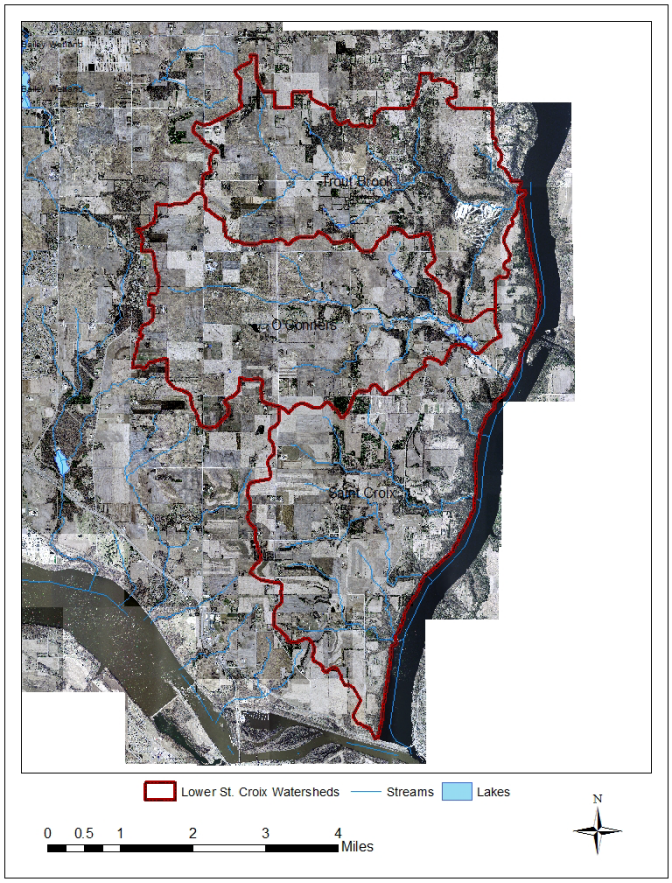
SOUTH WASHINGTON WATERSHED DISTRICT

O'Conners Lake

DNR ID #82-000200	Municipality: Denmark Township
Surface Area: 23 Acres	Watershed Area: 6,018 Acres
Mean Depth:	Maximum Depth: 11 feet
SWWD Maximum Allowable Phosphorus Load: Maintain Existing	
SWWD Trophic State Index (TSI) Goal: Pending	

SWWD's Lower St. Croix watershed (LSC) covers roughly one fourth of the District and includes the O'Conner's Lake subwatershed (Map 1). While the rest of the Lower St Croix watershed drains to Lake St. Croix, O'Conners is land locked, terminating at O'Conners Lake.



Map 1: O'Conners Watershed

This report summarizes current monitoring results for O'Conners. SWWD's monitoring programs are based on a Regional Assessment approach. By following a regional approach, monitoring is focused on key resources and watershed outlets throughout the District. SWWD monitors water quality within O'Conners Lake. Lake water quality is monitored through participation in the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Stream water quality is monitored with the use of an automated monitoring station that collects flow data and periodic water samples which are used in assessing water quality throughout the monitoring season. Monitoring results are presented below. All District data is available at www.swwdmn.org.

O'Conner's Lake

Map 2: O'Conner's Lake

O'Conners Lake (Map 2) sits at the end of O'Conners Creek in a closed basin. The lake collects drainage from approximately 6,000 acres of agricultural and rural residential lands and drains into bedrock. O'Conners Lake and Creek were added to SWWD jurisdiction in 2010; however, lake monitoring through the CAMP program began in 2005.

Additional data for O'Conners Lake is available through the Metropolitan Council (http://es.metc.state.mn.us/eims/lakes/list_parm.asp) and MN Department of Natural Resources (http://www.dnr.state.mn.us/lakefind/index.html), or by contacting SWWD.

O'Conner's Lake water quality results are shown in Figures 2-4. The lake exhibits characteristics similar to other closed basin systems. Historically, water levels drop slowly during prolonged dry stretches and rise rapidly during wet years. It has remained consistently elevated since 2011 and breached earthen dams inundating an adjacent quarry in 2019. The lake remains high. Water quality is typically a major concern for lakes in closed basin systems as nutrients and pollutants continue to accumulate over time. There is no significant trend in water quality at O'Conner's Lake although nutrients do become more concentrated during periods of low lake levels which are reflected in increased nuisance conditions. Annual lake grades, as assigned by the Metropolitan Council, for O'Conner's Lake are listed in Table 1.

SWWD does not have in lake water quality goals for O'Conner's Lake at this time. The lake does generally meet State Standards.

