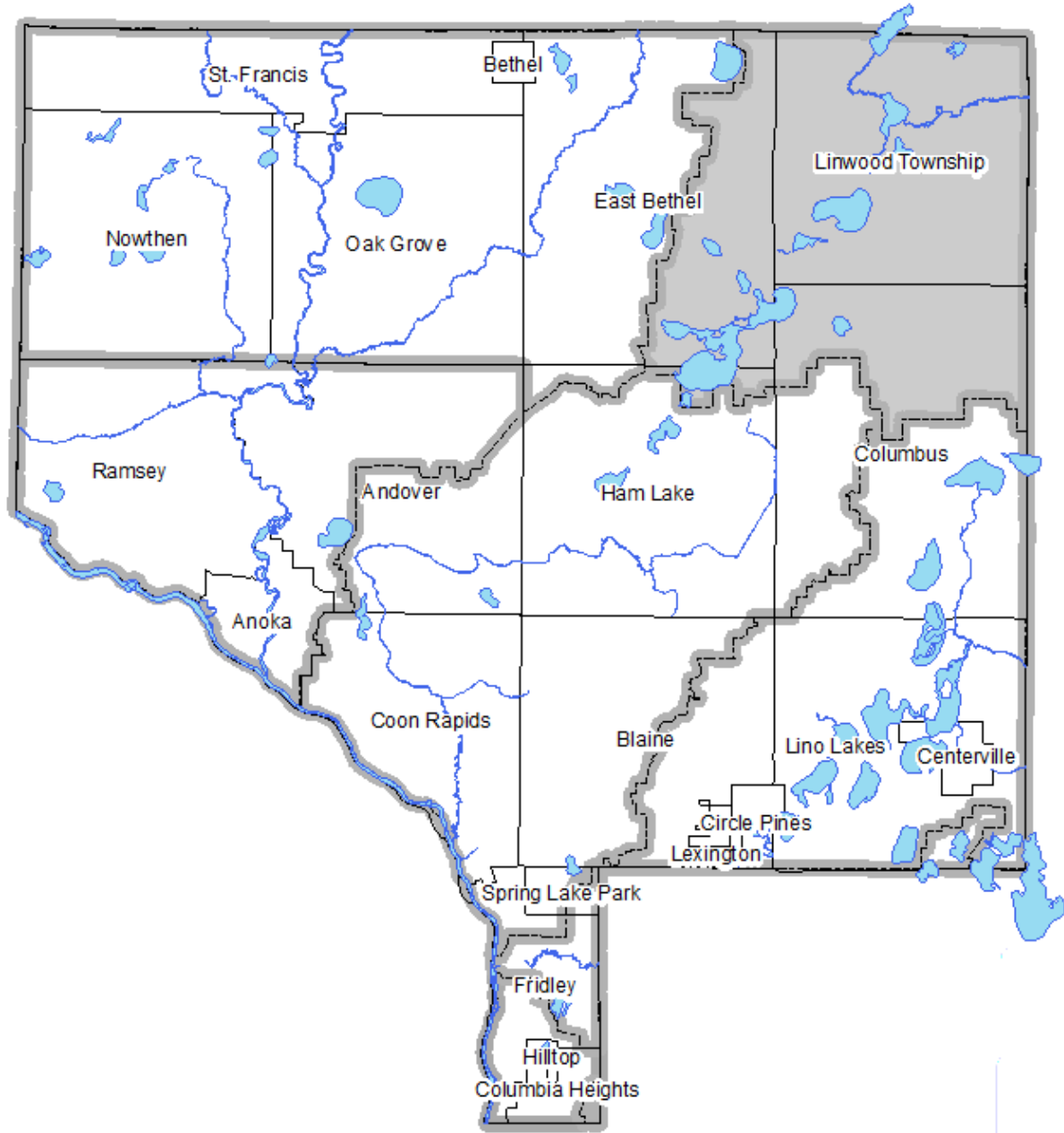


Excerpt from the 2021 Water Almanac

Chapter 2: Sunrise River Watershed



Prepared by the Anoka Conservation District

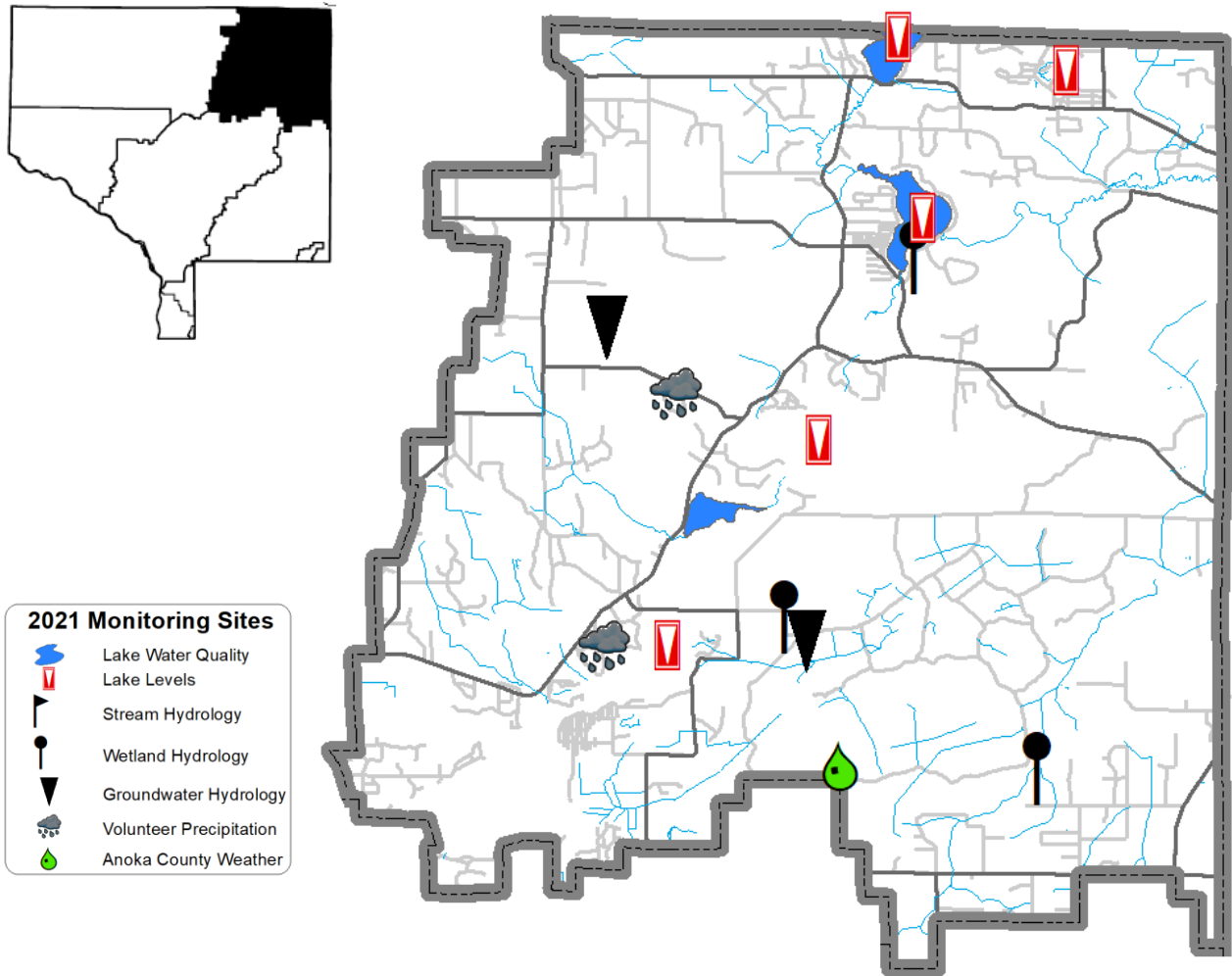
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Recommendations

- **Implement the SRWMO Watershed Management Plan that was approved in 2019.** The plan reflects the latest science and includes schedules for various projects.
- **Continue improving Martin Lake water quality towards State standards with the goal of removing its impairment.** The last five years of data support delisting.
- **Request Watershed Based Funding from the Lower St. Croix One Watershed, One Plan group.** Priority projects include a Linwood Lake subwatershed assessment study, wetland restoration at Ditch 20, and internal loading study for Linwood, Typo, or Martin Lake.
- **Collaborate with the Anoka County Outreach Coordinator.** Modest SRWMO funding can serve as match for WBIF or other funding, which results in more work in the SRWMO.
- **Target outreach** to key audiences rather than community-wide messaging. Lakeshore landscaping messaging to lakeshore owners is one priority.
- **Work through lake associations to promote lakeshore stewardship practices. Use cost share grants to remove financial barriers.** The SRWMO Watershed Management Plan sets a goal of three lakeshore restorations per year. The Anoka Conservation District mapped lakeshores in 2019 and 2020 so that future outreach can be targeted to specific parcels.
- **Update the SRWMO joint powers agreement** to address out of date material and the lack of a dispute resolution mechanism.
- **Continue prioritizing water quality monitoring** to assess baseline conditions, diagnose problems and determine the effectiveness of new water quality projects. This data helps with strategically implementing grant funds and local funds to provide the largest water quality benefit possible at the lowest cost.
- **Promote Septic System Fix-up Grants to landowners,** particularly in shoreland areas.
- **Install the already-designed rain garden on East Front Blvd at Coon Lake as designed in 2021.** The project's cost effectiveness is only moderate, but other means to treat runoff in the neighborhood are not available. Estimated cost is \$20,500. Cost effectiveness is \$4,848 per pound of phosphorus over a 10-year life.

Map: 2021 Water Monitoring Sites – Sunrise River WMO Area



Lake Level Monitoring

Partners: SRWMO, ACD, MN DNR, Local volunteers

Description: Weekly water level monitoring using lake gages placed in each lake. The past five and twenty-five years of data for each lake are illustrated below, and all historical data are available on the Minnesota DNR website using the “LakeFinder” feature (www.dnr.mn.us.state/lakefind/index.html).

Purpose: Surveillance monitoring to understand lake hydrology, including the impact of climate or other water budget changes. These data are useful for regulatory, building/development, and lake management decisions.

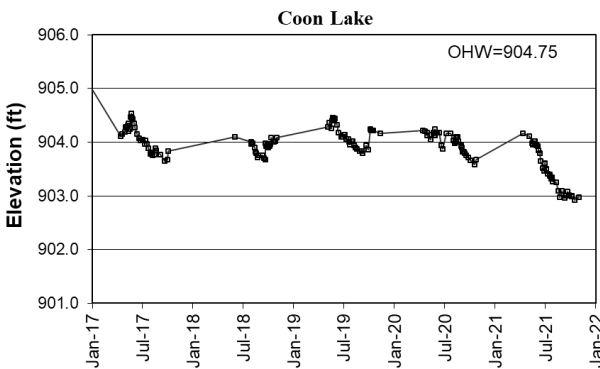
Locations: Coon, Fawn, Linwood, Martin, and Typo Lakes

Results: Lake gages were installed by the Anoka Conservation District and surveyed by the MN DNR. In 2021, lake levels started near average and declined throughout the season. The rebound often seen in the fall was not observed. This was due to infrequent rain events throughout the season. 2021 was the 11th driest season on record, and Anoka County was in a state of drought beginning in June, with most of the growing season spent in a severe drought condition.

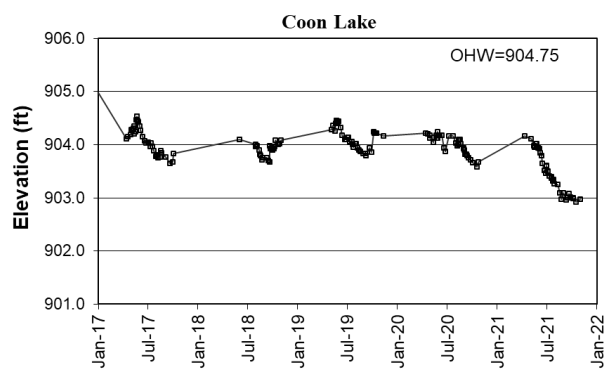
Individual lakes varied. Typo, Fawn, and Martin Lake levels fluctuated at a similar scale to previous years. Coon and Linwood Lake seemed to be most affected by the drought conditions. Coon Lake dropped 1.2 feet during 2021, but lower water levels have been observed in other years including 1988-1990, 2000, and 2009. Linwood Lake dropped over 1.5 feet during the course of the season and had its second lowest ever recorded water level, just 0.05 feet higher than the record low observed in 1988. As shown in the tables below, all five lakes were lower on average in 2021 than the four years prior.

All lake level data can be downloaded from the MN DNR website’s LakeFinder feature (<https://www.dnr.state.mn.us/lakefind/index.html>). Ordinary High Water Level (OHW), the elevation below which a DNR permit is needed to perform work, is listed for each lake on the corresponding graphs below.

