

Haller

Lake Overview

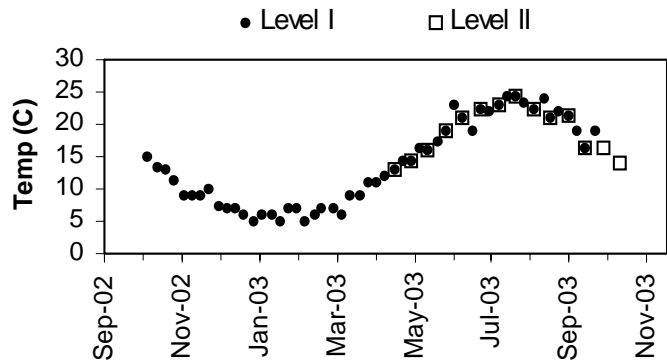
Volunteer monitoring began at Haller Lake in 1997 and continued through 2003. The data collected suggest that this city lake (Seattle) is moderate in primary productivity (mesotrophic), with good water quality. Since the lake surface makes up approximately 5% of the drainage area, direct precipitation is less important than watershed inputs. There are no significant wetlands in the basin. Land use analysis of 2002 aerial photographs showed over 92% of the surrounding watershed has been developed for uses other than agriculture.

Haller Lake has two public access street ends, where boats may be hand launched. Residents should keep a watch on aquatic plants growing nearshore to catch early infestations of Eurasian milfoil, Brazilian elodea, or other noxious weeds.

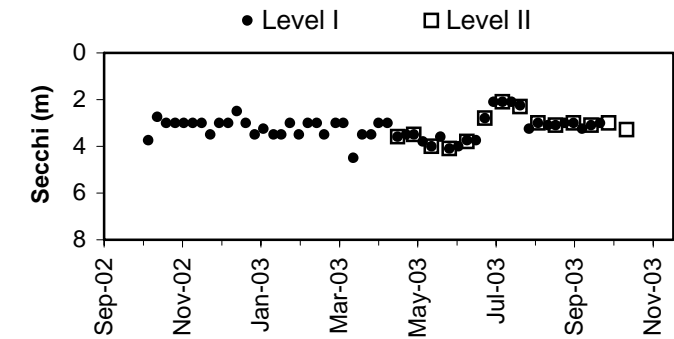
Physical Parameters

Secchi transparency ranged between 2.1 and 4.5m through the year. Annual surface water temperatures ranged between 5.0 and 24.5 degrees Celsius. Excellent precipitation and water level records were compiled during the year. Water levels were consistent with the regional pattern of winter high - autumn low stands.

