

Desire

Lake Overview

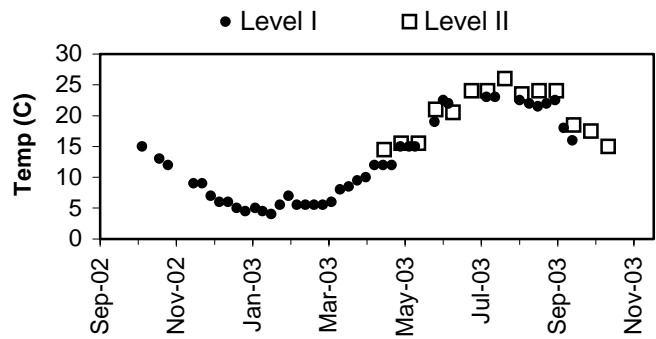
Volunteer monitoring began at Lake Desire before 1985 and continued through 2003. The data identify this lake as moderately high in primary productivity (mesotrophic - eutrophic) with fair to good water quality. Since the lake surface is approximately 8% of the drainage area, direct precipitation is not as important as inlet streams, stormwater runoff and groundwater inputs. Land use analysis of 2002 aerial photographs showed almost 38% of the surrounding watershed has been developed for uses other than agriculture. There are multiple Class 1 and 2 wetlands in the basin, and the area is currently urbanizing. Enhancement of productivity through human impacts was verified in the Lake Management Plan (King County, 1995).

Lake Desire has a public access boat ramp, and Eurasian milfoil has been reported in the lake since 1995, although it has not yet spread aggressively. Residents should watch for an increase in this species, as well as occurrences of elodea or other noxious aquatic weeds.

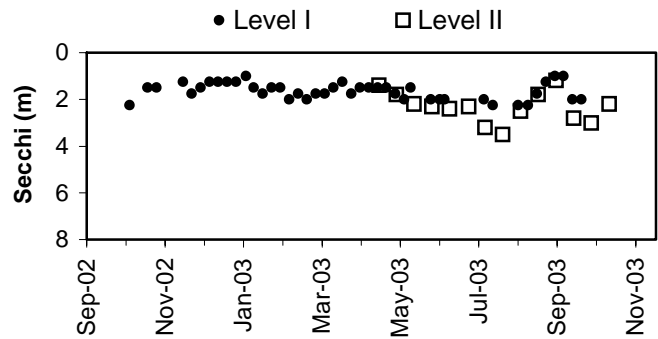
Physical Parameters

Secchi transparency ranged between 1.0 and 3.5m during the year. Surface water temperatures were similar to other small lakes in 2002, ranging from 4.0 to 26.0 degrees Celsius. Good precipitation and water level records were available for 2002, showing