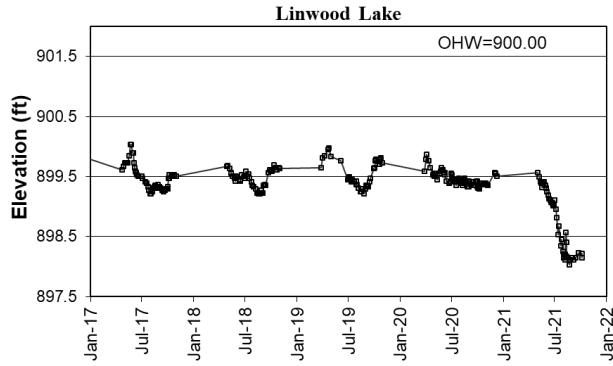
Coon Lake Levels – last 5 years



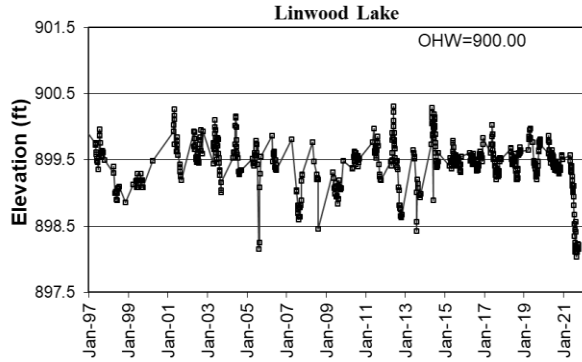
Coon Lake – last 25 years



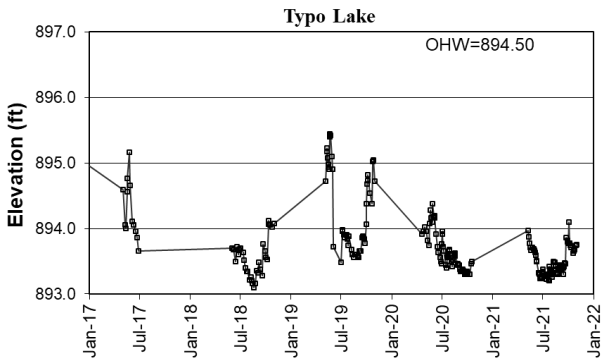
Linwood Lake – last 5 years



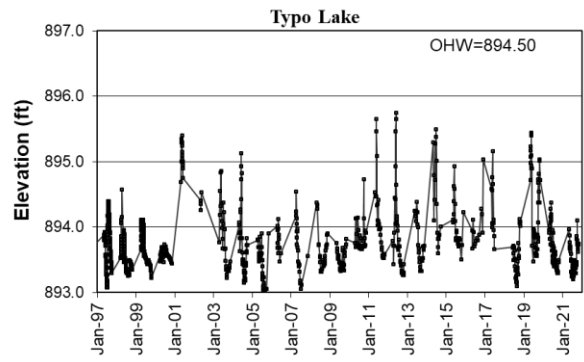
Linwood Lake – last 25 years



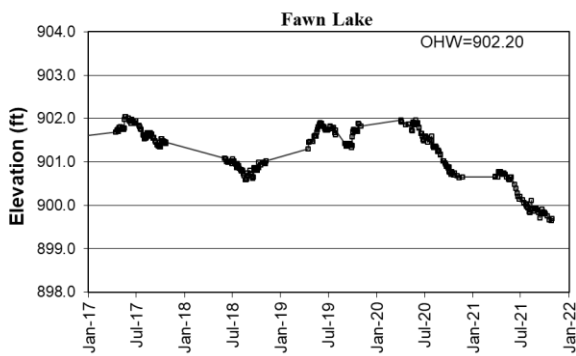
Typo Lake – last 5 years



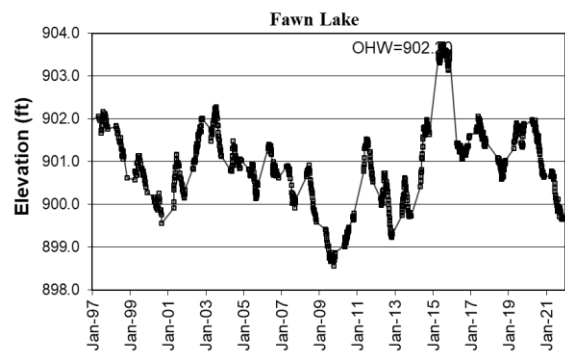
Typo Lake – last 25 years



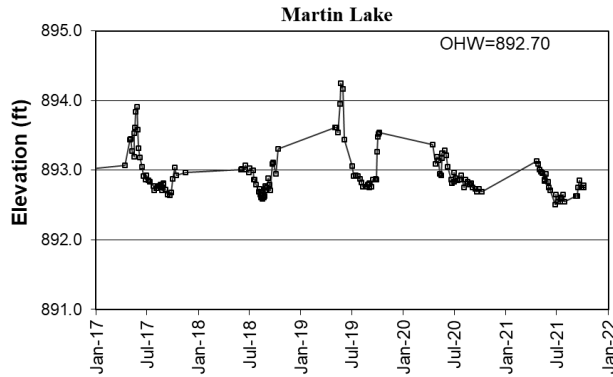
Fawn Lake – last 5 years



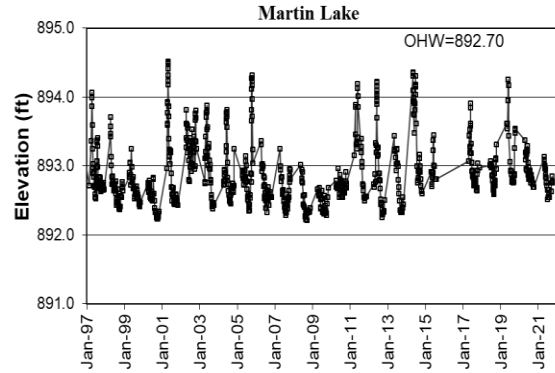
Fawn Lake – last 25 years



Martin Lake – last 5 years



Martin Lake – last 25 years



Lake	Year	Average	Min	Max
COON	2017	904.09	903.65	904.53
	2018	903.92	903.68	904.1
	2019	904.14	903.8	904.46
	2020	904.01	903.58	904.24
	2021	903.52	902.92	904.16

Lake	Year	Average	Min	Max
LINWOOD	2017	899.49	899.21	900.03
	2018	899.46	899.21	899.69
	2019	899.54	899.21	899.97
	2020	899.47	899.29	899.87
	2021	898.73	898.03	899.57

Lake	Year	Average	Min	Max
TYPO	2017	894.29	893.66	895.16
	2018	893.55	893.1	894.12
	2019	894.30	893.48	895.44
	2020	893.66	893.3	894.38
	2021	893.49	893.2	894.1

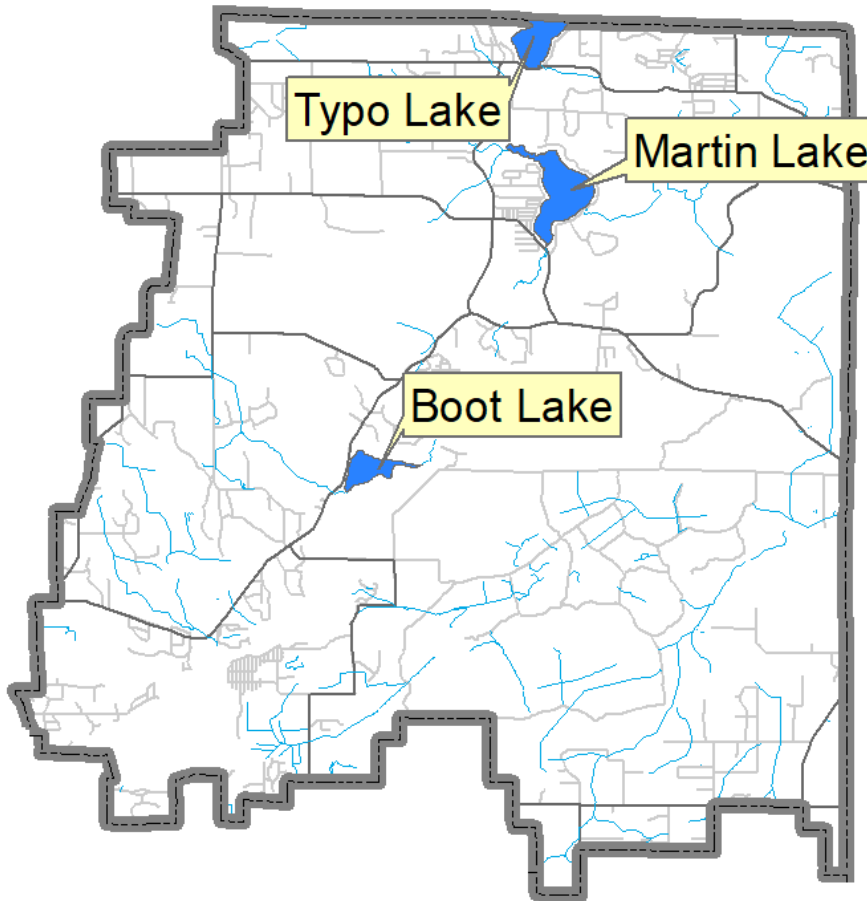
Lake	Year	Average	Min	Max
FAWN	2017	901.68	901.35	902.05
	2018	900.87	900.59	901.09
	2019	901.64	901.31	901.9
	2020	901.35	900.64	901.97
	2021	900.21	899.65	900.77

Lake	Year	Average	Min	Max
MARTIN	2017	893.03	892.64	893.91
	2018	892.85	892.59	893.31
	2019	893.32	892.75	894.25
	2020	892.95	892.69	893.37
	2021	892.77	892.51	893.13

Lake Water Quality

- Description:** Lake water quality monitoring was conducted ten times between May and September, approximately every two weeks. The monitoring parameters include total phosphorus, chlorophyll-a, Secchi transparency, dissolved oxygen, turbidity, temperature, specific conductance, pH, and salinity.
- Purpose:** To detect water quality trends and diagnose the cause of changes.
- Locations:** Typo, Martin, and Boot Lakes.
- Results:** Detailed data for each lake are provided on the following pages, including summaries of historical conditions and trend analysis. Previous years' data are available on the Minnesota Pollution Control Agency (MPCA) electronic data access (EDA) website or from ACD. Refer to Chapter 1 for additional information on lake dynamics and interpreting the data.

2021 Sunrise River Watershed Lake Water Quality Monitoring Sites

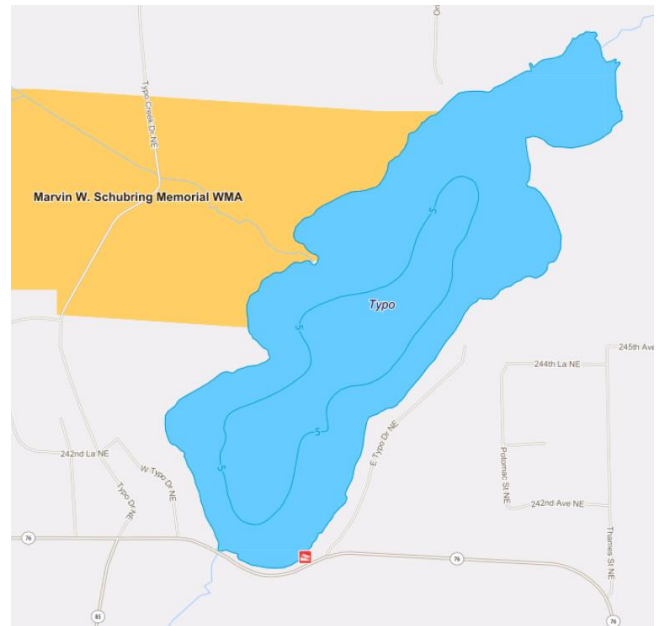


TYPO LAKE

Linwood Township, Lake ID # 30-0009

Background

Typo Lake is located in northeast Anoka County and southeast Isanti County. It has a surface area of 290 acres and maximum depth of 6 feet (1.82 m), though most of the lake is about 3 feet deep. The lake has a mucky, loose, and unconsolidated bottom in some areas, while other areas have a sandy bottom. The public access is located at the south end of the lake along Fawn Lake Drive. The lake is used little for fishing or recreational boating because of the shallow depth and extremely poor water quality. The lake's shoreline is mostly undeveloped, with only 21 homes within 300 feet of the lakeshore. The lake's watershed of 11,520 acres is 3% residential, 33% agricultural, and 28% wetlands, with the remainder forest or grassland. Typo Lake is on the MPCA's list of impaired waters for excess nutrients. Typo Lake is being monitored for Best Management Practices (BMP) effectiveness.



The MN DNR conducted a fisheries survey of this lake in 2016. Walleye, Black Crappie, White Crappie, Northern Pike, and Bluegill was the most abundant gamefish found in Typo Lake. Walleye are the primary management species on Typo Lake with 295,000 fry stocked in odd numbered years.