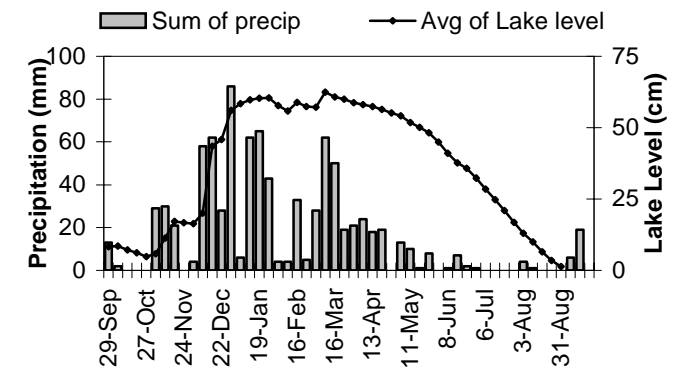
Lake Temperature



Secchi Depth

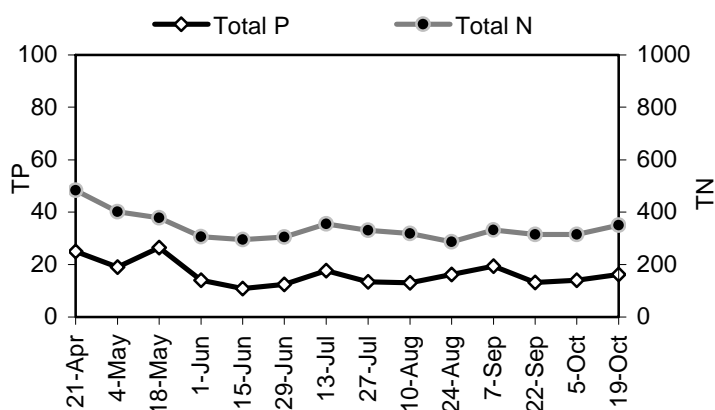


Lake Level and Precipitation

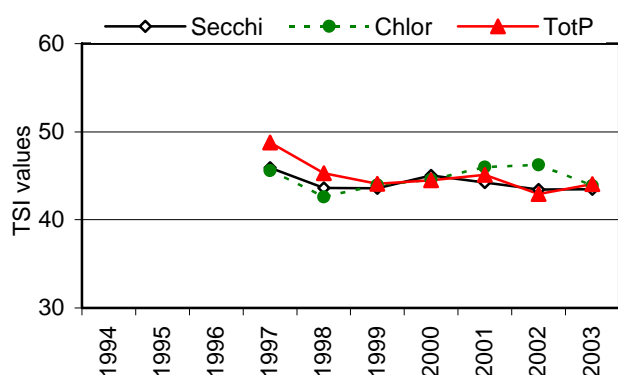


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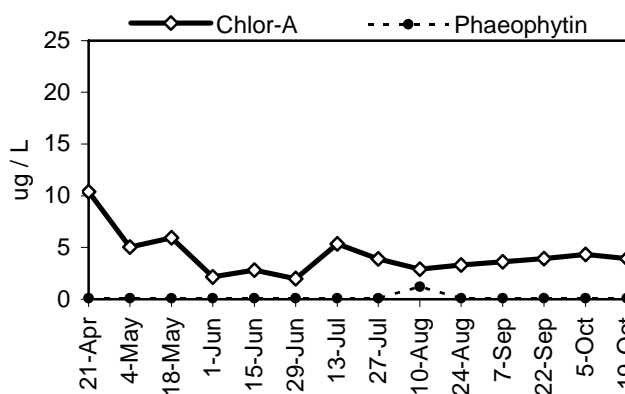
### Nutrient Analysis



### TSI Ratings



### Chlorophyll a Concentrations (ug/L)



## Nutrient Analysis and TSI Ratings

Total phosphorus and total nitrogen remained in relatively constant proportion to each other through most of the sampling period, with nitrogen slightly higher in the spring. The N:P ratio ranged from 14 to 27. The 2003 TSI indicators were very close to each other, located in the midrange for mesotrophy, similar to most of the years of monitoring.

## Chlorophyll and Algae

Chlorophyll was relatively constant through the sample season, with slightly higher values in late April. The lowest values were found in June. Common algae found included several species of cryptophytes, the dinoflagellate *Ceratium*, several species of the chrysophyte *Dinobryon*, and a variety of green algae species. The bluegreen *Aphanizomenon* was occasionally present in low concentrations.

Common algae	Group
<i>Cryptomonas</i> spp.	cryptophyte
<i>Ceratium hirundinella</i>	dinoflagellate
<i>Dinobryon</i> spp.	chrysophyte

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## 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	13.0	5	8.3	5
6-Oct-02	2.0	7	8.5	7
13-Oct-02	0.0	7	7.2	7
20-Oct-02	0.0	7	6.1	7
27-Oct-02	0.0	7	4.9	7
3-Nov-02	29.0	7	5.9	7
10-Nov-02	30.0	7	11.4	7
17-Nov-02	21.0	7	17.1	7
24-Nov-02	0.0	6	16.8	6
1-Dec-02	4.0	7	16.4	7
8-Dec-02	58.0	7	20.1	7
15-Dec-02	62.0	7	43.4	7
22-Dec-02	28.0	7	45.8	7
29-Dec-02	86.0	7	56.0	7
5-Jan-03	6.0	7	58.4	7
12-Jan-03	62.0	7	59.7	7
19-Jan-03	65.0	7	60.3	7
26-Jan-03	43.0	7	60.4	7
2-Feb-03	4.0	7	57.7	7
9-Feb-03	4.0	7	55.8	7
16-Feb-03	33.0	7	58.9	7
23-Feb-03	5.0	7	57.4	7
2-Mar-03	28.0	7	57.1	7
9-Mar-03	62.0	7	62.4	7
16-Mar-03	50.0	7	60.7	7
23-Mar-03	19.0	7	60.0	7
30-Mar-03	21.0	7	58.7	7
6-Apr-03	24.0	7	58.0	7
13-Apr-03	18.0	6	57.4	7
20-Apr-03	19.0	7	56.4	7
27-Apr-03	0.0	7	55.1	7
4-May-03	13.0	7	54.1	7
11-May-03	10.0	7	51.8	7
18-May-03	1.0	7	50.1	7
25-May-03	8.0	7	48.2	7
1-Jun-03	0.0	7	44.9	7
8-Jun-03	1.0	7	41.0	7
15-Jun-03	7.0	7	37.6	7
22-Jun-03	2.0	7	35.7	7
29-Jun-03	1.0	7	32.3	7
6-Jul-03	0.0	7	28.5	7
13-Jul-03	0.0	7	24.8	7
20-Jul-03	0.0	7	21.0	7
27-Jul-03	0.0	7	16.9	7
3-Aug-03	4.0	7	13.1	7
10-Aug-03	1.0	7	10.0	7
17-Aug-03	0.0	7	6.5	7
24-Aug-03	0.0	7	3.5	7
31-Aug-03	0.0	7	1.3	5
7-Sep-03	6.1	7		
14-Sep-03	19.0	7		
21-Sep-03	0.0	7		
28-Sep-03	0.0	1		
<b>Min</b>	0.0		1.3	
<b>Max</b>	86.0		62.4	
<b>Total</b>	869.1			