Figure 1: O'Conners Lake surface elevation

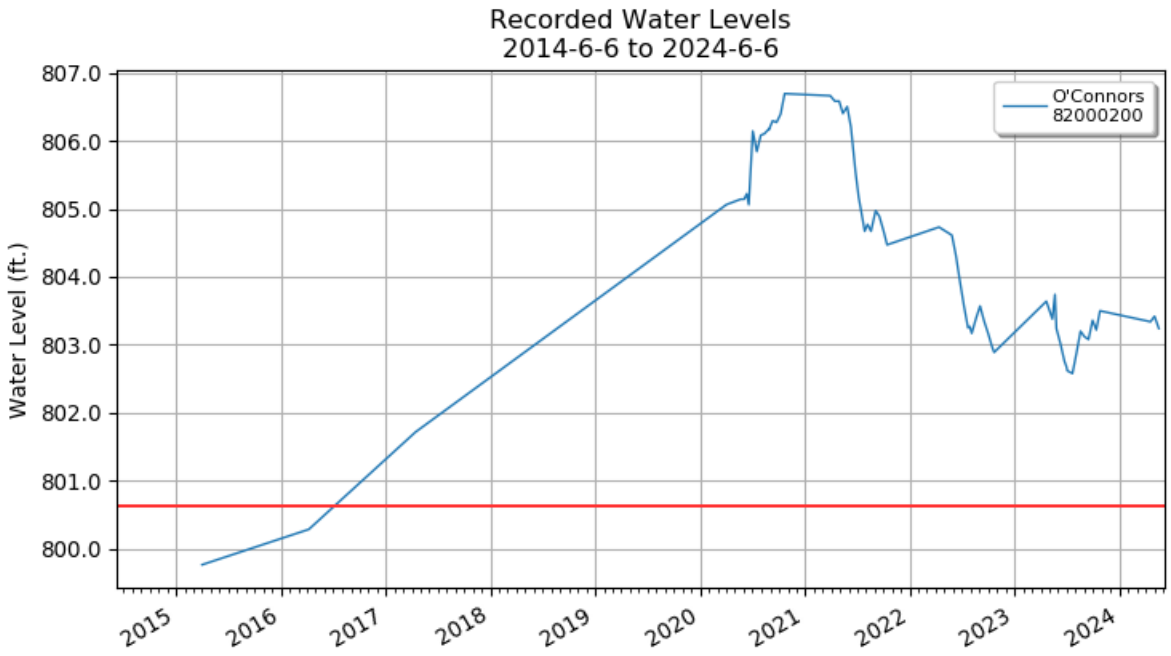


Figure 1: In-lake Total Phosphorus Concentration at O'Conner's Lake

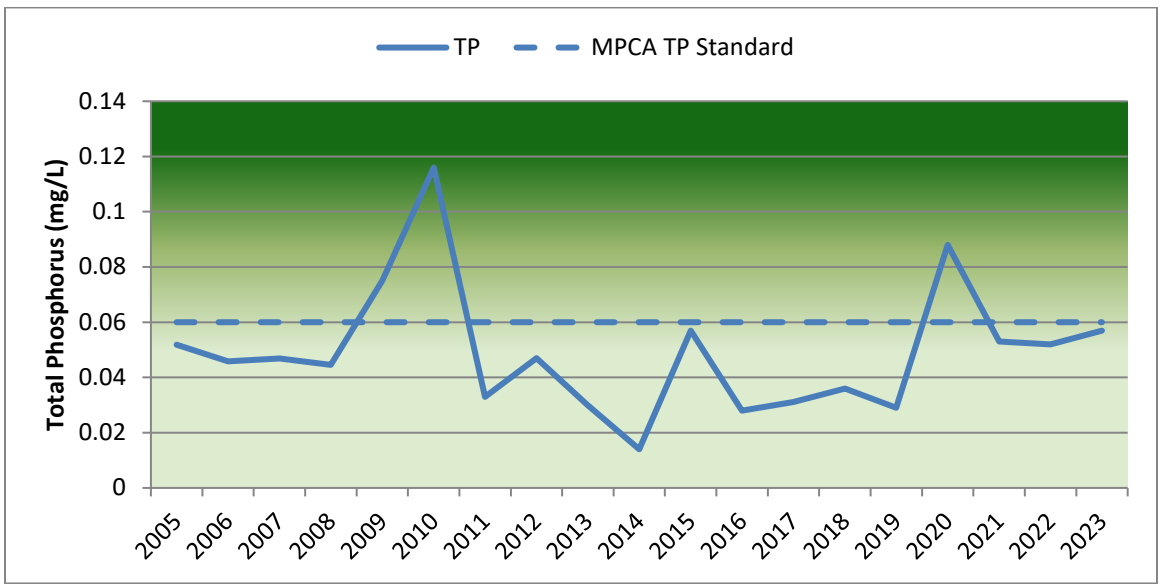


Figure 2: In-lake Chlorophyll a Concentration at O'Conner's Lake

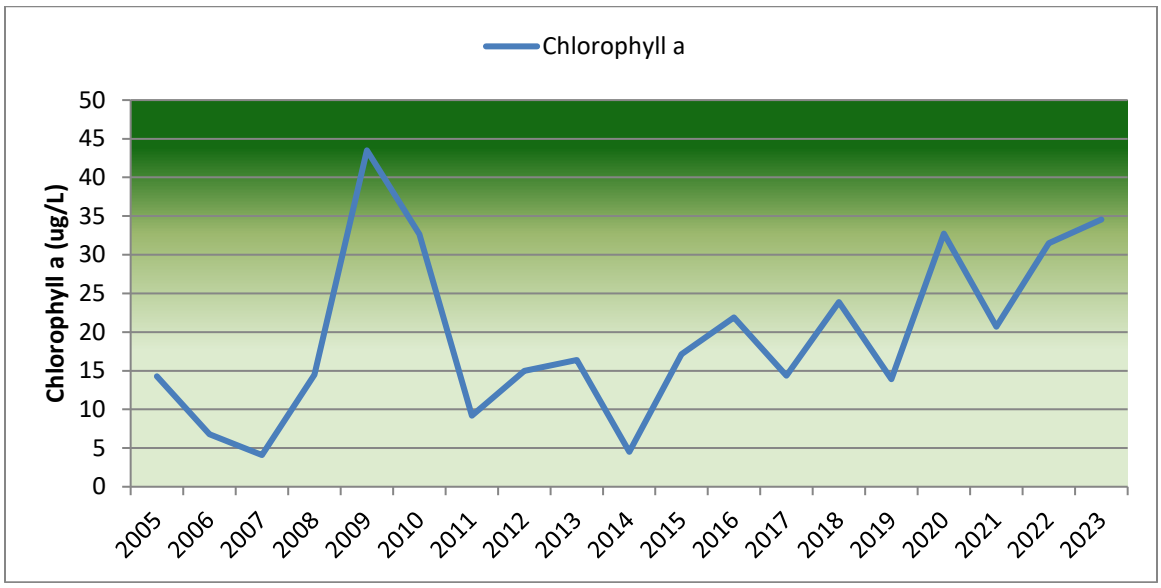


Figure 3: In-lake Secchi Transparency at O'Conner's Lake

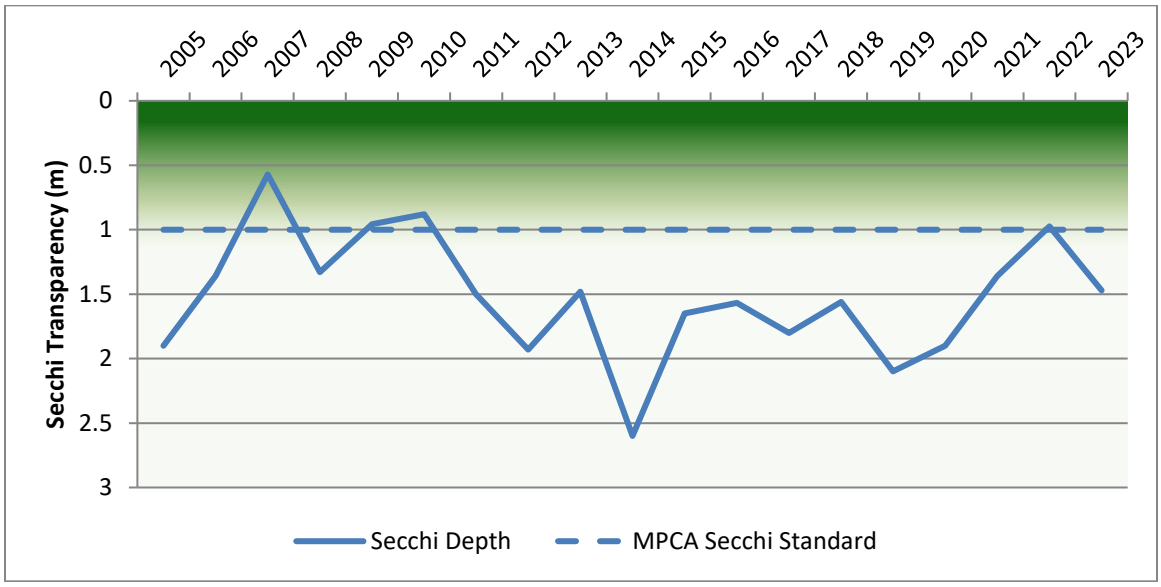


Table 1: Annual Lake Grades for O'Conner's Lake

Lake Grade																				
Parameter	Trophic Status	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Total Phosphorus	62; eutrophic	C	C	C	C	D	D	C	C	C	A	C	B	B	B	B	D	C	C	C
Chlorophyll	65; eutrophic	B	A	A	B	D	C	A	B	B	A	B	C	C	C	B	C	C	C	C
Secchi Transparency	54; eutrophic	C	C	F	C	D	D	C	C	C	B	C	C	C	C	B	C	C	D	C
Overall	eutrophic	C	B	C	C	D	D	B	C	C	A	C	C	C	C	B	C	C	C	C