2021 Results

In 2021, Typo Lake had poor water quality compared to other lakes in this region (NCHF Ecoregion), but did show improvement from 2020, receiving an overall D letter grade. Average total phosphorus (TP) was 150.5 $\mu\text{g/L}$, which was a decrease from the 2020 average of 220.0 $\mu\text{g/L}$. While total phosphorus levels continue to far exceed the 60 $\mu\text{g/L}$ state standard for shallow lakes, average concentrations appear to be decreasing over the past two decades (average 270 $\mu\text{g/L}$ during 2000-09, and 174 $\mu\text{g/L}$ 2012-2020).

Chlorophyll-a (Cl-a) levels in 2021 averaged 72.5 $\mu\text{g/L}$. This is similar to 2020 (73.5 $\mu\text{g/L}$) and other previous years (average 70 $\mu\text{g/L}$ 2015-20). Cl-a concentrations have stayed below the historical average for the lake (99 $\mu\text{g/L}$ 1993-2020) but are still many times higher than the State standard for Cl-a in shallow lakes of 20 $\mu\text{g/L}$.

Average Secchi transparency in 2021 was 1.8 feet, which tied for the second-highest average on record (1974-2021 n=22). Transparency has improved throughout the last decade, but remains poorer than the State standard for shallow lakes transparency of 1 meter (3.3 feet).

Trend Analysis

The MPCA (1993, '94, and '95) and the Anoka Conservation District (1997-2001, '03, '05, '07, '09, '12, 2014-2021) have conducted twenty-one years of water quality monitoring. Overall, water quality has improved from 1993 to 2021 in a statistically significant way (repeated measures MANOVA with response variables TP, Cl-a, and Secchi depth; $F_{2, 18}=5.98$, $p<0.01$). When we tested these response variables individually with one-way ANOVAs, TP shows no significant change across this time period. A superficial look at graphs of these parameters suggests that total phosphorus is generally stable between 150 $\mu\text{g/L}$ and 250 $\mu\text{g/L}$ with an overall decreasing trend that is not significant at this time. Cl-a, however, is showing a statistically significant decline ($p<0.001$). Secchi transparency is showing a statistically significant increase ($p<0.05$) when high nutrient years of 2007 and 2009 are excluded. The major driver of improved water quality is decreasing Cl-a concentration, but improving seechi transparency is also a positive driving factor.

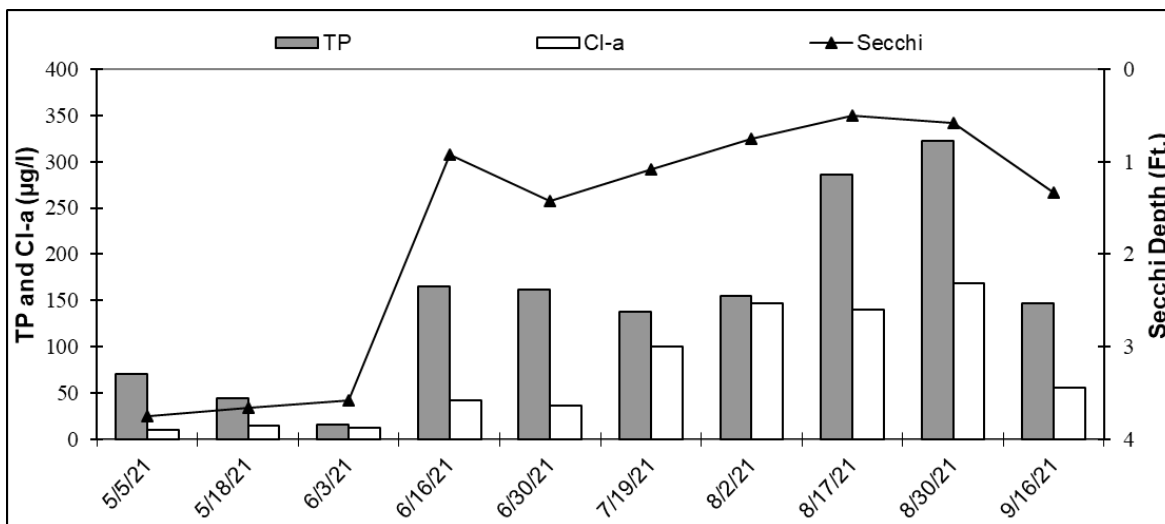
Discussion

Typo Lake, along with Martin Lake downstream was the subject of a Total Maximum Daily Load (TMDL) study by the Anoka Conservation District, which was approved by the State and EPA in 2012. This study documented the sources of nutrients to the lake, the magnitude of each, and put forth lake rehabilitation strategies. Some factors affecting water quality in Typo Lake include rough fish, ditched wetland west of the lake, and lake sediment. Recent work has included installation of carp barriers (completed in 2016), carp removals (2017-2019 and 2021), and a feasibility study of ditched wetland restorations upstream of Typo Lake (2018). The feasibility study identified four potential projects along Ditch 20 upstream of Typo Lake. It also recommends that dredging of Ditch 20 not occur. Current shoreline conditions on Typo Lake were inventoried during a 2020 shoreline survey. This inventory will assist in identifying future cost-effective lakeshore projects. Recent water quality monitoring results suggest these management approaches are improving conditions in the Sunrise River chain of lakes, but reaching goals will require additional effort and time.

TYPO LAKE

Linwood Township, Lake ID # 30-0009

2021 Results



2021 Median Values

pH		8.37
Specific Conductance	mS/cm	0.30
Turbidity	FNRU	53.65
D.O.	mg/l	9.93
D.O.	%	108.95
Temp.	°F	73.09
Salinity	%	0.11
Cl-a	µg/l	48.50
T.P.	µg/l	151.00
Secchi	ft	1.21

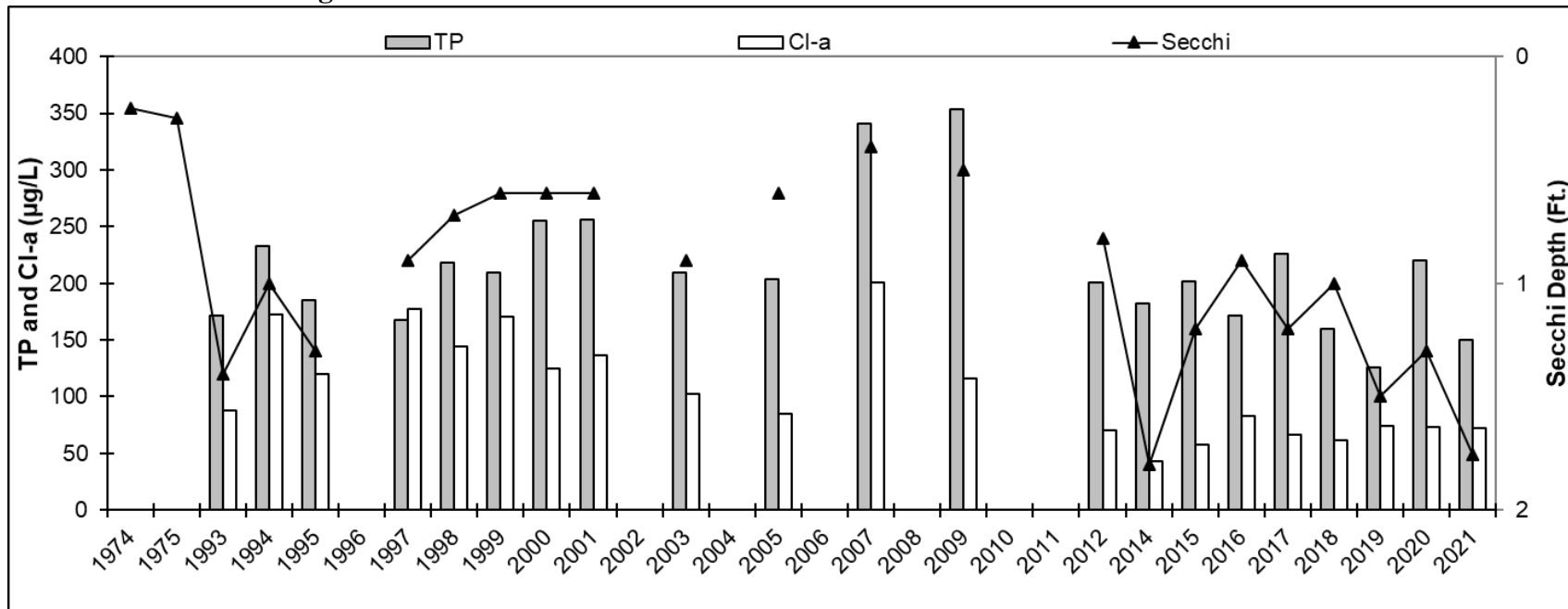
Typo Lake 2021 Water Quality Data

Date	5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021
Time	11:13	10:35	10:36	10:54	9:59	10:50	9:52	10:20	10:39	10:10

Units	R.L.*											Average	Min	Max
pH	0.1	8.32	8.46	8.30	8.05	8.20	8.41	9.04	9.00	7.81	8.85	8.44	7.81	9.04
Specific Conductance	0.01	0.287	0.310	0.325	0.342	0.333	0.232	0.223	0.198	0.417	0.189	0.286	0.189	0.417
Turbidity	1	24.90	8.30	13.80	77.10	61.90	77.10	106	15.50	129.00	45.40	73	8	129
D.O.	0.01	11.69	11.75	10.56	6.55	9.29	8.90	12.12	7.44	7.22	14.15	9.97	6.55	14.15
D.O.	1	105.2	127.2	107.4	82.6	115.4	110.5	144.6	91.7	87.6	126.2	109.8	82.6	144.6
Temp.	0.1	13.46	19.93	21.59	24.24	25.27	25.27	23.03	24.01	22.62	19.10	21.85	13.46	25.27
Temp.	0.1	56.2	67.9	70.9	75.6	77.5	77.5	73.5	75.2	72.7	66.4	71.3	56.2	77.5
Salinity	0.01	0.14	0.15	0.16	0.17	0.10	0.11	0.11	0.10	0.10	0.09	0.1	0.1	0.2
Cl-a	1	9.80	14.20	12.50	41.80	36.50	100.00	147.00	140.00	168.00	55.20	72.5	9.8	168.0
T.P.	0.005	0.070	0.044	0.016	0.165	0.162	0.138	0.155	0.286	0.322	0.147	0.151	0.016	0.322
T.P.	5	70	44	16	165	162	138	155	286	322	147	151	16	322
Secchi	0.10	3.75	3.66	3.58	0.92	1.42	1.08	0.75	0.50	0.58	1.33	1.8	0.5	3.8
Secchi	0.10	1.14	1.12	1.09	0.28	0.43	0.33	0.23	0.15	0.18	0.41	0.5	0.2	1.1
Physical		3.0	2.0	3.0	2.0	4.0	3.00	4.00	4.0	4.0	3.0	3.2	2.0	4.0
Recreational		3.0	2.0	3.0	2.0	3.0	3.00	5.00	3.0	4.0	3.0	3.1	2.0	5.0

*reporting limit

Historical Annual Averages



Historical Report Card

Year	TP	Cl-a	Secchi	Overall
1974			F	F
1975			F	F
1993	F	F	F	F
1994	F	F	F	F
1995	F	F	F	F
1997	F	F	F	F
1998	F	F	F	F
1999	F	D	F	F
2000	F	F	F	F
2001	F	F	F	F
2003	F	F	F	F
2005	F	F	F	F
State Standards	60 ug/L	20 ug/L	>3.3 ft	

Year	TP	Cl-a	Secchi	Overall
2007	F	F	F	F
2009	F	F	F	F
2012	F	D	F	F
2014	F	C	F	D
2015	F	D	F	F
2016	F	F	F	F
2017	F	D	F	F
2018	F	D	F	F
2019	D	D	D	D
2020	F	D	F	F
2021	D	D	F	D
State Standards	60 ug/L	20 ug/L	>3.3 ft	

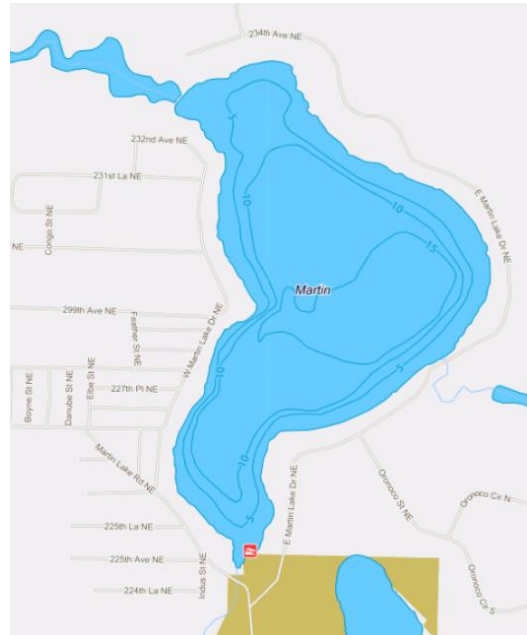
MARTIN LAKE

Linwood Township, Lake ID # 02-0034

Background

Martin Lake is located in northeast Anoka County. It has a surface area of 223 acres and maximum depth of 20 ft. The public access is located on the southern end of the lake. The lake is used moderately by recreational boaters and anglers, and would likely be used more if water quality improved. Martin Lake is almost entirely surrounded by private residences. The 5,402-acre watershed is 18% developed; the remaining 82% is vacant, agricultural, or wetlands. The non-native, invasive plant curly-leaf pondweed is present in Martin Lake but not at nuisance levels. Martin is on the MPCA's list of impaired waters for excess nutrients. Martin Lake is being monitored for BMP effectiveness.

