

## Meridian

### Lake Overview

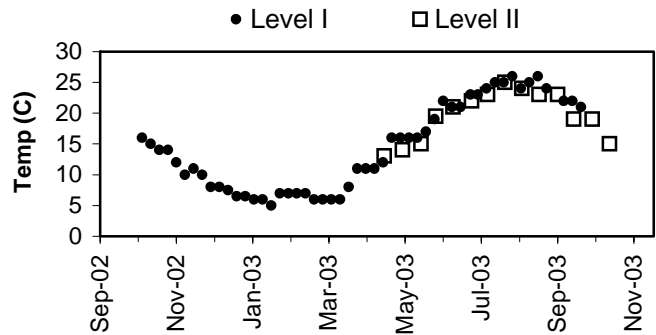
Volunteer monitoring began at Lake Meridian in the early 1980s and continued through 2003, missing only 1996. The data indicate that this city lake (Kent) is low in primary productivity (oligotrophic) with excellent water quality. Since the lake surface makes up 20% of the drainage area, direct precipitation is important, in addition to watershed inputs. The shoreline is surrounded by Class 2 shoreline wetlands according to the King County Wetland Inventory (King County, 1990). Land use analysis of 2002 aerial photographs showed almost 80% of the surrounding watershed has been developed for uses other than agriculture.

Lake Meridian has a public access boat launch. Eurasian milfoil is established in the lake, and plans have been made to control it. However, residents should watch for other noxious weeds growing in the nearshore environment of the lake.

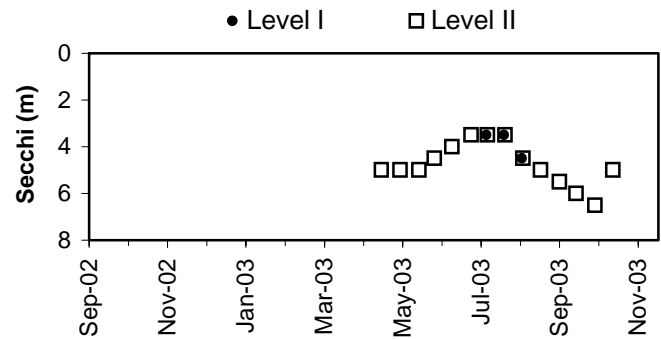
### Physical Parameters

Secchi transparency ranged from 3.5 to 6.5m from April - October. Annual water temperatures ranged from 5.0 to 25.0 degrees Celsius. Precipitation and water levels were nearly complete, with the data corresponding to the regional pattern of winter high-summer low stands.

