

Allen

Lake Overview

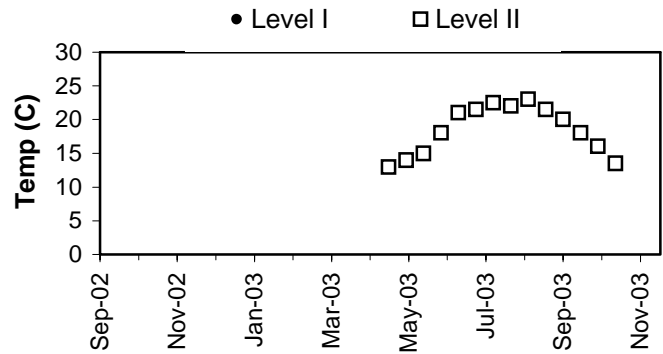
Volunteer monitoring began at Allen Lake in 1994 and continued through 2003. The lake is consistently high in primary productivity (eutrophic), with fair water quality. Since the lake makes up only 2% of the entire catchment area, runoff and groundwater provide most of the water entering the lake. Land use analysis of 2002 aerial photographs showed over 65% of the surrounding watershed has been developed for uses other than agriculture or forestry. The lake may be naturally productive as a part of a large Class 1 wetland system (King County, 1990).

Allen Lake does not have a public access boat ramp. However, residents should monitor aquatic plants to catch early infestations of Eurasian milfoil, Brazilian elodea, or other noxious aquatic weeds.

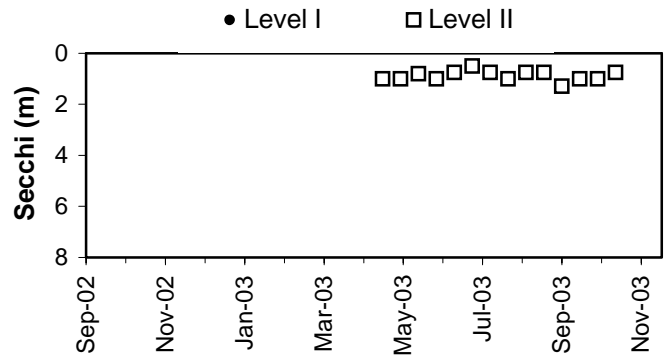
Physical Parameters

Secchi transparency was relatively stable through the sampling period, remaining close to 1m, in part due to the highly colored water. Surface temperatures were similar to other small lakes monitored in 2002, with a maximum reading of 23 degrees Celsius. Both the local precipitation and the lake level readings were incomplete for the year.

Lake Temperature



Secchi Depth

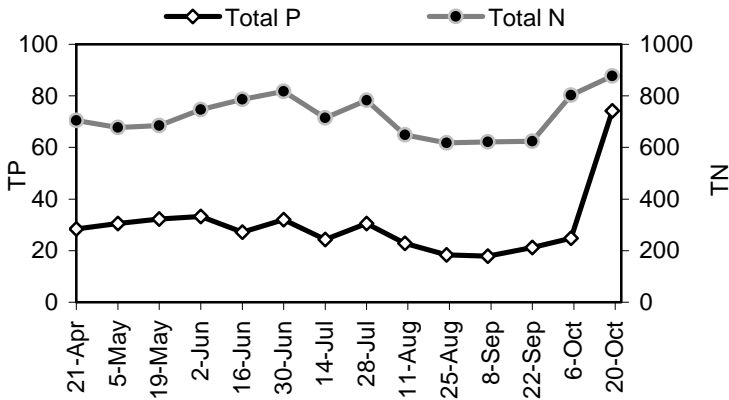


Lake Level and Precipitation

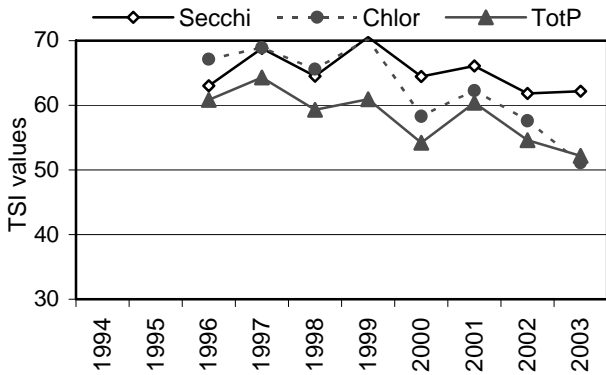
No Data Available

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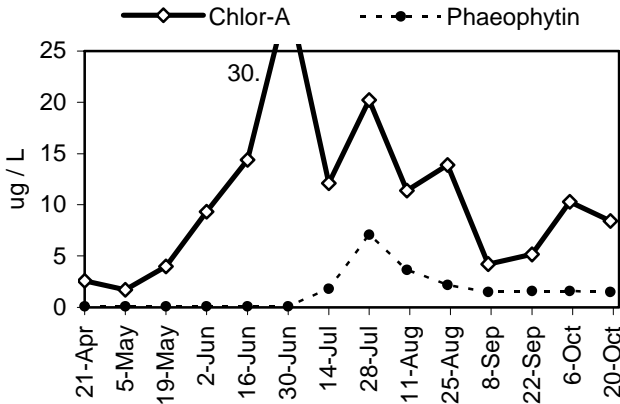
Nutrient Analysis



TSI Ratings



Chlorophyll a Concentrations (ug/L)



Common algae

Group

<i>Ceratium hirundinella</i>	dinoflagellate
<i>Aphanizomenon flos-aquae</i>	bluegreen
<i>Cryptomonas sp.</i>	cryptophyte

Nutrient Analysis and TSI Ratings

Both total phosphorus and total nitrogen remained steady through the summer and increased in mid fall. The N:P ratio ranged from 12 to 35, indicating some periods were favorable for bluegreen algal growth. Recent TSI values have suggested a downward trend in productivity, and the 2003 values continued the decline. For the past four years TSI-Secchi has been higher than the other two indicators, suggesting that water color may be affecting the value.

Chlorophyll and Algae

Chlorophyll values reached a peak in late June and declined through the summer, with a small peak in October. Pheophytin (degraded chlorophyll) rose in July, suggesting the sample contained some bottom material. Phytoplankton populations in the lake were dominated by the dinoflagellate *Ceratium*, which was replaced in mid-October by the bluegreen *Aphanizomenon*. Also common were several species of cryptomonads and the chrysophyte *Dinobryon*.