The MN DNR conducted a fisheries survey of this lake in 2015. The lake is primarily managed for Walleye, with Bluegill and Black Crappie as secondary management species. Walleye fry are stocked at a rate of 2,000 fish per littoral acre (280,000 fry) annually in the spring. An aeration system designed to prevent winter kills was installed in 1993.



2021 Results

In 2021, Martin Lake had an overall C letter grade with a record low average for total phosphorus concentrations, 47.7 µg/L. In 2021, chlorophyll-a averaged 25.2 µg/L, similar to the 2020 average of 31.4 µg/L and other years since 2012. While the most recent 5-year average for chlorophyll-a of 28.4 µg/L is much lower than the 2005-2009 average of 108.3 µg/L, chlorophyll-a remains above the state impairment standard of 20 µg/L. Average Secchi transparency in 2021 was 4.5 feet, a substantial increase from 3.0 feet in 2020. The average Secchi transparency in 2021 was above the state standard of 3.3 feet.

Trend Analysis

Twenty-one years of water quality data have been collected by the MPCA (1983), Metropolitan Council (1998, 2008), and ACD (1997, 1999-2001, 2003, 2005, 2007, 2009, 2012-2021). Citizens monitored Secchi transparency 17 other years. Anecdotal notes from DNR fisheries data indicate poor water quality dating back to at least 1954. Although still poor, water quality in Martin Lake has shown an improvement from 1983 to 2021 that is statistically significant (repeated measures MANOVA with response variables TP, Cl-a, and Secchi depth; $F_{2, 17}=6.54$, $p < 0.05$). This is especially true for the last decade. Further examination of the data shows that while TP and Secchi transparency have not changed in a statistically significant way since 1983, chlorophyll-a concentrations have shown a statistically significant decrease ($p < 0.01$) over this time. Water quality in Martin Lake declined through the late 1990s and reached its worst quality in 2007. In the 11 years sampled since 2007, both TP and Secchi transparency have improved on a statistically significant basis ($p < 0.01$).

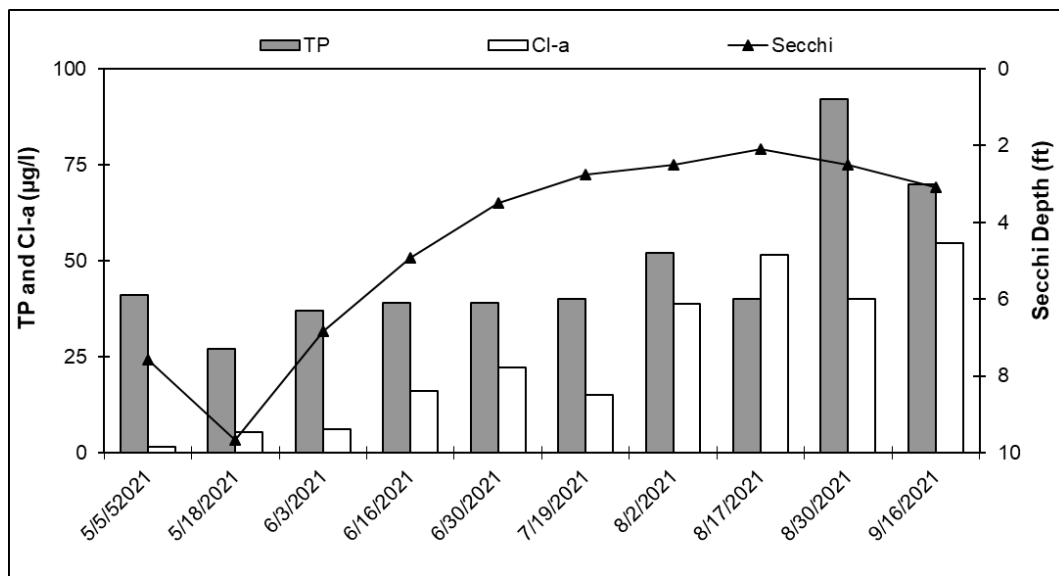
Discussion

Martin Lake, along with Typo Lake upstream, was the subject of a TMDL study by the Anoka Conservation District that was approved by the State and EPA in 2012. This study documented the sources of nutrients to the lake, the degree to which each is impacting the lake, and put forward lake rehabilitation strategies. Water entering from Typo Lake and internal loading (carp, septic systems, sediment, etc.) are two of the largest negative impacts on Martin Lake water quality. Carp management efforts, septic system replacements, and storm water retrofits have been implemented in recent years. Shoreline conditions on Martin Lake were inventoried during a 2019/2020 shoreline survey, resulting in the installation of multiple lakeshore restoration projects in 2021. Outreach for additional lakeshore projects will occur in 2022. Recent water quality monitoring results suggest these management approaches are improving conditions in the lake. Results have been positive, and future efforts should be made to continue these improvements. Because many of the most cost effective watershed projects and carp management have been implemented, an alum treatment should be considered to continue the restoration of water quality in this lake.

MARTIN LAKE

Linwood Township, Lake ID # 02-0034

2021 Results



2021 Median Values

pH		8.19
Specific Conductance	mS/cm	0.31
Turbidity	FNRU	20.00
D.O.	mg/l	10.46
D.O.	%	116.35
Temp.	°F	74.68
Salinity	%	0.15
Cl-a	ug/L	19.15
T.P.	ug/l	40.00
Secchi	ft	3.29

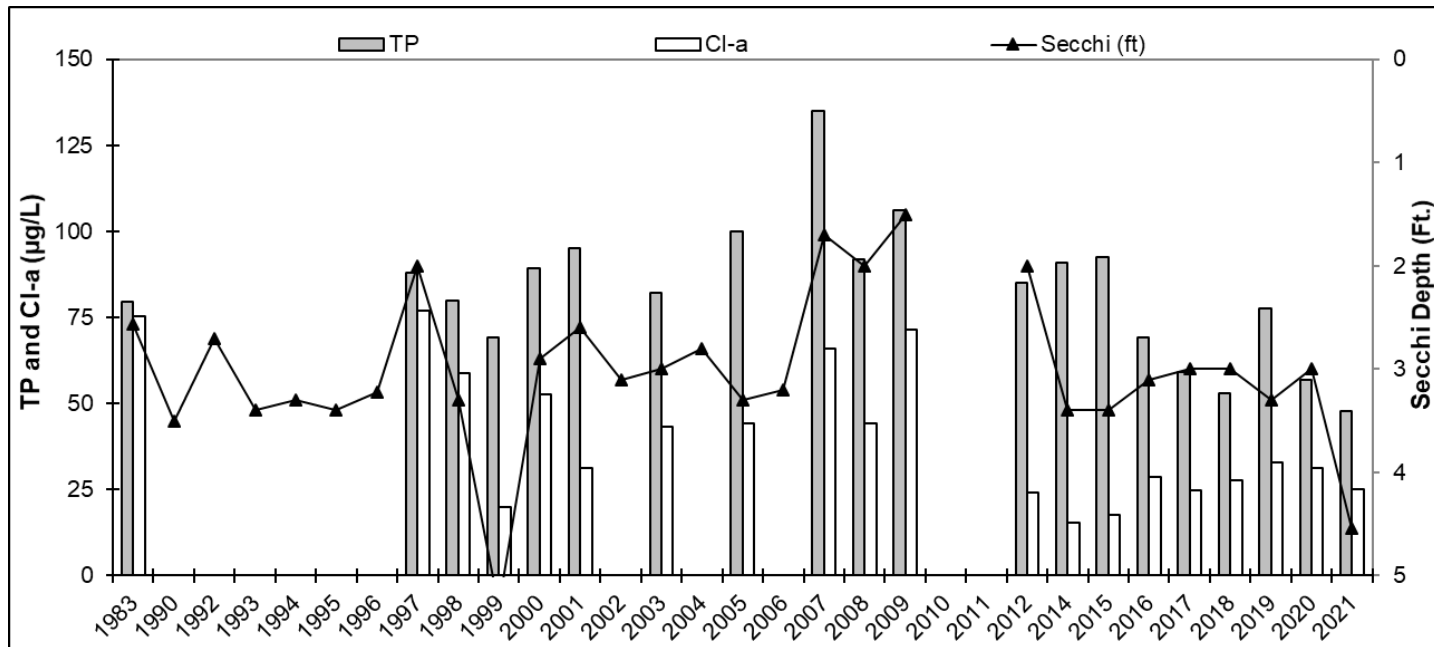
Martin Lake 2021 Water Quality Data

Date:	5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021
Time:	10:28	9:54	9:44	10:07	9:22	10:17	9:19	9:35	10:07	9:35

Units	R.L.*	5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021	Average	Min	Max
pH	0.1	8.31	8.27	8.10	8.49	8.69	7.91	8.02	7.94	7.93	8.30	8.20	7.91	8.69
Specific Cond	mS/cm	0.01	0.297	0.294	0.313	0.324	0.315	0.302	0.319	0.317	0.320	0.289	0.309	0.324
Turbidity	FNRU	1	8.40	3.10	5.00	38.20	20.30	8.80	24.10	28.00	19.70	22.30	17.58	38.20
D.O.	mg/l	0.01	11.92	12.18	10.11	9.45	12.22	10.45	10.46	8.68	6.07	10.51	10.21	12.22
D.O.	%	1	115.2	128.5	117.5	114.3	136.2	133.2	111.9	106.9	74.5	121.2	115.9	136.2
Temp.	°C	0.1	12.9	18.59	20.95	25.15	24.84	26.61	24.52	24.07	23.35	20.24	22.1	12.9
Temp.	°F	0.1	55.2	65.5	69.7	77.3	76.7	79.9	76.1	75.3	74.0	68.4	71.8	55.2
Salinity	%	0.01	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.15	0.15
Cl-a	ug/L	1	1.60	5.30	6.20	16.00	22.30	15.10	38.70	51.60	40.100	54.70	25.2	1.6
T.P.	mg/l	0.005	0.041	0.027	0.037	0.039	0.039	0.040	0.052	0.040	0.092	0.070	0.048	0.027
T.P.	ug/l	5	41	27	37	39	39	40	52	40	92	70	47.7	27
Secchi	ft	0.1	7.58	9.66	6.83	4.92	3.50	2.75	2.50	2.1	2.5	3.1	4.5	2.1
Secchi	m	0.1	2.31	2.94	2.08	1.50	1.07	0.84	0.76	0.64	0.76	0.94	1.4	0.6
Physical			2.0	1.0	3.0	3.0	4.0	3.0	4.0	3.0	3.0	2.0	2.8	1.0
Recreational			1.0	1.0	1.0	3.0	4.0	2.0	4.0	2.0	3.0	2.0	2.3	1.0

*reporting limit

Historical Annual Averages



Historical Report Card

Year	TP	Cl-a	Secchi	Overall
1996			D	D
1997	D	D	F	D
1998	D	D	D	D
1999	C	B	C	C
2000	D	C	D	D
2001	D	C	D	D
2002			D	D
2003	D	C	D	D
2004			D	D
2005	D	C	D	D
2006			D	D
2007	D	D	F	D
2008	D	C	F	D
2009	D	D	F	D
2012	D	C	F	D
2014	D	B	D	C
2015	D	B	D	C
2016	C	C	D	C
2017	C	C	D	C
2018	C	C	D	C
2019	D	C	D	D
2020	C	C	D	C
2021	C	C	C	C
State Standards	60 ug/L	20 ug/L	>3.3 ft	

BOOT LAKE

Linwood Township, Lake ID # 02-0028

Background

Boot Lake is located in the northeast portion of Anoka County and has a surface area of 92 acres. While nearly all of the lake is shallow with aquatic vegetation growing to the surface, there is one small area with a depth of 23 ft. (7 m) where water quality monitoring occurs.

Boot Lake is within a restricted access Scientific and Natural Area (SNA) owned and

administered by the Minnesota Department of Natural Resources. The Boot Lake SNA is 660 acres and includes the entire lake as well as the undeveloped shoreline. Access, including for ACD to conduct water quality monitoring, requires a special permit from the MN DNR.

Boot Lake has one primary stream inlet and one outlet. The inlet drains upstream lands that include undeveloped, sod fields and large-lot residential usage. The outlet stream goes to Linwood Lake.

Diagnostic monitoring at Boot Lake is important for two reasons. First, Boot Lake is a contributing water source to Linwood Lake, which is impaired for excess nutrients. Monitoring Boot Lake's water quality allows us to determine whether Boot Lake is degrading Linwood Lake's water quality. Secondly, Boot Lake is relatively undisturbed, and it is desirable to see what water quality conditions are in a rare, undeveloped lake in Anoka County.