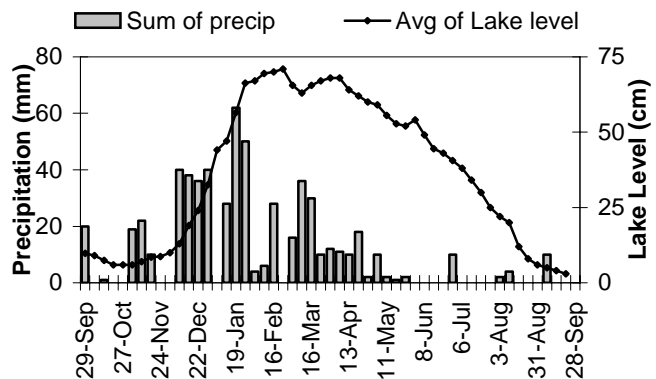
Lake Temperature



Secchi Depth

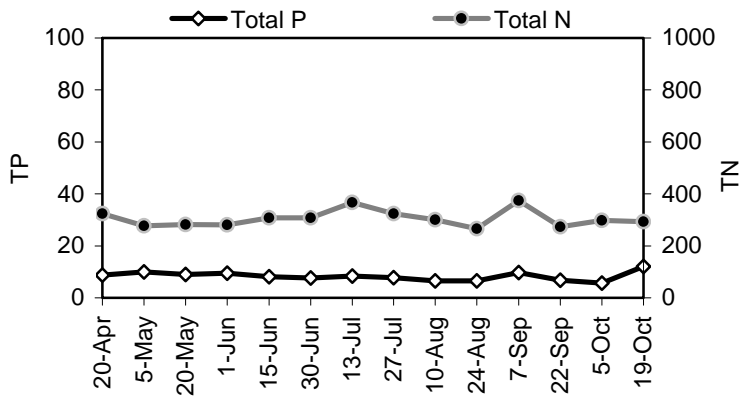


Lake Level and Precipitation

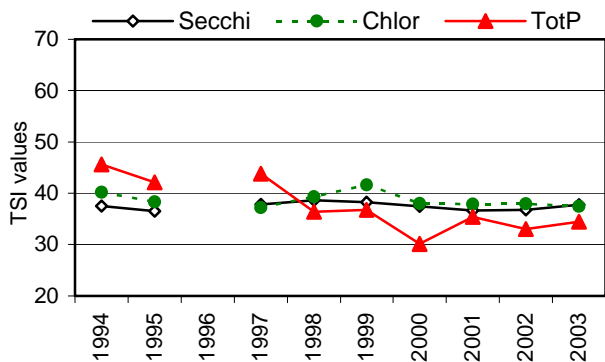


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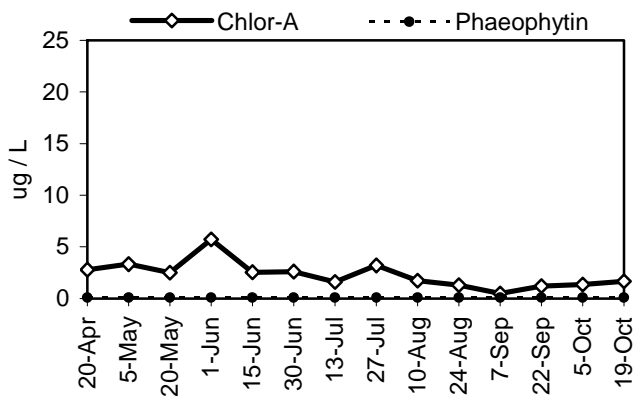
### Nutrient Analysis



### TSI Ratings



### Chlorophyll a Concentrations (ug/L)



## Nutrient Analysis and TSI Ratings

Total phosphorus and total nitrogen remained in fairly constant proportion to each other through the sampling period, while the N:P ratio ranged from 24 to 52. The 2003 TSI values were in close agreement with each other in the upper range of oligotrophy.

## Chlorophyll and Algae

Chlorophyll concentrations remained low through the sample season, with a small peak produced in early June. The peak was characterized by a combination of the diatom *Cyclotella* and the large colonial chlorophyte *Botryococcus braunii*. The phytoplankton contained a wide variety of algal species, including several bluegreens that were present in small amounts through the season.

Common algae	Group
<i>Cyclotella</i> spp.	diatom-chrysophyte
<i>Botryococcus braunii</i>	chlorophyte
unidentified species	chrysophyte

