



SOUTH WASHINGTON WATERSHED DISTRICT

Wilmes Lake

DNR ID #82-0090 Municipality: Woodbury
 Surface Area: 30 Acres Watershed Area: 3,242 Acres
 Mean Depth: 3-5 feet Maximum Depth: 7-18 feet
 SWWD Maximum Allowable Phosphorus Load: 0.10 lbs/ac/yr
 SWWD Trophic State Index (TSI) Goal: 60-63



Map 1: Wilmes Lake

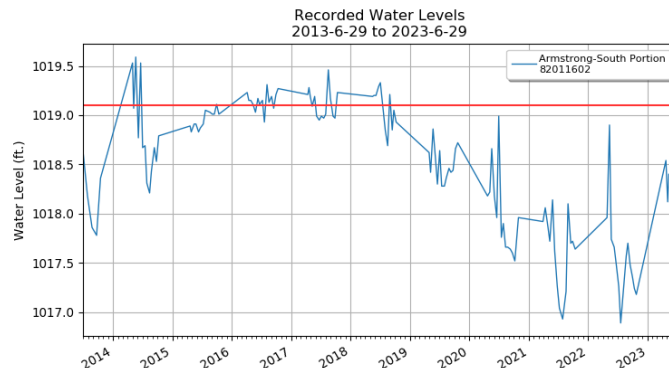
Wilmes Lake (Map 1) is situated in the Northern watershed. Wilmes Lake is divided into two basins by a berm with a culvert connecting the north and south basins. The southern portion of the lake has a maximum depth of 7 feet while the northern portion has a maximum depth of 18 feet. Wilmes Lake receives flows from Armstrong Lake and Markgrafs Lake, together adding approximately 1,000 acres of drainage. There is also a lift station at Powers Lake that would allow for water to be pumped from Powers to Wilmes. However, that pump station is not routinely used.

Historically, Wilmes surface elevation has displayed high fluctuation. Recently, Wilmes has been relatively low with dry weather persisting since the second half of 2021 (Figure 1).

Wilmes Lake has long been considered impaired but is stable. Met Council lake grades for Wilmes Lake (Table 1) which compare the lake to others in the Twin Cities area have remained fairly consistent since 1994. Mean total phosphorus concentration (Figure 2) shows no significant trend but is generally lower since around 2010, and occasionally meets State standards. Eutrophication response variables—chlorophyll a (Figure 3) and secchi transparency (Figure 4)—are generally stable and often meet SWWD interim goals for the lake.

SWWD has completed an extensive

Figure 1: Wilmes Lake Surface Elevation



management plan for its entire Northern watershed, including Wilmes Lake. SWWD has implemented several improvements in partnership with the City of Woodbury. Several projects have been constructed to reduce phosphorus loading to Wilmes Lake, including stabilization of the west Wilmes ravine, construction of bioretention stormwater basins and water reuse irrigation system along Interlachen Drive, installation of an iron enhanced sand filter on the East side of the Lake, and installation of a CC17 stormwater filter in Seasons Park. Additionally, SWWD plans to begin construction on an alum treatment facility on the north side of the Lake. That project is expected to provide the remaining load reduction necessary to fully meet in lake water quality standards.

Monitoring will continue annually at Wilmes Lake to assess effectiveness of current and future watershed and lake restoration efforts and to monitor any lake dynamic changes due changes in plant community. A 2021 vegetation survey found relatively few species present and low coverage compared to other District lakes. Eurasian Watermilfoil and Curly-leaf Pondweed, aquatic invasive species, are both present at low numbers. Nuisance conditions are more often due to an overabundance of coontail, a native species. All monitoring data is available through SWWD’s web database at www.swwdmn.org.