2021 Results

Boot Lake's nutrient levels are typical of shallow lakes in the area. The average total phosphorus level in 2021 was 33.8 µg/L, average chlorophyll-a was 9.2µg/L, and average Secchi transparency was 8.3 ft. (2.5 m). These are better than the state water quality standard for shallow lakes (total phosphorus <60 µg/L, chlorophyll-a <20 µg/L, Secchi transparency >1m), and earn Boot Lake an overall B letter grade on Met Council's grading scale for metro area lakes. This is an improvement from the C letter grade Boot Lake received in 2018. Boot Lake supports a diverse plant community, and attracts abundant waterfowl.

Trend Analysis

2021 was only the third year of water quality monitoring for Boot Lake. Trend analysis is not yet possible. The earliest data about the lake is from a 1979 resource inventory that was completed to assess the site as a potential Scientific and Natural Area. The inventory did not include water quality monitoring.



Discussion

While Boot Lake is not subject to many of the potential negative impacts that occur on unprotected and/or developed lakes, its water quality is far from the pristine condition one might expect. Viking Boulevard runs near the western shore of the lake and may directly contribute pollutants. The contributing subwatershed includes some agriculture and scattered residential housing, which may also affect water quality in Boot Lake. In-lake nutrients can also contribute to algal growth.

ACD monitored the water quality of the inlet to Boot Lake at Viking Boulevard in 2001 and 2003. Average total phosphorus in the inlet across both years was 117 µg/L, which is typical for the area, but exceeds the state water quality standard for streams of 100 µg/L, and is likely contributing to the nutrient load into Boot Lake.

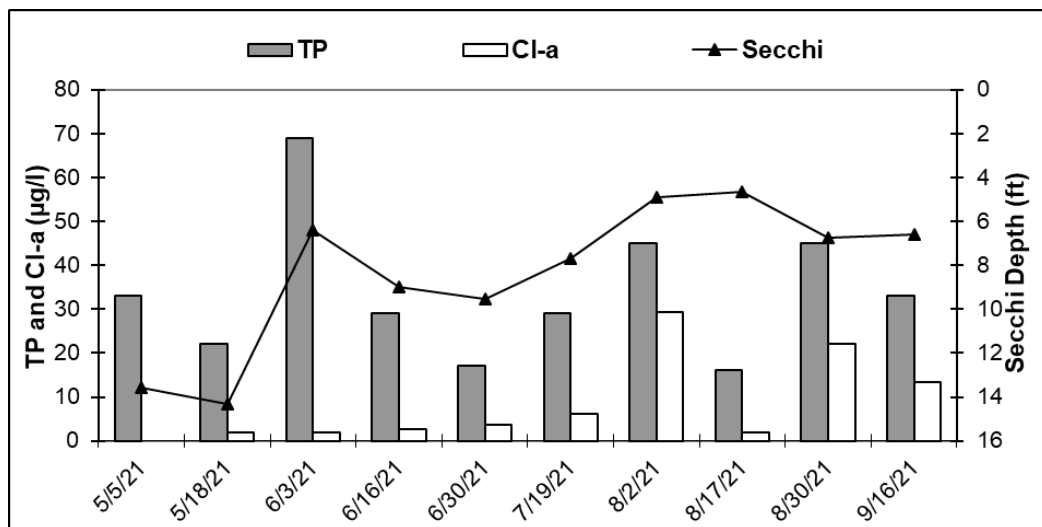
Carp can negatively impact lake health, though their population appears low in Boot Lake. This is significant because carp reduction is a management goal for Linwood Lake. Boot Lake could be a source of carp, or spawning area for them. Dead common carp were observed in 2018 when ACD staff were monitoring water quality. However, in 2018, a trap netting survey for carp was done in Boot Lake resulting in zero being caught.

Boot Lake's impact on Linwood Lake downstream appears neutral, as its nutrient concentrations are similar. However, efforts to improve impaired Linwood Lake should be made with Boot Lake in mind. It often makes sense to manage the whole watershed, and especially upstream contributing waters.

BOOT LAKE

Linwood Township, Lake ID # 02-0028

2021 Results



2021 Median Values

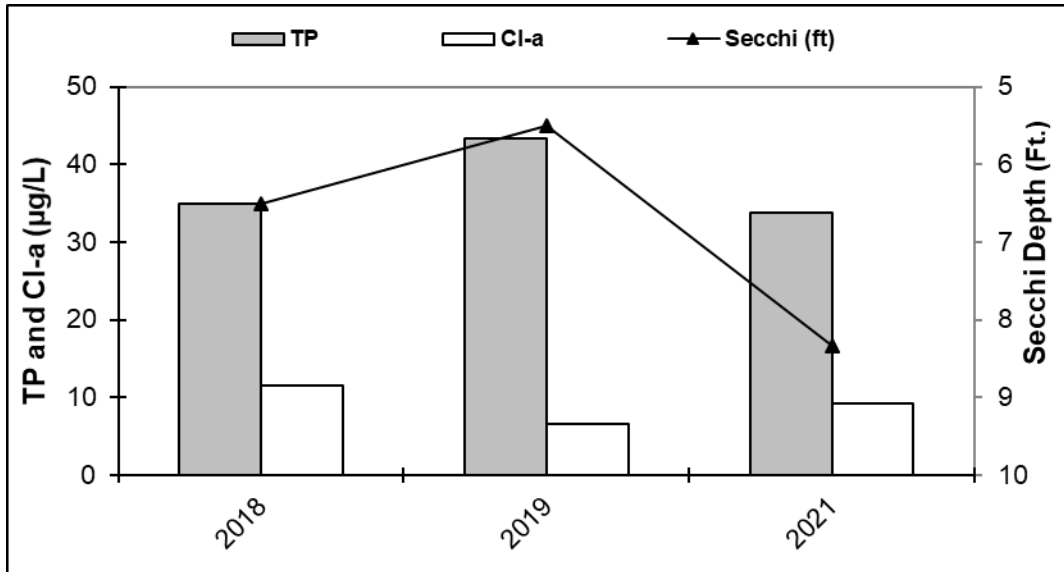
pH		7.93
Specific Conductance	mS/cm	0.26
Turbidity	NTU	9.25
D.O.	mg/l	9.58
D.O.	%	109.35
Temp.	°F	73.41
Salinity	%	0.12
Cl-a	µg/L	3.60
T.P.	µg/l	31.00
Secchi	ft	7.21

Boot Lake 2021 Water Quality Data

		Date:	5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021	Average	Min	Max
		Time:	9:28	9:10	9:01	8:58	8:41	9:30	8:43	8:40	9:23	8:54			
Units	R.L.*	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Average	Min	Max
pH		0.1	7.88	7.91	8.54	8.51	8.73	8.21	7.56	7.72	7.95	7.67	8.1	7.56	8.73
Specific	mS/cm	0.01	0.258	0.261	0.242	0.223	0.208	0.223	0.254	0.269	0.280	0.257	0.2	0.21	0.28
Turbidit	NTU	1		2.60	2.20	23.60	25.10	1.900	10.30	14.90	8.20	3.60	10.3	1.90	25.10
D.O.	mg/l	0.01	10.43	10.97	11.19	9.39	9.77	14.37	5.90	6.35	8.54	7.97	9.5	5.90	14.37
D.O.	%	100	103.9	120.8	131.4	114.8	119.5	118.3	71.9	76.1	70.1	88.2	101.5	70.10	131.40
Temp.	°C	0.1	14.51	19.78	21.17	24.81	24.42	25.00	23.54	23.57	22.47	19.18	21.8	14.51	25.00
Temp.	°F	0.1	58.1	67.6	70.1	76.7	76.0	77.0	74.4	74.4	72.4	66.5	71.3	58.12	77.00
Salinity	%	0.01	0.12	0.12	0.11	0.11	0.10	0.11	0.12	0.13	0.13	0.12	0.1	0.10	0.13
Cl-a	µg/L	1	<1	1.80	1.80	2.7	3.6	6.2	29.4	1.8	22.2	13.4000	9.2	1.80	29.40
T.P.	mg/l	0.005	0.033	0.022	0.069	0.029	0.017	0.029	0.045	0.016	0.045	0.033	0.03	0.02	0.07
T.P.	µg/l	5	33	22	69	29	17	29	45	16	45	33	33.8	16.00	69.00
Secchi	ft		13.58	14.33	6.41	9.00	9.53	7.67	4.9	4.7	6.8	6.6	8.3	4.66	14.33
Secchi	m		4.1	4.4	2.0	2.7	2.9	2.3	1.5	1.4	2.1	2.0	2.5	1.42	4.37
Physical			1.0	1.0	3.0	2.0	3.0	3.0	3.0	2.0	2.0	2.0	2.2	1.00	3.00
Recreational			1.0	1.0	2.0	3.0	4.0	4.0	4.0	2.0	3.0	3.0	2.7	1.00	4.00

*reporting limit

Historical Annual Averages



Historical Report Card

Year	TP	Cl-a	Secchi	Overall
2018	C	B	C	C
2019	C	A	C	B
2021	C	A	B	B
State Standards	60 ug/L	20 ug/L	>3.3 ft	

Wetland Hydrology

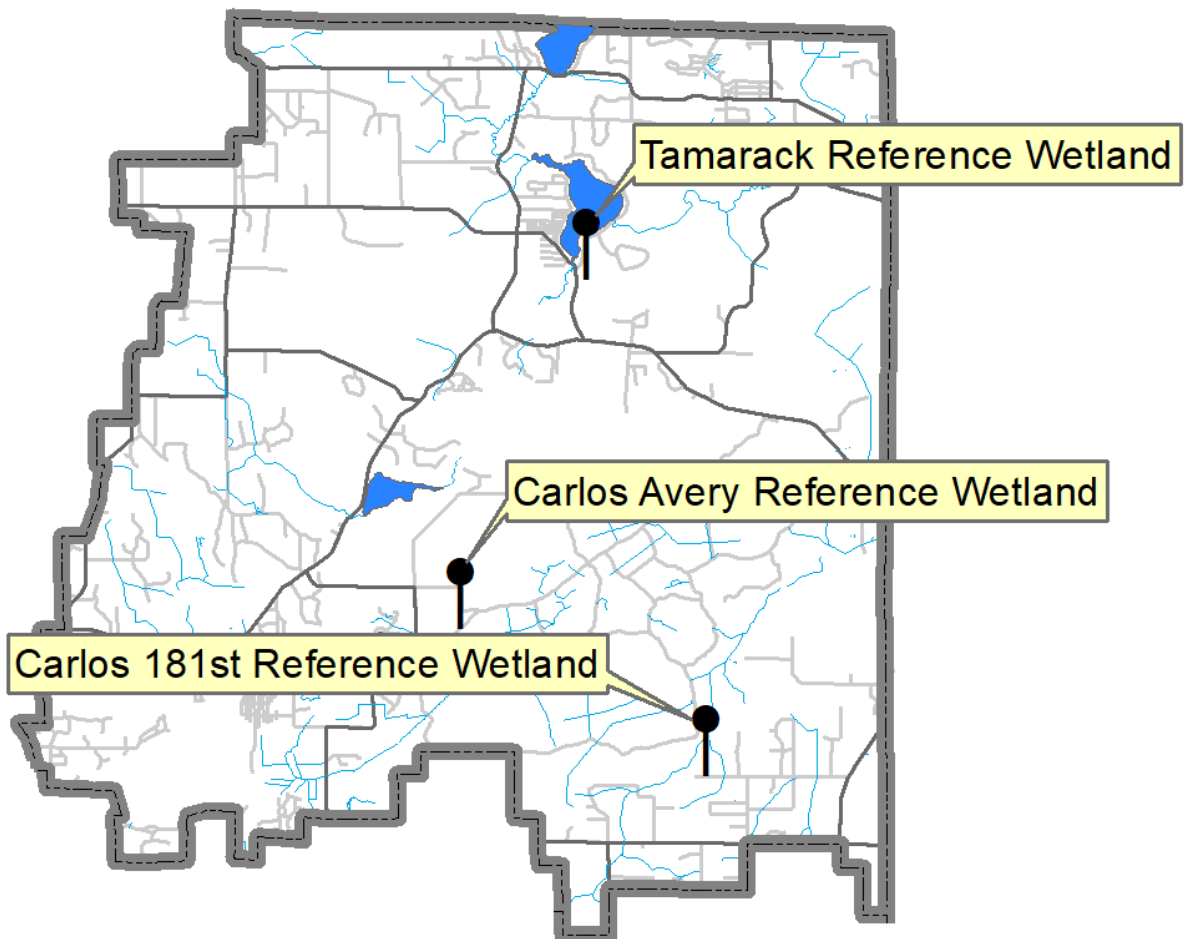
Description: Continuous groundwater level monitoring at a wetland boundary to a minimum depth of 40 inches. Countywide, ACD maintains a network of 23 wetland hydrology monitoring stations.

