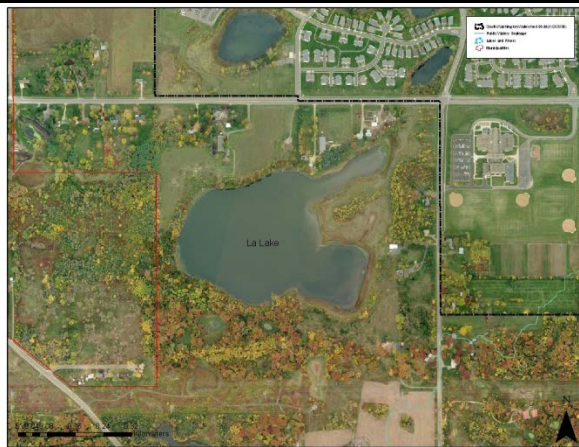


La Lake

DNR ID #82-0097 Municipality: Woodbury
 Surface Area: 45 Acres Watershed Area: 81 Acres
 Mean Depth: 6 feet Maximum Depth: 10 feet
 SWWD Maximum Allowable Phosphorus Load: 1.65 lbs/ac/yr
 SWWD Trophic State Index (TSI) Goal: 60-65



Map 1: La Lake

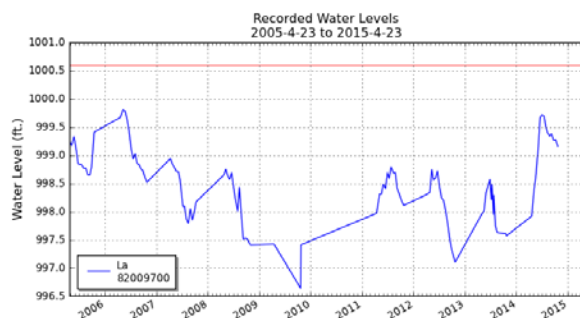
La Lake is a land-locked shallow basin within the East Mississippi watershed. The less than 2-to-1 ratio of drainage area to lake surface area implies that inputs to the lake will be relatively straightforward to manage. The lake's drainage area is predominantly undeveloped with a mix of natural habitat areas and some agricultural land use. Currently, however, no storm sewer outfalls discharge to the lake and previous existence of septic systems for the few residences around the lake is likely of little concern to the lake. This lake is classified as a wetland by the Minnesota DNR, and has been used in the past by MnDNR Fisheries as a walleye rearing pond.

SWWD sets a TSI goal of 60-65 for La Lake, corresponding to an allowable watershed Total Phosphorus (TP) loading rate of 1.65 lbs/ac/yr. SWWD's goal encompasses MnPCA water quality standards for shallow lakes in the region.

La Lake displays surface elevation trends (Figure 1) typical for land locked basins. With no outlet, the surface elevation rises during years of high precipitation and slowly falls during years with less precipitation.

In-lake TP shows significant year to year differences ($p < 0.01$) with an overall upward trend

Figure 1: La Lake Surface Elevation



(Figure 2). TP now consistently exceeds SWWD in-lake TP goals and State Standards for shallow lakes. In contrast, Secchi Transparency routinely meets or exceeds both SWWD and State benchmarks (Figure 3). There are significant year to year differences ($p < 0.01$) in Secchi Transparency; however there is not a consistent upward or downward trend. Rather, it appears that the lake goes through alternating clear and turbid phases. Year to

year differences in chlorophyll a (Figure 4) are not significant ($p = 0.32$). Overall, La Lake typically grades out near the middle for metro lakes as determined by the Metropolitan Council (Table 1). Though swimming is often impaired during the summer, both secchi transparency and chlorophyll a are generally better than expected based on TP concentrations. This imbalance is likely indicative of an extensive emergent vegetation community. To our knowledge, a vegetation survey has never been completed for La Lake.