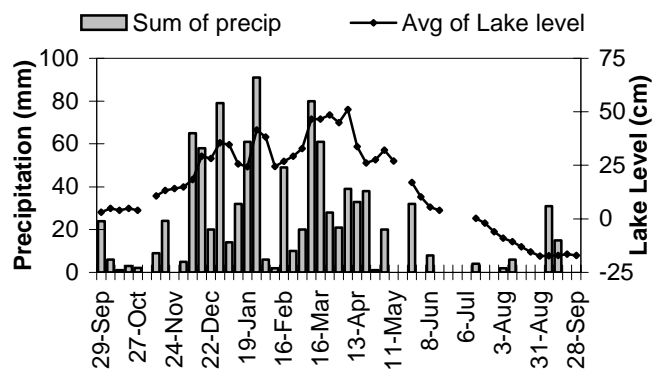
Lake Temperature



Secchi Depth

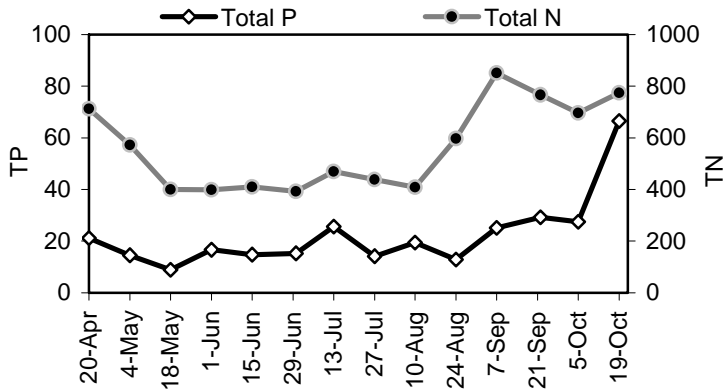


Lake Level and Precipitation

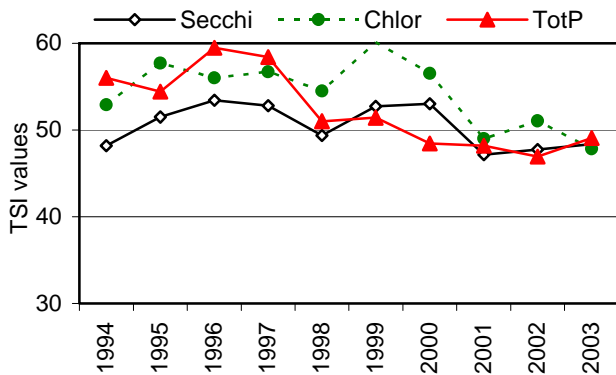


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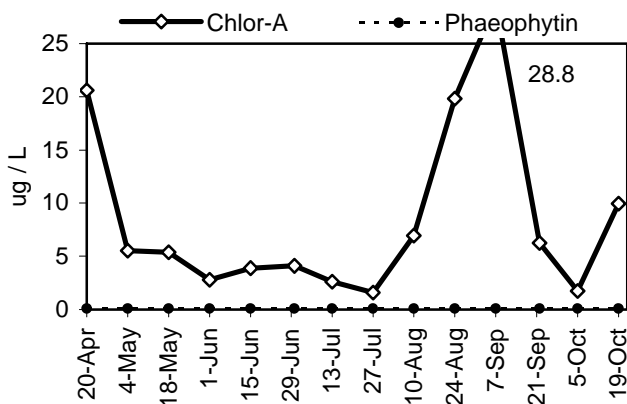
Nutrient Analysis



TSI Ratings



Chlorophyll a Concentrations (ug/L)



Common algae

Group

<i>Aphanizomenon flos-aquae</i>	bluegreen
<i>Dinobryon cylindricum</i>	chrysophyte
<i>Anabaena</i> sp.	bluegreen

that the lake level followed the typical northwest pattern of winter high – summer low, with short term increases in level correlated with rainfall events in winter.

Nutrient Analysis and TSI Ratings

Total nitrogen declined early in the sampling season and then remained in fairly constant proportion to total phosphorus until late summer when both rose in value. The N:P ratio ranged from 10 to 46. The 2003 TSI values for the three indicators were very close together in the upper range of mesotrophy, most similar to 2001.

Chlorophyll and Algae

Chlorophyll content decreased rapidly from the initial sample date, remained stable through July, and rose again to a major peak in early September. The spring maximum was dominated by the chrysophyte *Dinobryon*, while the phytoplankton in autumn was characterized by the bluegreens *Aphanizomenon* and *Anabaena*.

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	
20-Apr	14.5	1.4	20.6	21.1	713	3	34	55.1	60.2	48.1	
4-May	15.5	1.8	5.5	14.5	573		40	51.5	47.3	42.7	
18-May	15.5	2.2	5.4	62.4	648	3	10	48.6	47.1	63.8	
1-Jun	21.0	2.3	2.8	16.6	399	2	24	48.0	40.7	44.7	
15-Jun	20.5	2.4	3.9	14.8	410	2	28	47.4	43.9	43.0	
30-Jun	24.0	2.3	4.1	15.3	393	2	26	48.0	44.4	43.5	
13-Jul	24.0	3.2	2.6	25.6	470	2	18	43.2	40.1	50.9	
27-Jul	26.0	3.5	1.6	14.2	439	2	31	41.9	35.2	42.4	
10-Aug	23.5	2.5	6.9	19.4	409		21	46.8	49.6	46.9	
24-Aug	24.0	1.8	19.8	12.9	598	2	46	51.5	59.9	41.0	
7-Sep	24.0	1.2	28.8	25.1	851		34	57.4	63.5	50.6	
21-Sep	18.5	2.8	6.3	29.2	766		26	45.1	48.5	52.8	
5-Oct	17.5	3.0	1.8	27.5	697	2	25	44.1	36.1	52.0	
19-Oct	15.0	2.2	10.0	66.6	774	3	12	48.6	53.1	64.7	
	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	20.3	2.3	8.6	26.1	581.4	2.3	27	48.4	47.8	49.1	TSI Average = 48.4
Median	20.8	2.3	5.5	20.3	585.5	2	26	48.0	47.2	47.5	
Min	14.5	1.2	1.6	12.9	393.0	2	10	41.9	35.2	41.0	
Max	26.0	3.5	28.8	66.6	851.0	3	46	57.4	63.5	64.7	
Count	14	14	14	14	14	10	14	14	14	14	