Purpose: To provide understanding of wetland hydrology, including the impacts of climate and land use change. These data aid in delineation of nearby wetlands by documenting hydrologic trends including the timing, frequency, and duration of saturation.

Locations: Carlos Avery Reference Wetland, Carlos Avery Wildlife Management Area, City of Columbus Carlos;
Carlos 181st Reference Wetland, Carlos Avery Wildlife Management Area, City of Columbus;
Tamarack Reference Wetland, Linwood Township.

Results: See the following pages.

2021 Sunrise River Watershed Wetland Hydrology Monitoring Sites

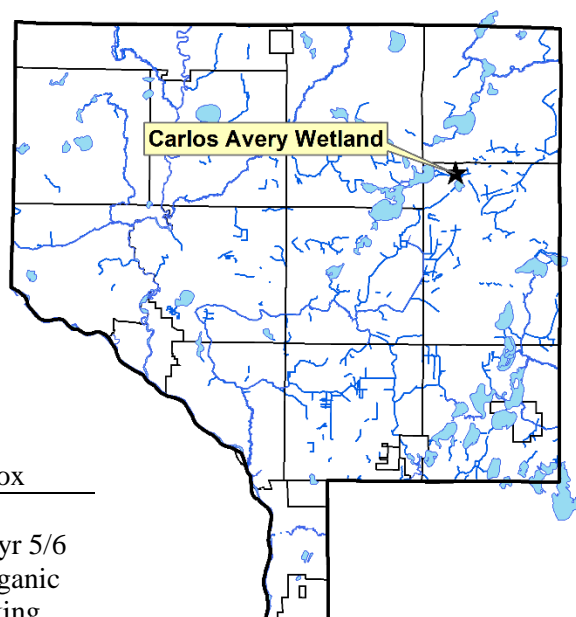


CARLOS AVERY REFERENCE WETLAND

Carlos Avery Wildlife Management Area, City of Columbus

Site Information

Monitored Since: 1997
Wetland Type: 3
Wetland Size: >300 acres
Isolated Basin: No
Connected to Ditch: Yes
Surrounding Soils: Lino loamy fine sand



Soils at Well Location:

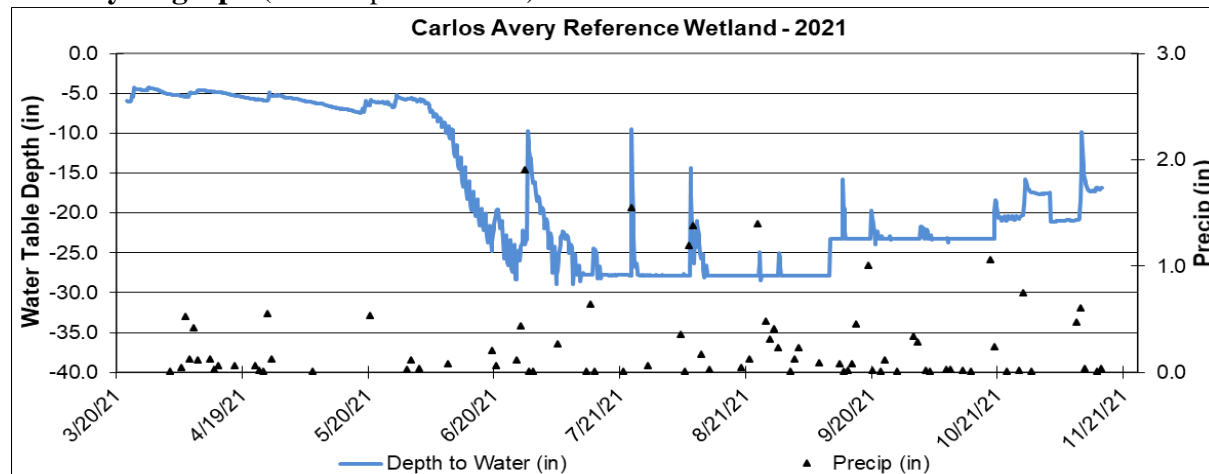
Horizon	Depth	Color	Texture	Redox
Oa	0-4	N2/0	Organic	-
Bg	4-25	10yr	Sandy	25% 10yr 5/6
		5/2	Loam	with organic streaking

Vegetation at Well Location:

Scientific	Common	% Coverage
Phalaris arundinacea	Reed Canary Grass	80
Carex Spp	Sedge undiff.	40
Quercus macrocarpa	Bur Oak	40
Sagittaria latifolia	Broad-leaf Arrowhead	20
Cornus stolonifera	Red-osier Dogwood	20

Other Notes: This is a broad, expansive wetland within a state-owned wildlife management area. Cattails dominate within the wetland. Anoka County was in a state of drought starting in June, with most of the growing season spent in a severe drought condition, which caused some monitoring wells to go dry. This monitoring well typically does not go dry and has taken readings lower than 28 inches in past years. The well depth will be assessed in 2022.

2021 Hydrograph (Well Depth 28 inches)

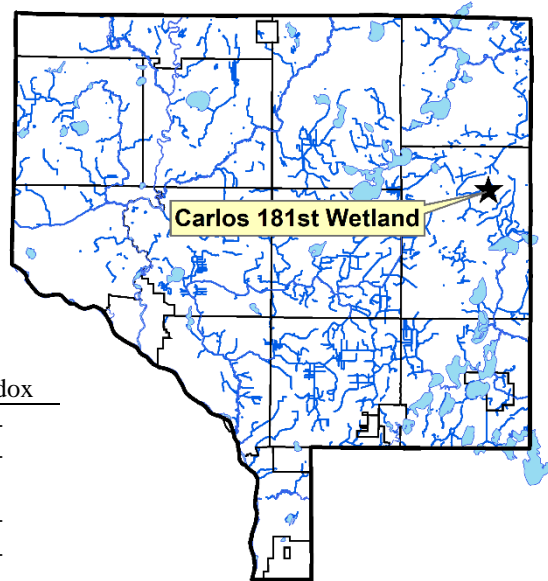


CARLOS 181st REFERENCE WETLAND

Carlos Avery Wildlife Management Area, City of Columbus

Site Information

Monitored Since: 2006
Wetland Type: 2-3
Wetland Size: Approx. 3.9 acres
Isolated Basin: Yes
Connected to Ditch: Roadside swale only
Surrounding Soils: Soderville fine sand



Soils at Well Location:

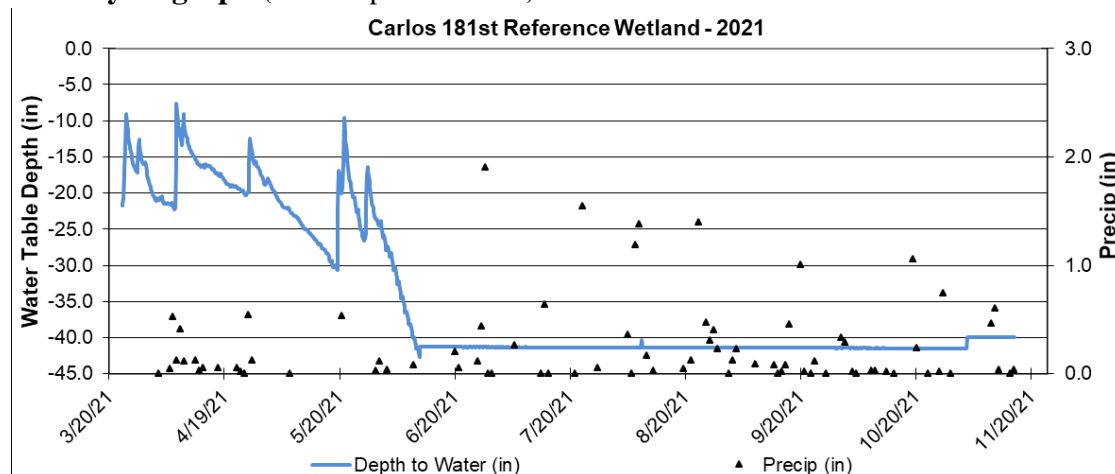
Horizon	Depth	Color	Texture	Redox
Oa	0-3	N2/0	Sapric	-
A	3-10	N2/0	Mucky Fine Sandy Loam	-
Bg1	10-14	10yr 3/1	Fine Sandy Loam	-
Bg2	14-27	5Y 4/3	Fine Sandy Loam	-
Bg3	27-40	5y 4/2	Fine Sandy Loam	-

Vegetation at Well Location:

Scientific	Common	% Coverage
<i>Phalaris arundinacea</i>	Reed Canary Grass	100
<i>Rhamnus frangula</i> (S)	Glossy Buckthorn	40
<i>Ulmus american</i> (S)	American Elm	15
<i>Populus tremuloides</i> (T)	Quaking Aspen	10
<i>Acer saccharum</i> (T)	Silver Maple	10

Other Notes: This site is owned and managed by the MN DNR. Access is from 181st Avenue. Anoka County was in a state of drought starting in June, with most of the growing season spent in a severe drought condition, which caused some monitoring wells to go dry.

2021 Hydrograph (Well Depth 40 inches)

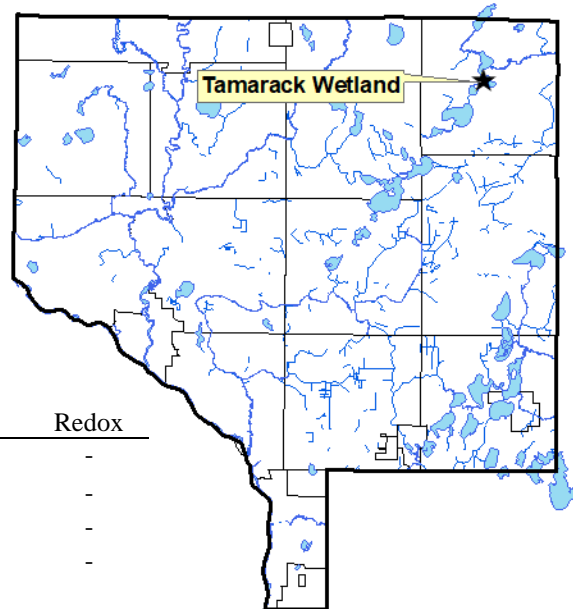


TAMARACK REFERENCE WETLAND

Carlos Avery Wildlife Management Area, City of Columbus

Site Information

Monitored Since: 1999
Wetland Type: 6
Wetland Size: Approx. 1.9 acres
Isolated Basin: Yes
Connected to Ditch: No
Surrounding Soils: Sartell fine sand



Soils at Well Location:

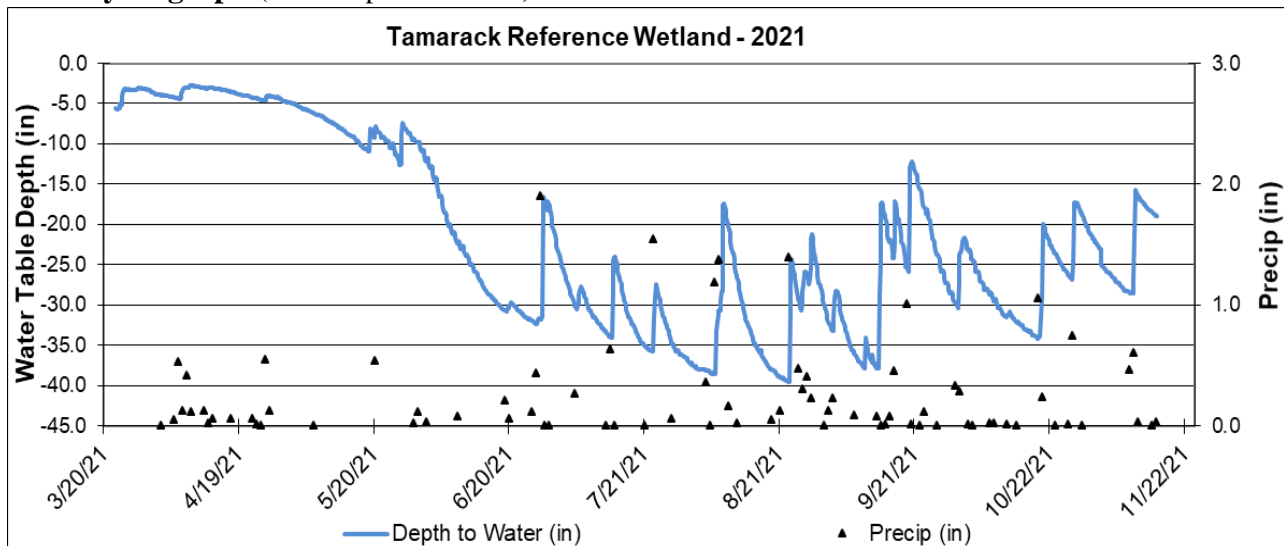
Horizon	Depth	Color	Texture	Redox
A	0-6	N2/0	Mucky Sandy Loam	-
A2	6-21	10yr 2/1	Sandy Loam	-
AB	21-29	10yr3/2	Sandy Loam	-
Bg	29-40	2.5y5/3	Medium Sand	-

Vegetation at Well Location:

Scientific	Common	% Coverage
<i>Rhamnus frangula</i>	Common Buckthorn	70
<i>Betula alleghaniensis</i>	Yellow Birch	40
<i>Impatiens capensis</i>	Jewelweed	40
<i>Phalaris arundinacea</i>	Reed Canary Grass	40

Other Notes: The site is owned and managed by Anoka County Parks. *Decodon verticillatus* (Water willow), a MN State Special Concern species, was found on the north side of the wetland in 2020.