## Weekly Data Summary

Sample date	Sample time	Secchi (m)	Temp (°C)	Algae* (Shore)	Algae* (at site)	Goose Count*
6-Oct-02	11:40	3.8	15.0	C1	P2	0
13-Oct-02	11:00	2.8	13.5	C1		0
20-Oct-02	11:50	3.0	13.0	C1	P2	2
27-Oct-02	11:20	3.0	11.5	C1	P1	0
3-Nov-02	11:10	3.0	9.0	NA	P1	0
10-Nov-02	10:25	3.0	9.0	C1	P2	0
17-Nov-02	11:00	3.0	0.0	C1	P1	0
24-Nov-02	11:00	3.5	0.0	C1	P1	0
1-Dec-02	10:00	3.0	7.5	C1	P1	1
8-Dec-02	11:00	3.0	7.0	C1/P3	C1/P1	12
15-Dec-02	11:30	2.5	7.0	C1	P1	0
22-Dec-02	11:30	3.0	6.0	C1	P2	2
29-Dec-02	11:20	3.5	5.0	C1	P1	0
5-Jan-03	10:45	3.3	6.0	P1	C1	0
13-Jan-03	12:00	3.5	6.0	P1	C1	0
19-Jan-03	12:00	3.5	5.0	P1	C1	0
26-Jan-03	11:00	3.0	7.0	P1		10
2-Feb-03	10:00	3.5	7.0	P1	P1	0
9-Feb-03	10:00	3.0	5.0	P1	P1	0
16-Feb-03	10:00	3.0	6.0	P2	P2	10
22-Feb-03	15:00	3.5	7.0	P2	P2	0
3-Mar-03	16:00	3.0	7.0	P1	P1	2
9-Mar-03	10:00	3.0	6.0	P1	P1	6
17-Mar-03	10:00	4.5	9.0	P1	P1	3
24-Mar-03	10:00	3.5	9.0	P1	P1	6
31-Mar-03	10:00	3.5	11.0	P1	P1	3
6-Apr-03	10:00	3.0	11.0	P1	P1	8
13-Apr-03	14:00	3.0	12.0	P1	P1	
21-Apr-03	14:00	3.6	13.0	P1	P1	
28-Apr-03	14:50	3.5	14.5	P1	P1	
4-May-03	14:30	3.5	14.5	P1	P1	
11-May-03	14:20	3.8	16.5	P1	P1	
18-May-03	14:20	4.0	16.0	P1	P1	
25-May-03	14:10	3.6	17.5	P1	P1	
1-Jun-03	11:50	4.1	19.0	P1	P1	
8-Jun-03	16:10	4.0	23.0	P1	P1	
15-Jun-03	14:40	3.8	21.0	P1	P1	
22-Jun-03	14:20	3.8	19.0	P1	P1	
29-Jun-03	14:15	2.8	22.5	P2	P2	
6-Jul-03	14:10	2.1	22.0	P1	P1	
13-Jul-03	11:20	2.1	23.0	P1	P1	
20-Jul-03	15:45	2.1	24.5	P1	P1	
27-Jul-03	13:10	2.3	24.5	P1	P1	
3-Aug-03	10:14	3.3	23.5	P1	P1	
10-Aug-03	14:20	3.0	22.5	P1	P1	
18-Aug-03	14:40	3.1	24.0	P1	P1	
24-Aug-03	2:24	3.1	21.0	P1	P1	
31-Aug-03	16:15	3.0	22.0	P1	P1	
7-Sep-03	14:30	3.0	21.5	P1	P1	
14-Sep-03	12:00	3.3	19.0	P1	P1	
21-Sep-03	15:00	3.1	16.5	P1	P1	
28-Sep-03	14:15	3.0	19.0	P1	P1	
<b>Min</b>		2.1	5.0			0
<b>Max</b>		4.5	24.5			12

## Haller

## 2003 Level II Data

[illegible]