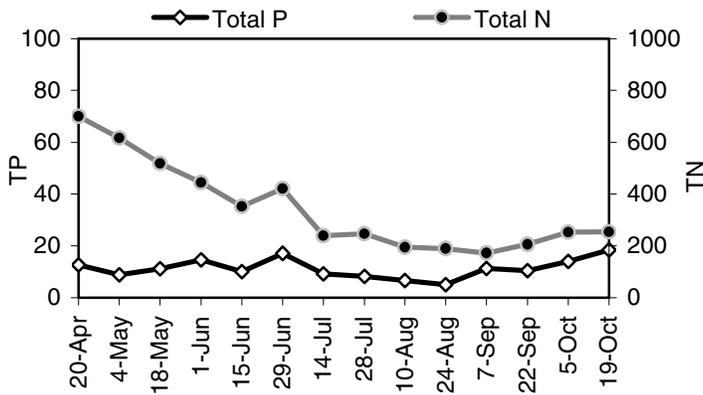


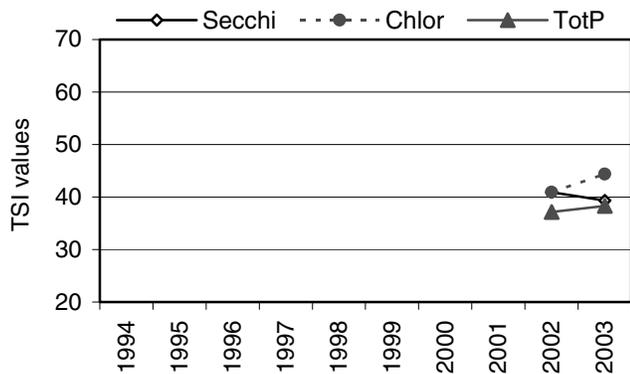


## Walsh

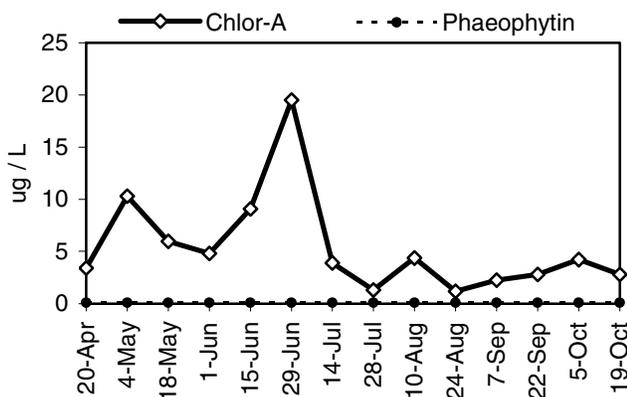
### Nutrient Analysis



### TSI Ratings



### Chlorophyll a Concentrations (ug/L)



## Nutrient Analysis and TSI Ratings

Total nitrogen decreased slowly through spring until mid-July, after which it remained fairly stable. Total phosphorus varied only slightly through the sampling period. The N:P ratio ranged from 14 to 69, with the lower values in the second half of the season. In 2003, the average TSI values ranged across the threshold between oligotrophy and mesotrophy, similar to 2002.

## Chlorophyll and Algae

Chlorophyll content reached a minor peak in early May and a major peak in late June, then maintained relatively low levels through the rest of the sample period. Both spring peaks were dominated by an unidentified chrysophyte species. Other commonly occurring species included the dinoflagellate *Peridinium*, the diatom-chrysophytes *Cyclotella* and *Asterionella*, and the chlorophyte *Botryococcus*. Bluegreens were extremely rare until fall, when both *Aphanizomenon* and *Anabaena* become common.

### Common algae

### Group

unidentified species	chrysophyte
<i>Peridinium</i> sp.	dinoflagellate
<i>Cyclotella</i> sp.	diatom-chrysophyte

No Level I Data  
Available For This Lake

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	11.0	4.0	3.4	12.7	701	1	55	40.0	42.7	40.8	
4-May	14.0	3.4	10.3	8.9	617	1	69	42.3	53.4	35.7	
18-May	13.0	3.8	6.0	11.2	518	1	46	40.7	48.1	39.0	Lots of pollen observed. Can't see algae well.
1-Jun	19.0	3.7	4.8	14.7	445	3	30	41.1	46.0	42.9	Cannot tell if particles are algae or pollen.
15-Jun	19.0	4.0	9.1	10.1	352	3	35	40.0	52.2	37.5	Numerous diatoms.
29-Jun	23.0	3.7	19.5	17.1	421	3	25	41.1	59.7	45.1	Same algae bloom continues all this month.
14-Jul	23.0	3.2	3.9	9.2	239	3	26	43.2	43.9	36.2	
28-Jul	25.0	5.0	1.3	8.3	246	1	30	36.8	33.1	34.7	Algae bloom is over.
10-Aug	23.5	4.5	4.4	6.7	194	1	29	38.3	45.1	31.6	Clearer lake conditions this week.
24-Aug		4.8	1.2	5.0	190		38	37.4	32.4	27.4	
7-Sep	23.0	5.7	2.3	11.3	173	2	15	34.9	38.6	39.1	Approximately 30 particles are visible.
23-Sep	18.0	4.9	2.8	10.5	206	3	20	37.1	40.7	38.1	
5-Oct	17.0	4.5	4.2	14.0	252	2	18	38.3	44.7	42.2	
19-Oct	15.0	4.0	2.8	18.5	254	2	14	40.0	40.7	46.2	
	Temp (°C)	Secchi (m)	Chl-a (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI			
								Secc	chl-a	TP	
<b>Mean</b>	18.7	4.2	5.4	11.3	343.4	2.0	32	39.4	44.4	38.3	<b>TSI Average = 40.7</b>
<b>Median</b>	19.0	4.0	4.1	10.9	253.0	2	29	40.0	44.3	38.5	
<b>Min</b>	11.0	3.2	1.2	5.0	173.0	1	14	34.9	32.4	27.4	
<b>Max</b>	25.0	5.7	19.5	18.5	701.0	3	69	43.2	59.7	46.2	
<b>Count</b>	13	14	14	14	14	13	14	14	14	14	