## Meridian

## 2003 Level I Data

## Daily Data Summary

Week of	Sum of precip. (mm)	# of days	Avg of lake level (cm)	# of days
29-Sep-02	20.0	1	9.8	1
6-Oct-02	0.0	1	9.0	1
13-Oct-02	1.0	1	7.5	1
20-Oct-02	0.0	1	6.0	1
27-Oct-02	0.0	1	6.0	1
3-Nov-02	19.0	1	6.0	1
10-Nov-02	22.0	1	7.0	1
17-Nov-02	10.0	1	8.5	1
24-Nov-02	0.0	1	8.8	1
1-Dec-02	0.0	1	10.0	1
8-Dec-02	40.0	1	13.0	1
15-Dec-02	38.0	1	19.0	1
22-Dec-02	36.0	1	24.0	1
29-Dec-02	40.0	1	32.5	1
5-Jan-03	0.0	1	44.0	1
12-Jan-03	28.0	1	47.0	1
19-Jan-03	62.0	1	56.5	1
26-Jan-03	50.0	1	66.3	1
2-Feb-03	4.0	1	67.0	1
9-Feb-03	6.0	1	69.5	1
16-Feb-03	28.0	1	70.0	1
23-Feb-03	0.0	1	71.0	1
2-Mar-03	16.0	1	65.5	1
9-Mar-03	36.0	1	63.0	1
16-Mar-03	30.0	1	65.5	1
23-Mar-03	10.0	1	67.0	1
30-Mar-03	12.0	1	68.0	1
6-Apr-03	11.0	1	68.0	1
13-Apr-03	10.0	1	64.0	1
20-Apr-03	18.0	1	62.0	1
27-Apr-03	2.0	1	60.0	1
4-May-03	10.0	1	59.0	1
11-May-03	2.0	1	55.5	1
18-May-03	1.0	1	52.8	1
25-May-03	2.0	1	52.0	1
1-Jun-03	0.0	1	54.0	1
8-Jun-03	0.0	1	49.0	1
15-Jun-03	0.0	1	44.5	1
22-Jun-03	0.0	1	43.0	1
29-Jun-03	10.0	1	40.5	1
6-Jul-03	0.0	1	38.0	1
13-Jul-03	0.0	1	34.0	1
20-Jul-03	0.0	1	30.0	1
27-Jul-03	0.0	1	25.0	1
3-Aug-03	2.0	1	22.0	1
10-Aug-03	4.0	1	20.0	1
17-Aug-03	0.0	1	12.0	1
24-Aug-03	0.0	1	8.0	1
31-Aug-03	0.0	1	6.0	1
7-Sep-03	10.0	1	5.0	1
14-Sep-03	0.0	1	4.0	1
21-Sep-03	0.0	1	3.0	1
28-Sep-03				
<b>Min</b>	0.0		3.0	
<b>Max</b>	62.0		71.0	
<b>Total</b>	590.0			

## Weekly Data Summary

Sample date	Sample time	Secchi (m)	Temp (°C)	Algae* (Shore)	Algae* (at site)	Goose Count*
						0
5-Oct-02	15:00		16.0	NA	C1	0
12-Oct-02	13:00		15.0	NA	NA	0
19-Oct-02	15:00		14.0	NA	NA	0
26-Oct-02	16:00		14.0	NA	NA	0
2-Nov-02	15:00		12.0	NA	NA	0
9-Nov-02	14:00		10.0	NA	NA	0
16-Nov-02	12:00		11.0	NA	NA	0
23-Nov-02	13:00		10.0	NA	NA	0
30-Nov-02	13:00		8.0	NA	NA	0
7-Dec-02	13:00		8.0	NA	NA	0
14-Dec-02	15:30		7.5	NA	NA	0
21-Dec-02	13:00		6.5	NA	NA	0
28-Dec-02	14:30		6.5	NA	NA	0
4-Jan-03	11:30		6.0	NA	NA	0
11-Jan-03	15:00		6.0	NA	NA	0
18-Jan-03	11:30		5.0	NA	NA	0
25-Jan-03	11:30		7.0	NA	NA	0
1-Feb-03	12:00		7.0	NA	NA	0
8-Feb-03	12:30		7.0	NA	NA	0
15-Feb-03	12:30		7.0	NA	NA	0
22-Feb-03	13:00		6.0	NA	NA	0
1-Mar-03	13:00		6.0	NA	NA	0
8-Mar-03	13:30		6.0	NA	NA	0
15-Mar-03	13:00		6.0	NA	NA	0
22-Mar-03	11:30		8.0	NA	NA	7
29-Mar-03	14:30		11.0	C1	C1	0
5-Apr-03	14:30		11.0	C1	C1	0
12-Apr-03	12:00		11.0			0
19-Apr-03	13:00		12.0	P1	P1	0
26-Apr-03	14:00		16.0	P1	P1	0
3-May-03	11:00		16.0	P1	P1	2
10-May-03	11:30		16.0	P1	P1	0
17-May-03	13:00		16.0	P1	P1	0
24-May-03	13:30		17.0	P1	P1	0
31-May-03	13:30		19.0	P1	P1	0
7-Jun-03	13:30		22.0	P1	P1	0
14-Jun-03	14:30		21.0	P1	P1	
21-Jun-03	13:30		21.0	P1	P1	0
29-Jun-03	12:00		23.0	P1	P1	0
5-Jul-03	12:00		23.0	P1	P1	0
12-Jul-03	12:30	3.5	24.0	P1	P1	7
19-Jul-03	12:30		25.0	P1	P1	9
26-Jul-03	14:30	3.5	25.0	P1	P1	0
2-Aug-03	14:30		26.0	P1	P1	0
9-Aug-03	18:00	4.5	24.0	P1	P1	0
16-Aug-03	18:00		25.0	P1	P1	0
23-Aug-03	18:00		26.0	P1	P1	0
30-Aug-03	18:00		24.0	P1	P1	0
6-Sep-03						0
13-Sep-03	16:30		22.0	P1	P1	0
20-Sep-03	14:30		22.0	P1	P1	0
27-Sep-03	14:30		21.0	P1	P1	0
<b>Min</b>		3.5	5.0			0
<b>Max</b>		4.5	26.0			9

