.0	37.5	36.5	
18-May	15.0	4.5	6.2	12.2	493	3	40	38.3	48.4	40.2	
1-Jun	20.0	4.1	5.5	11.7	454		39	39.6	47.3	39.6	
15-Jun	21.5	2.7	7.8	10.3	483	3	47	45.7	50.7	37.8	Cloudy patches of algae on lake.
29-Jun	23.0	3.8	2.0	7.3	402	3	55	40.7	37.4	32.8	More than 100 particles present.
13-Jul	24.0	4.0	2.4	7.7	417	1	54	40.0	39.2	33.6	
27-Jul	26.0	4.2	0.6	7.2	428	1	59	39.3	26.0	32.6	
10-Aug	24.0	4.5	3.0	5.6	408	1	73	38.3	41.3	29.0	
24-Aug	24.0	4.3	2.3	8.7	408	1	47	39.0	38.6	35.4	
7-Sep	23.5	4.4	1.6	10.1	386		38	38.6	35.2	37.5	Staff neglected to assess algae.
22-Sep	18.5	4.1	4.3	8.1	400	1	49	39.6	44.9	34.3	
5-Oct	18.5	2.6	6.6	10.4	461	1	44	46.2	49.1	37.9	
19-Oct	14.5	4.4	6.3	11.8	401	1	34	38.6	48.6	39.8	
	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	20.0	4.1	3.8	9.4	454.1	1.8	50	40.0	41.5	36.1	TSI Average = 39.2
Median	20.8	4.3	2.7	9.8	422.5	1	48	39.1	40.2	37.0	
Min	12.5	2.6	0.6	5.6	386.0	1	34	36.8	26.0	29.0	
Max	26.0	5.0	7.8	12.2	633.0	3	73	46.2	50.7	40.2	
Count	14	14	14	14	14	12	14	14	14	14	