2021 Hydrograph (Well Depth 40 inches)



Secchi Transparency Lake Monitoring – Volunteer Coordination

Description: Anoka Conservation District identified and enrolled new volunteers into the Minnesota Pollution Control Agency’s Citizen Monitoring Program. These volunteers will monitor Secchi transparency during the open water season and report their data to the State. The MPCA provides equipment, coordinates data collection, and trains volunteers as needed.

Purpose: To gain transparency data for lakes within the watershed that currently do not have active volunteers.

Location: Coon (East and West bay), Linwood, Martin, Fawn, Typo, Island

Results: In 2021, 85 letters were mailed to all property owners on Typo, Rice, Tamarack, Pet, Island, and Linwood Lakes. Outreach on certain lakes has proven difficult due to the limited number of homes on many of the smaller lakes. Rice Lake, for example, only has six residents.

In 2021, Secchi transparency volunteers were secured on Linwood, Typo, and Island Lakes.

Volunteers were not successfully secured on Pet, Rice, South Coon, Skunk, and Tamarak Lakes.

Volunteers were already established on Fawn, Martin, and Coon (East and West Bay) Lakes.



Anoka Conservation District
1318 McKay Drive NE, Suite 300
Ham Lake, Minnesota 55304
Ph: 763-434-2030 Fax: 763-434-2094
www.AnokaSWCD.org

The Anoka Conservation District is looking for a volunteer to join the Minnesota Pollution Control Agency’s (MPCA) Citizen Lake Monitoring Program (CLMP) on Linwood Lake. Being a CLMP volunteer requires only a small amount of time and helps protect local lakes.

The volunteer visits a designated monitoring location, a minimum of twice a month, and takes Secchi disk reading. An example of what a Secchi Disk looks like, is shown below. The Secchi disk is lowered into the water and the depth is recorded at the point where the disk disappears the volunteer. This reading represents the clarity of the water which is one of the main drivers water quality in a lake. Additional information is also recorded including; weather conditions, water color, physical condition, recreational suitability, and anything noteworthy for that day.

The volunteer then shares their readings with the MPCA, where the data is uploaded onto a database used by residents and professionals throughout the State.



Helping the State of Minnesota get lake transparency data is a quick and easy way to help keep lakes healthy! The MPCA provides all of the equipment and training you will need to be a successful volunteer. Please contact me if you have interest in becoming the MPCA’s next CLMP volunteer.

Thank you!



Anoka Conservation District
1318 McKay Drive NE, Suite 300
Ham Lake, Minnesota 55304
Ph: 763-434-2030 Fax: 763-434-2094
www.AnokaSWCD.org

Pet Lake needs your help! I know you have received a few letters from us but The Anoka Conservation District is still searching for a new Secchi volunteer on Pet Lake. Being a volunteer requires only a small amount of time and provides crucial data to help protect local lakes.

All the volunteer needs to do is take a Secchi reading twice a month. These readings represent the clarity of the water in the lake which is one of the main drivers of water quality. The volunteer shares their readings and the data is uploaded onto a database used by residents and professionals throughout the State.



Secchi disk being used by a volunteer to take transparency readings.

Helping get lake transparency data is a quick and easy way to help keep lakes healthy! We will provide you all the equipment and training you need. Please contact me if you have interest in becoming the volunteer for Pet Lake.

Thank you!

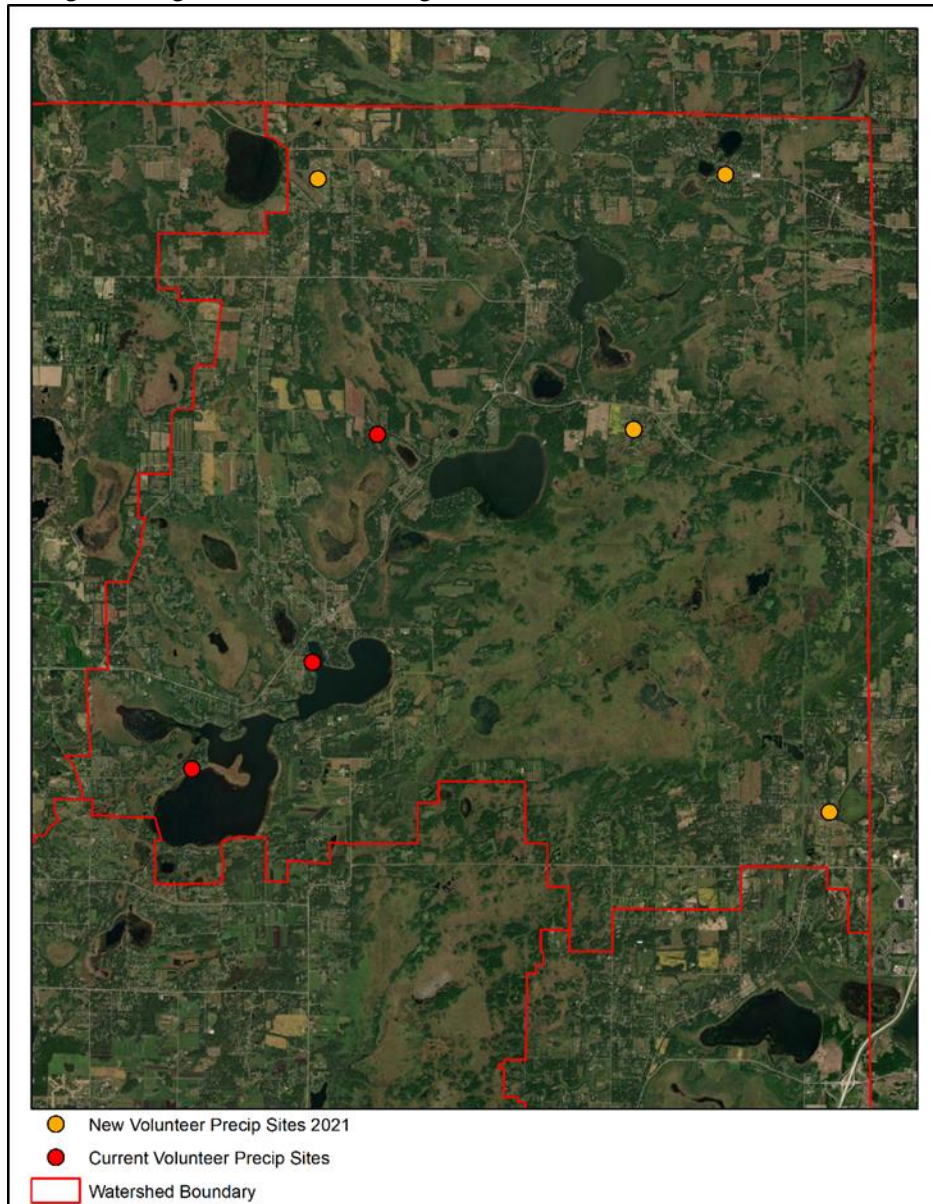
Precipitation Monitoring

Description: Anoka Conservation District secured four volunteers and enrolled them in the State Climatology Office Backyard-Monitoring Network. ACD coordinated data collection, provided training, and reported data to the State Climatology office on a monthly basis.

Purpose: To gain additional precipitation data within the watershed

Location: Target areas of the watershed

Results: Four volunteers were enrolled in the State Climatology Office backyard-monitoring network. Three of these volunteer have received equipment and training and are ready to begin during the 2022 monitoring season.



Water Quality Grant Funds

- Description:** The Sunrise River Watershed Management Organization (SRWMO) offers cost share grants to encourage projects that will benefit lake and stream water quality. These projects include lakeshore restorations, rain gardens, erosion control, and others. These grants, administered by ACD, offer cost sharing of the materials needed for a project. The landowner is responsible for some expenses. ACD assists interested landowners with design, materials acquisition, installation, and maintenance.
- Purpose:** To improve water quality in area lakes, stream, and rivers.
- Locations:** Throughout the watershed.
- Results:** Projects reported in the year they were installed.

SRWMO Cost Share Fund Summary

2019 Year-End Balance	\$3,816.53
2020 SRWMO Contribution	\$2,000.00
2020 Expense – Scheiderich Coon Lakeshore Restoration	\$3,395.86
2021 SRWMO Contribution	\$0
2021 Expense – Linwood Elementary Rain Garden	\$764.71
Fund Balance	\$3,024.24

Projects Funded since inception:

- 2006 – Coon Lakeshore restoration - Rogers
- 2008 – Martin Lakeshore restoration - Moos
- 2012 – Linwood Lakeshore restoration, Gustafson
- 2012 – Transfer to Martin – Typo Lakes Carp Barriers
- 2016 – Coon Lake Rain Garden - Voss
- 2018 – Coon Lakeshore Restoration - Gunnink
- 2020 – Coon Lakeshore Restoration - Scheiderich
- 2021 – Linwood Elementary Rain Garden

Sunrise River Chain of Lakes Carp Removal Project

Description:

Linwood, Martin and Typo Lakes fail to meet state water quality standards due to excessive phosphorus, which fuels algae blooms. As a result, the lakes are often strongly green or brown, and the game fishery is depressed. Carp are one cause of poor water quality in these lakes, diminishing their value for swimming, boating, and fishing. Efforts to manage and reduce carp are being undertaken to improve water quality, habitat, and the fishery.



Purpose:

To improve water quality in Linwood Typo and Martin Lakes, as well as downstream waterways.

Location:

Sunrise River Chain of Lakes including Linwood, Island, Martin, and Typo lakes.

Results:

In 2021, the following work was completed:

- PIT tags were added to 192 carp in Typo Lake. These carp and PIT tag antennas around box nets helped us understand when carp were aggregating at the nets and to spring the nets accordingly.
- 1,009 carp were removed from Typo Lake through box netting efforts.
- 71.8 lbs. of carp were removed from Linwood Lake. This under-ice seine effort had a number of radio-tagged carp in the net indicating a large catch until the net caught on an obstacle, resulting in the net tearing and presumed escape of these carp.
- Debris was removed from the NE bay on Linwood Lake to allow successful future seine netting.
- 12 new radio tags were implanted into carp in Martin Lake to guide commercial seines to schooled carp.
- 1 commercial seine at Martin Lake. One carp captured.
- A carp fishing clinic was taught by the owner of Carp Solutions, LLC, Dr. Przemek. He provided instruction and techniques used in his homeland of Poland. Participants, who were mostly Martin Lake residents, went home with a carp fishing rig and bait.



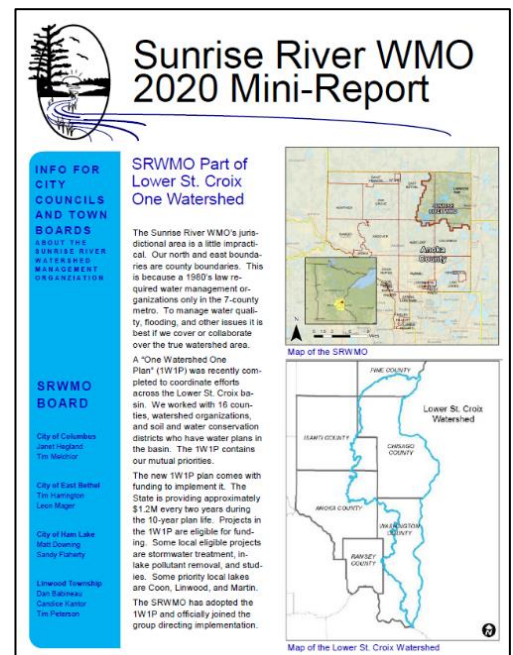
Under ice seine effort on Linwood Lake on left. Radio tagging by Carp Solutions, LLC. on Martin Lake, center. Carp fishing clinic at Martin Lake on right.

On-call Administrative Services

- Description:** The Anoka Conservation District Watershed Projects Manager provides on-call administrative assistance to the SRWMO. Tasks are limited to those defined in a contractual agreement.
- Purpose:** To ensure day-to-day operations of the SRWMO are attended to between regular meetings.
- Location:** Watershed wide
- Results:** In 2021, administrative assistance provided to the SRWMO by the Anoka Conservation District included:
- Assisted the SRWMO Board with day-to-day operational items
 - Prepared an annual budget
 - Advised or represented the WMO on water management issues
 - Boundary adjustment
 - Joint powers agreement updates
 - Prepared and oversaw the publication of public notices, including those seeking bids on work plan tasks every other year (this will not include publication fees)
 - Served as a contact for inquiries about the SRWMO and its programs from agencies and the public
 - Assisted with preparation of meeting agendas and distributing meeting materials
 - Facilitated discussion at board meetings, including preparing meeting packets
 - Ordered annual audits and provided the auditor with requested information (with assistance from the treasurer)

Annual Written Communication to Member Communities

- Description:** The Anoka Conservation District provides a summary of activities completed in the preceding years.
- Purpose:** To create a summary for board members to use during annual reporting.
- Location:** Watershed wide
- Results:** A one page, double-sided summary of SRWMO activities for the preceding years was prepared by ACD. This summary included work accomplished, finances, leveraged funds, and current events. Board members will use it during annual reporting to their city councils and town boards in January-March.



