

7 GRASS LAKE

HISTORY

Grass Lake was originally part of Richfield Lake (to the south) and more than double its current size, but the two were separated during the construction of State Highway 62. It is a Type 5 wetland (Figure 7A). Grass Lake is a neighborhood lake, in southern Minneapolis, known for good bird watching. The lake is not connected to the Minneapolis Park system. The morphometric data can be seen in Table 7A. Grass Lake was added to the Minneapolis Park & Recreation Board (MPRB) lake sampling program in 2002.



Figure 7A. Photograph of Grass Lake in 2005.

Table 7A. Grass Lake morphometric data.

Surface Area (acres)	Mean Depth (m)	Maximum Depth (m)	Watershed Area (acres)	Watershed: Lake Area (ratio)
27	0.6	1.5	386	14.3

WATER QUALITY TRENDS (TSI)

The Trophic State Index scores for the years sampled are shown in Table 7B. Climactic variation coupled with the once a month grab sampling protocol at this lake may partially explain the TSI variation. The TSI Index is also meant to examine lakes without nonalgal turbidity and with low macrophyte populations. Grass Lake is a Type 5 wetland containing extensive macrophytes and is too shallow measure the secchi depth. A linear regression analysis of trophic state index is not

presented for Grass Lake. Typically five years of data are used to give a benchmark, discern a possible trend and help minimize the climactic variability within the data set. A detailed explanation of TSI can be found in Section 1.

Table 7B. Grass Lake TSI scores and mean Total Phosphorus (TP) and Chlorophyll-a (chl-a) from 2002 through 2006. Grass Lake was not monitored in 2005.

	2002	2003	2004	2006
TSI	77	80	61	62
Mean TP (mg/L)	0.183	0.220	0.070	0.100
Mean chl-a (µg/L)	96.6	130	15.3	11.4

BOX AND WHISKER PLOTS

The box and whisker plots show in more detail the scatter within the years data set for the chlorophyll-*a* and total phosphorus data. Secchi readings are not taken due to the shallowness of the lake and because samples are collected from shore. Long-term lake monitoring is necessary to evaluate the seasonal and year-to-year variations seen in each lake and predict trends. Variations in the Grass Lake data may be due to climatic differences, the monthly sampling regime, or the nature of a Type 5 wetland. A detailed explanation of box and whisker plots can be found in Section 1. Figure 7B shows the box and whisker plots of chlorophyll-*a* and total phosphorus data.

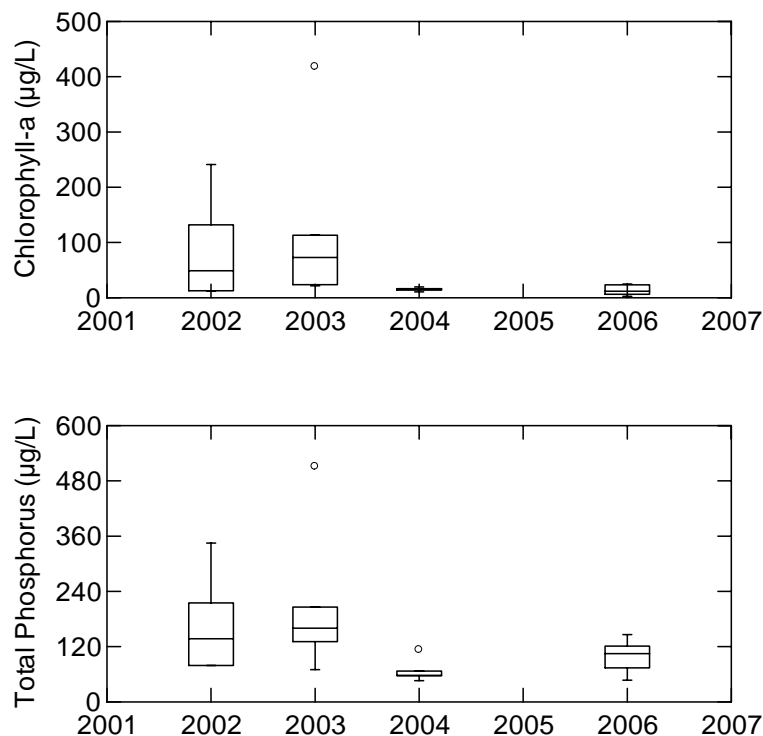


Figure 7B. Box and whisker plots of chlorophyll-a and total phosphorus data from Grass Lake.

WINTER ICE COVER

Ice came off Grass Lake on April 4, 2006, and ice was back on Grass Lake on December 1,

2006. See Section 1 for details on winter ice cover records and Section 18 for a comparison with other lakes.

WETLAND HEALTH EVALUATION PROJECT (WHEP)

WHEP uses trained citizen volunteers to sample wetlands for vegetation and invertebrates. This information is then used to evaluate the wetland’s biological health based on metrics developed by the Minnesota Pollution Control Agency. For quality assurance purposes, spot checks and quality control checks are conducted by other citizen teams and by a technical expert. The program is administered by Hennepin County – Environmental Services.

Grass Lake has been monitored twice through this program (Table 7C) with consistent results. The results give an overall picture of moderate wetland quality.

Table 7C. WHEP scores at Grass Lake.

Year	Invertebrate Score	Invertebrate Quality Rating	Vegetation Score	Vegetation Quality Rating
2003	18	moderate	19	moderate
2004	16	moderate	19	moderate