Figure 2: In-lake TP Concentration for La Lake

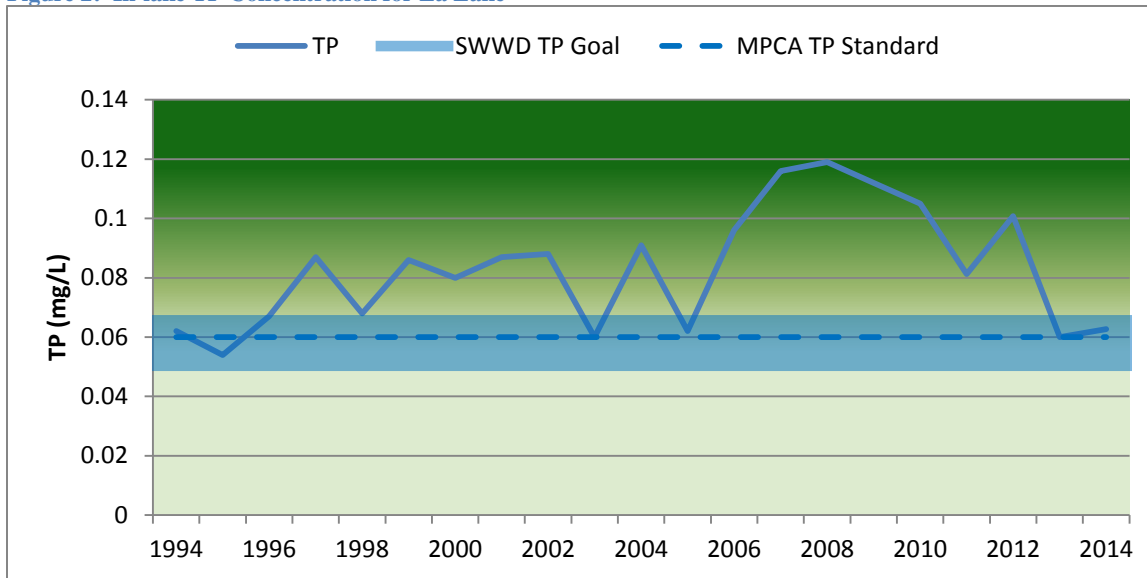


Figure 3: Secchi Transparency for La Lake

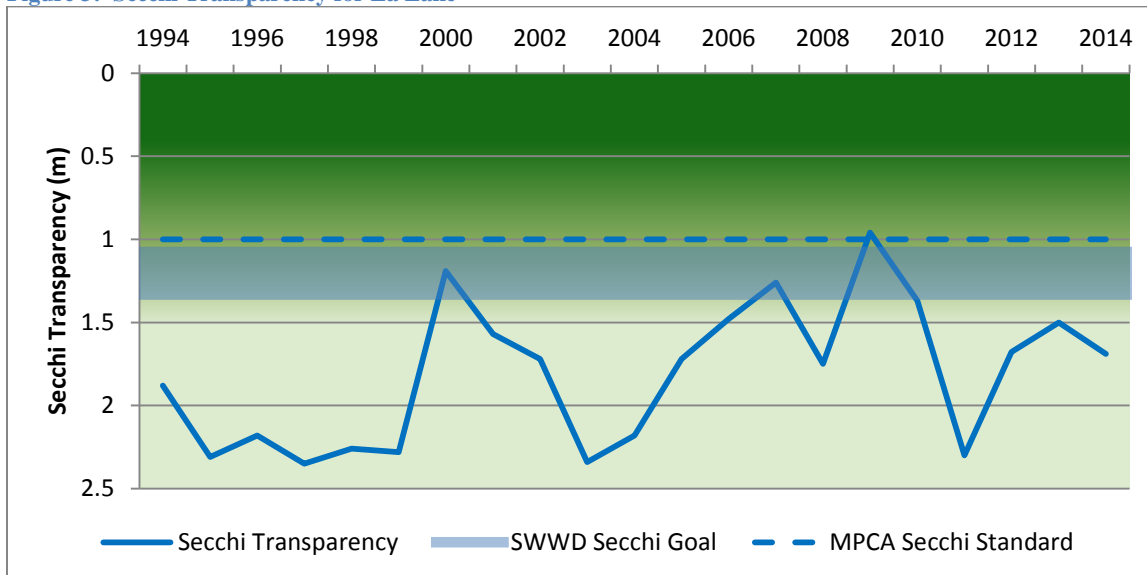


Figure 4: In-lake Chlorophyll a Concentration for La Lake

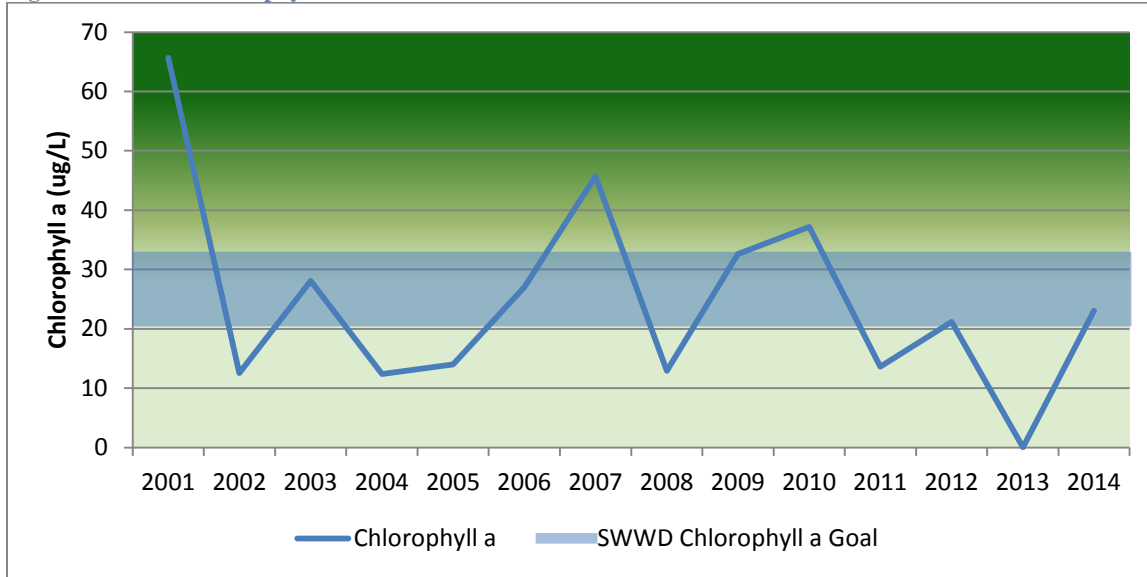


Table 1: Annual Lake Grades for La Lake

Parameter	Topic Status	Lake Grade																				
		94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Total Phosphorus	64; Eutrophic	C	C	D	D	C	D	D	D	D	C	D	C	D	D	D	D	D	D	F	C	C
Chlorophyll	61; Eutrophic	B	A	B	C	B	C	C	C	B	C	B	B	C	D	B	C	C	B	C	B	C
Secchi Transparency	52; Mesotrophic	C	B	C	C	B	C	C	C	C	B	D	C	C	D	C	C	C	B	C	C	C
Overall	Eutrophic	C	B	C	C	B	C	C	C	C	C	C	C	C	D	C	C	C	C	C	C	C

Note: Lake Grades are based on comparison with other lakes in the Minneapolis-St. Paul metropolitan area. Criteria for assigning lake grades are established by the Metropolitan Council.