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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	
20-Apr	13.0	5.0	2.8	8.8	324	1	37	36.8	40.7	35.5	
5-May	14.0	5.0	3.3	10.0	277	1	28	36.8	42.3	37.4	
20-May	15.0	5.0	2.5	9.0	281	1	31	36.8	39.6	35.8	
1-Jun	19.5	4.5	5.7	9.5	280	1	29	38.3	47.7	36.6	Still heavy algae near launch site.
15-Jun	21.0	4.0	2.6	8.2	308	1	38	40.0	39.8	34.5	
30-Jun	22.0	3.5	2.6	7.6	308	1	41	41.9	39.9	33.4	Algae colonies around launch area disappearing.
13-Jul	23.0	3.5	1.6	8.4	367	1	44	41.9	35.2	34.8	
27-Jul	25.0	3.5	3.2	7.8	323	1	41	41.9	42.0	33.8	
10-Aug	24.0	4.5	1.7	6.6	300	1	45	38.3	36.0	31.4	
24-Aug	23.0	5.0	1.3	6.5	266	1	41	36.8	33.1	31.1	
8-Sep	23.0	5.5	0.6	9.7	374	1	39	35.4		36.9	Chlor-a value was <MDL. Reported as .6µgl.
21-Sep	19.0	6.0	1.2	6.8	273	1	40	34.1	32.4	31.8	
6-Oct	19.0	6.5	1.4	5.7	297		52	33.0	33.6	29.3	
20-Oct	15.0	5.0	1.7	12.1	293	1	24	36.8	35.7	40.1	
	<b>Temp (°C)</b>	<b>Secchi (m)</b>	<b>Chl-a (µg/l)</b>	<b>TP (µg/l)</b>	<b>TN (µg/l)</b>		<b>N:P</b>	<b>Calculated TSI</b>			
								<b>Secc</b>	<b>chl-a</b>	<b>TP</b>	
<b>Mean</b>	19.7	4.8	2.3	8.3	305.1	1.0	38	37.8	38.3	34.5	<b>TSI Average = 36.5</b>
<b>Median</b>	20.3	5.0	2.1	8.3	298.5	1	39	36.8	39.6	34.7	
<b>Min</b>	13.0	3.5	0.6	5.7	266.0	1	24	33.0	32.4	29.3	
<b>Max</b>	25.0	6.5	5.7	12.1	374.0	1	52	41.9	47.7	40.1	
<b>Count</b>	14	14	14	14	14	13	14	14	13	14	