Figure 2: In-lake Total Phosphorus Concentration at Wilmes Lake

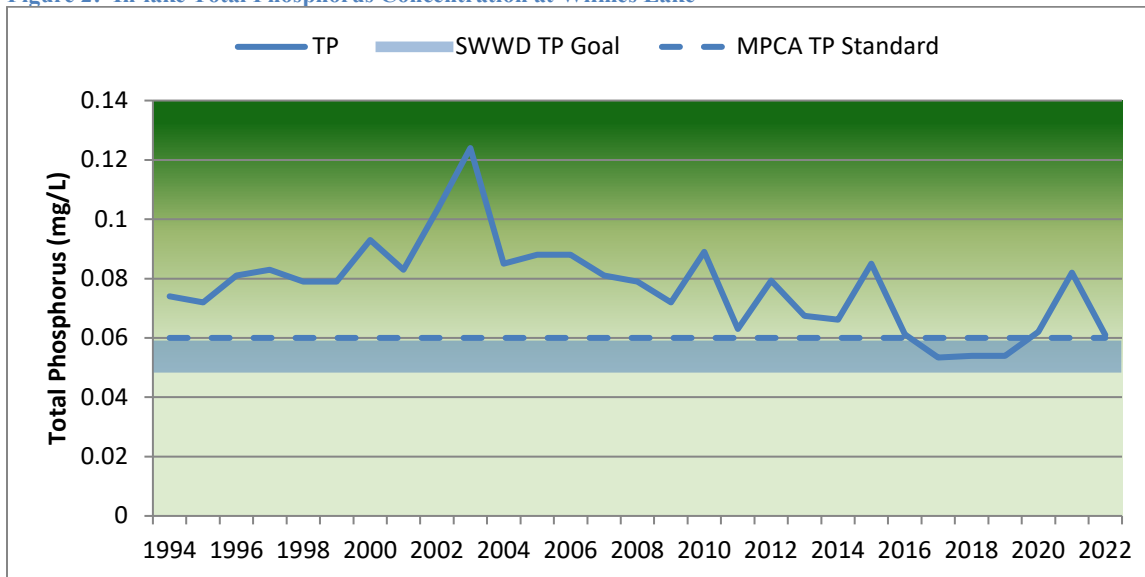


Figure 3: In-lake Chlorophyll a Concentration at Wilmes Lake

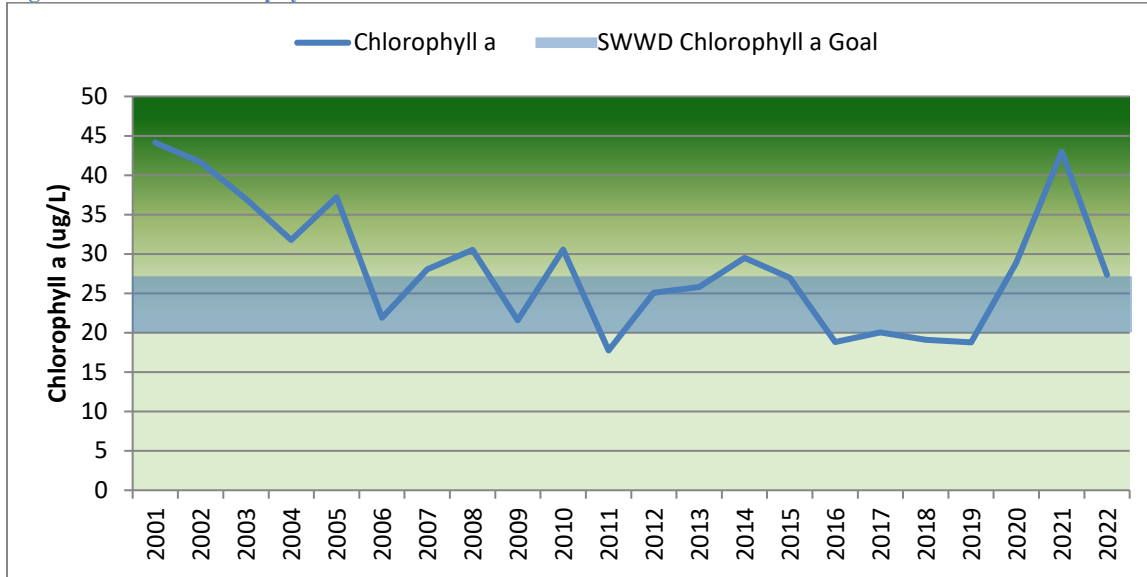


Figure 4: In-lake Secchi Transparency at Wilmes Lake

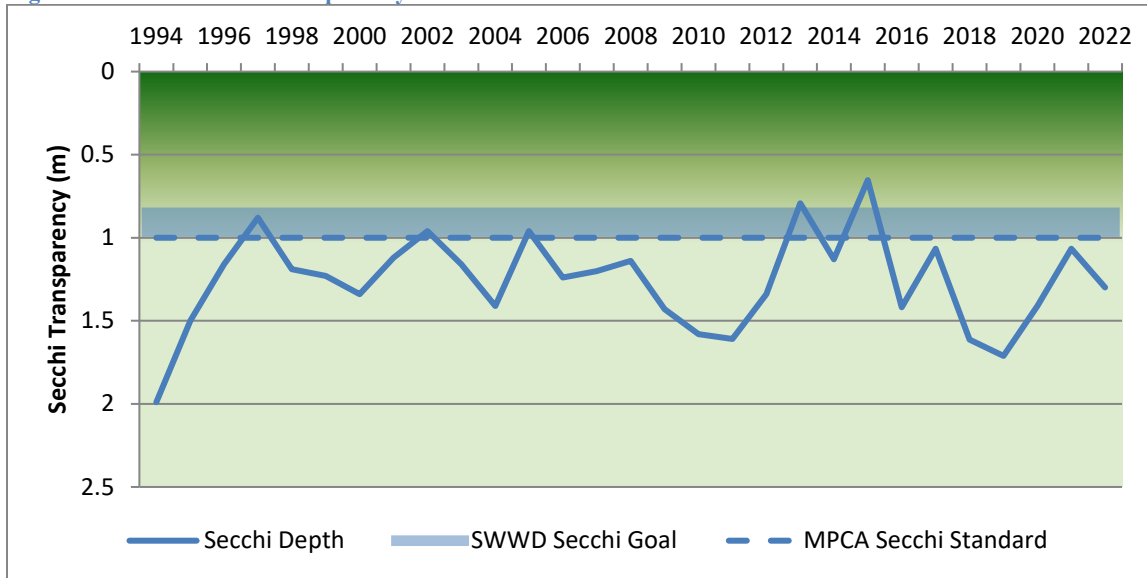


Table 1: Lake Grades for Wilmes Lake

Parameter	Trophic Status	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Total Phosphorus	63; eutrophic	D	D	D	D	C	D	D	D	C	C	D	C	D	D	D	D	D	C	C	C	D	D	D
Chlorophyll	63; eutrophic		C	D	C	C	C	C	C	C	C	C	B	C	C	C	C	B	B	B	B	C	C	C
Secchi Transparency	56; eutrophic	C	D	D	C	C	D	C	C	D	C	C	C	C	F	D	F	C	D	C	C	C	C	C
Overall	eutrophic	C	D	D	C	C	D	C	C	C	C	C	C	C	D	D	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.