SRWMO Annual Report to BWSR and State Auditor

Description: The Sunrise River Watershed Management Organization (SRWMO) is required by law to submit an annual report to the Minnesota Board of Water and Soil Resources (BWSR), the state agency with oversight authority. This report consists of an up-to-date listing of SRWMO Board members, activities related to implementing the SRWMO Watershed Management Plan, the status of municipal water plans, financial summaries, and other work results. The SRWMO bolsters the content of this report beyond the statutory requirements so that it also serves as a comprehensive annual report to SRWMO member communities. The report is due annually, 120 days after the end of the SRWMO's fiscal year (April 30th).

The SRWMO must also submit an annual financial report to the State Auditor. They accept unaudited financial reports for financial districts with annual revenues less than \$185,000.

Purpose: To document progress toward implementing the SRWMO Watershed Management Plan and to provide transparency of government operations.

Location: Watershed-wide.

Results: Anoka Conservation District assisted the SRWMO with preparation of the annual Sunrise River WMO Annual Report. ACD drafted the report and cover letter. After SRWMO Board review, the final draft was forwarded to BWSR. A sufficient number of copies were sent to each member community to ensure that each city council person and town board member would receive a copy. The report is available to the public on the SRWMO website.



Grant Search and Applications

Description: The Anoka Conservation District (ACD) partners with the SRWMO for the preparation of grant applications. Several projects in the SRWMO Watershed Management Plan need outside funding in order to be accomplished.

Purpose: To provide funding for high priority local projects that benefit water resources.

Results: In 2021 the SRWMO pursued several grants and positioned itself for others.

Since 2014, the following grants have been secured for SRWMO projects through the assistance of ACD:

Project	Grant Source	Amount
2014 Martin and Typo Lake Carp Barriers, site 2	MN DNR CLP	\$35,770
2014 Martin and Typo Lake Carp Barriers, sites 1,3,4	MN DNR CLP	\$399,983
2014 Coon Lake Area Stormwater Retrofits	BWSR CWF	\$42,987
2015 Ditch 20 Wetland Restoration Feasibility Study	BWSR CWF	\$72,400
2017 Martin and Typo Lake Carp Harvests	MN DNR CLP	\$99,000
2017 Septic System Fix Up Fund*	MPCA	\$23,040
2018 Watershed Based Funding – stormwater retrofits & more	BWSR WBIF	\$156,750
2018 Septic System Fix Up Fund*	MPCA	\$27,055
2019 Septic System Fix Up Fund*	MPCA	\$40,000
2019-20 Surface Water Monitoring Grant, Sunrise R	MPCA	\$5,102
2019 Sunrise River Chain of Lakes Carp Mgmt	BWSR CWF	\$148,000
2020 Septic System Fix Up Fund*	MPCA	\$25,447
2021 Lower St. Croix WBIF –internal loading analyses	BWSR WBIF	Pending
2021 Septic System Fix Up Fund*	MPCA	\$34,876
TOTAL		\$1,110,410

*Countywide Grant

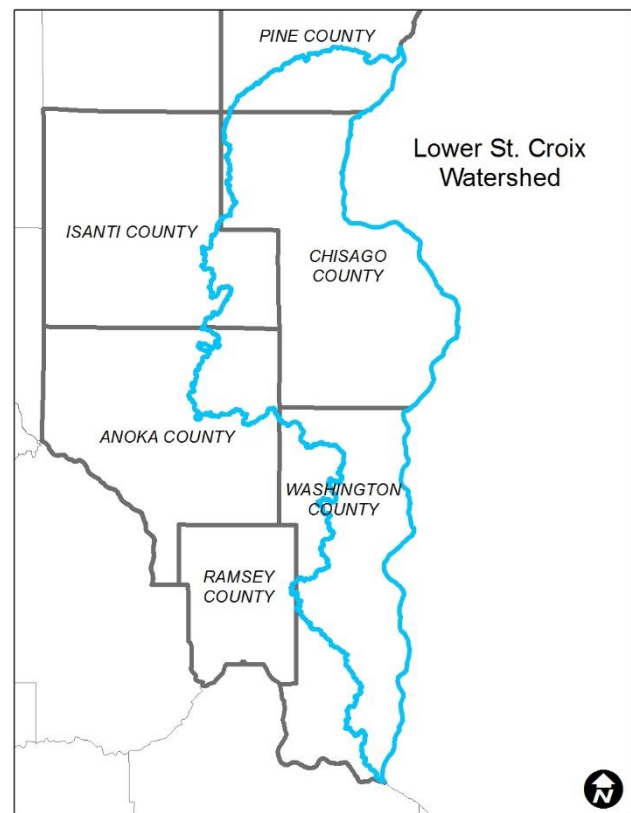
Participate in 1W1P

Description: An Anoka Conservation District staff member will serve as the staff representative of the SRWMO on the Lower St. Croix One Watershed One Plan Advisory Committee.

Purpose: Seek to advance SRWMO priorities and associated funding.

Results: In 2021, an ACD staff member attended eight 1W1P meetings and advocated for SRWMO priorities. SRWMO priorities included in the 1W1P as a result include internal loading analyses at Linwood, Martin and Typo Lakes; subwatershed assessment study for Linwood Lake; carp management; agricultural outreach, stormwater retrofits, and more.

County	Total Acres Watershed	Percentage of Watershed
Anoka County	45,192	7.7%
Chisago County	277,185	47.3%
Isanti County	42,929	7.3%
Pine County	50,207	8.6%
Ramsey County	335	0.1%
Washington County	169,889	29.0%



Ag Conservation Planning Outreach

Description: Anoka Conservation District assisted with identification, prioritization, and outreach to parcels where conservation plans are feasible by a BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD.

Location: Watershed wide

Results: ACD staff worked with the Watershed Conservation Planner housed at Chisago SWCD. Together, we identified 42 owners of parcels 20+ acres in size that were in drainages to priority lakes (Coon, Linwood, Martin, and Typo). We reached out to these owners with two letters offering free USDA/NRCS conservation planning, which is a prerequisite to obtaining federal funding for conservation project funds for their property. Thereafter, we made in-person visits to the six top priority landowners. These top priority landowners had >40 acres including lands adjacent to waterways and draining to priority waters. The outcomes of this effort were:

- 42 landowner reached by mail
- Six in-person site visits
- Three conservation plans completed

The USDA-NRCS will continue to work with these landowners to enroll them in conservation programs or complete conservation projects.



Outreach and Education

NEWSLETTERS

Description: Anoka Conservation District created outreach pieces for the city and lake association newsletters. Topics included lakeshore stewardship, financial assistance for fixing failing septic systems, native aquatic plants, and the existence and purpose of the SWRMO.

Purpose: To provide information and education to the public through lake association and city newsletters.

Location: Watershed-wide

Results: In 2021, ACD created & distributed outreach articles and infographics for city and lake association newsletters.

City newsletter content included:

- Septic system maintenance
- Septic system fix up grants
- Aquatic invasive species

Lake association newsletter content included:

- Septic system maintenance
- Septic system fix up grants
- Lakeshore stewardship
- Series of 12 infographics about lakeshore stewardship

Why Pump Your Tank?

Maintenance prevents costly repairs 	Increase septic system lifespan
Avoid clogs and backups 	Prevent backups on the lawn
Keep groundwater, streams, and lakes clean! 	Ensure smooth drainage

Three years is the longest you should go without pumping your septic tank. Avoid costly repairs. Keep our lakes, rivers, and drinking water clean!

Sunrise River Watershed Management Organization
www.SRWMO.org

Septic System Fix-Up Grants Available!

A properly functioning septic system provides effective treatment of wastewater. If a system is neglected, it could cost thousands of dollars to repair and potentially contaminate local groundwater and surface water supplies, putting the health of your family and neighbors at risk.

Septic system fix up grants are available that can pay for 80-90% of the cost of fixing or replacing a septic system. Applicants must meet low income criteria. To apply or learn more, contact Kris Larson at the Anoka Conservation District (Kris.Larson@anokawcd.org or 763-434-2030 ext. 11).

The Sunrise River Watershed Management Organization is a joint organization of the cities of East Bethel, Ham Lake, Columbus, and Linwood Township. Its purpose is to manage local water issues.

Sunrise River Watershed Management Organization
www.SRWMO.org

WEBSITE

Description:

The Sunrise River Watershed Management Organization (SRWMO) contracts the Anoka Conservation District (ACD) to maintain a website about the SRWMO and the Sunrise River watershed. This will include promotion of the Anoka County Well Water Wise private well testing program on the website.

Purpose:

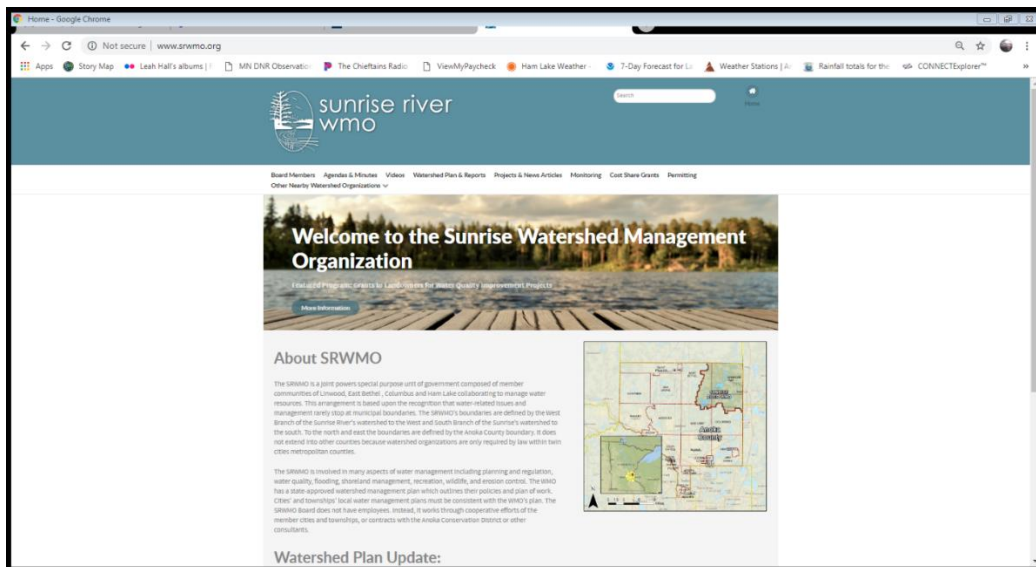
To increase awareness of the SRWMO and its programs. The website also provides tools and information that helps users better understand water resource issues in the area. The website serves as the SRWMO's alternative to a state-mandated newsletter.

Location:

www.srwmo.org

Results:

In 2021, ACD maintained the SRWMO website and posted board minutes and agendas.



ANOKA COUNTY OUTREACH COORDINATOR POSITION

Description: Anoka Conservation District provided consistent, reliable outreach throughout the county and in the SRWMO, which benefits SRWMO water resources.

Purpose: Provide outreach and reduce work that would otherwise be required of the SRWMO and cities.

Location: County wide

Results: ACD's Outreach Coordinator accomplished the following in the SRWMO in 2021:

- Martin Lake carp fishing clinic
- Assistance with SRWMO public officials tour
- Video about the SRWMO public officials' tour (posted on SRWMO website)
- Social media announcements of SRWMO accomplishments and events including the Linwood Elementary rain garden, public official's tour, and other projects & events.
- Linwood Family Fun Day booth
- East Bethel open house booth (staffed by SRWMO board member)
- Buckthorn treatment clinic
- And others



PUBLIC OFFICIALS TOUR

Description: Anoka Conservation District facilitated and hosted a tour of SRWMO natural resources and projects to public officials. This tour was postponed from 2020 due to the Covid-19 pandemic.

Locations: Martin Lake Stormwater ponds, 22847 W Martin Lake Dr. NE
Linwood Elementary School Rain Garden, 21900 Typo Creek Dr. NE
Coon Lakeshore Restoration, 3642 Edmar Lane NE
Coon Lake Rain Garden, 4417 Channel Lane NE

Results: The tour took place September 2021 with 13 attendees including city council members, town board supervisors, a county commissioner, and SRWMO board members. Tour visits included a stormwater pond enhancement, curb cut rain garden, lakeshore restoration, and infiltration basin. At three of the sites, the owner was present to talk about the problems they had been experiencing and how the project has worked for them. Key information shared included costs, funding sources, and measurements of success.

