

Sallie/Melissa

Water Management Area

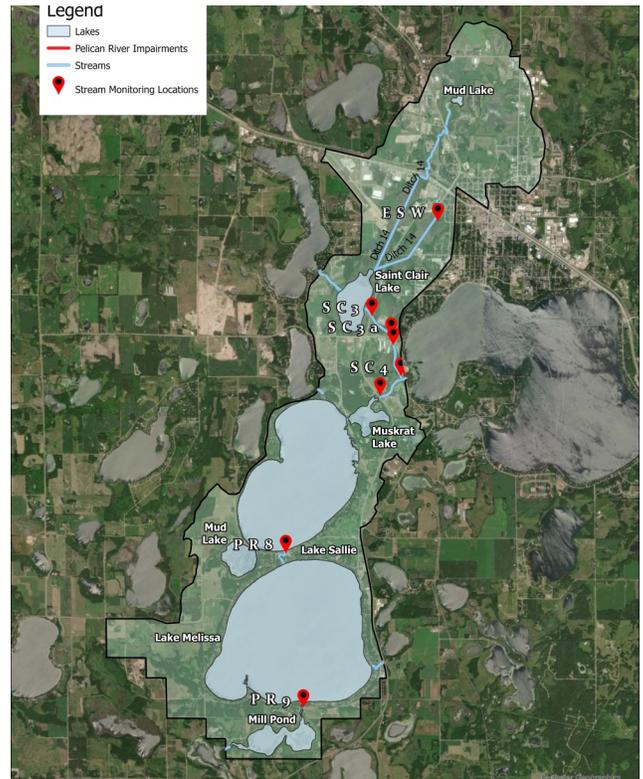
Summer 2021

In 2020, The District sampled St. Clair Lake, Lake Sallie, and Lake Melissa for water quality. Muskrat Lake had a shoreline survey, and Lakes Sallie, Melissa, and Muskrat received chemical treatments for Flowering rush and/or Curly-leaf pondweed.

Water Quality. Both Sallie and Melissa experienced improved water quality in 2020 compared to historic averages. On Sallie, the total phosphorous for 2020 was 25 ppb compared to the 20-year average of 32 ppb, Chl-a was 4.58 ppb compared to 20-year average of 12.89 ppb, and clarity was 14.52' compared to 20-year average of 8.72'. The total phosphorous on Melissa for 2020 was 20 ppb compared to the 20-year average of 20 ppb, Chl-a was 4.35 ppb compared to the 20-year average of 7.17 ppb, and clarity was 11.25' compared to the 20-year average of 12.67'. Water quality on Lake St. Clair also improved, with total phosphorus falling to 57 ppb, well below the 20-yr average of 96 ppb, and below the impairment level of 60 ppb. '

Whole Lake Aquatic Vegetation Surveys. Melissa and Sallie are scheduled for vegetation surveys in 2021.

Shoreline Surveys. In 2022, Melissa and Sallie are scheduled for shoreline surveys.



Muskrat Lake Shoreline Survey was conducted on Muskrat Lake in 2020. Since the last survey in 2017, there was a significant increase in the number of docks, while the number of boat lifts, motorized, and non-motorized boats decreased. The number of waterfront structures remained constant between the surveys, but the 2020 sur-



Good News! Aquatic Invasive Species (AIS) treatments for both Curly-leafed pondweed and Flowering Rush were greatly reduced in 2020 from previous years treatments due to low plant population growth.

Curly-leaf pondweed treatment was conducted only on Muskrat lake in 2020. CLP growth areas can greatly fluctuate each year with plant locations and density. The District assesses CLP growth conditions and treatment plans for Sallie, Melissa, and Muskrat lakes each year.

Flowering Rush treatment areas were also greatly reduced in 2020. Lake Melissa had no submerged Flowering rush treatments, but did conduct shoreline spot spraying where submersed treatments would not be effective. The largest area of Flowering Rush treated occurred on the northeast side of Lake Sallie, within the "mixed" stands of bulrush and Flowering rush. Where the Pelican River enters Lake Sallie, Flowering rush remains a "stubborn" remnant area due to the river flows greatly diminishing the chemical treatment

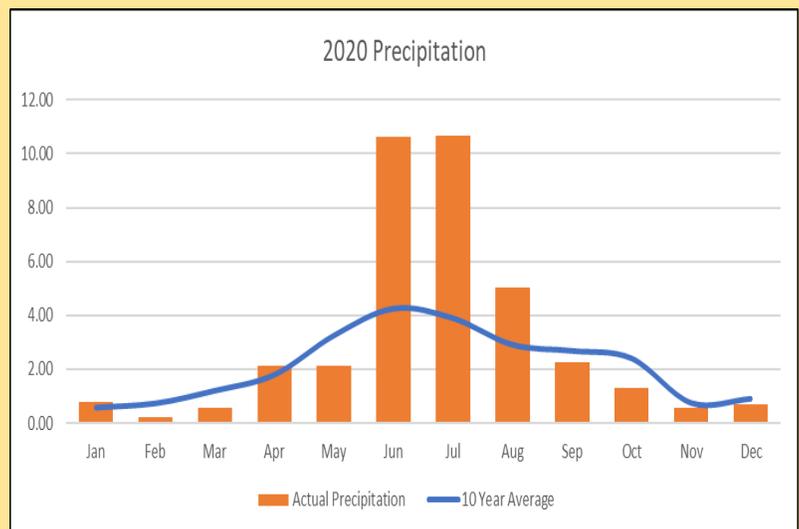
	CLP Acres 6/2/2020	CLP Cost	FR Trmt #1 Acres 7/7/20	FR Trmt #1 Cost	FR Trmt #2 Acres 8/11/2020	FR Trmt #2 Cost	Foliar FR Trmt	Totals Per Lake
Sallie			32.8	\$4559.86	32.8	\$4559.86	\$150.00	\$9,269.72
Melissa							\$200.00	\$200.00
Muskrat	2.4	\$333.65						\$333.65

2020 Monitoring Results, Weather & Water Levels

Water Management Area	Lake	2020 Average			Historical Averages (2000-2019)			MNPCA Lake Standards		
		TP (ppb)	Chl-a (ppb)	Secchi (feet)	TP (ppb)	Chl-a (ppb)	Secchi (feet)	TP (ppb)	Chl-a (ppb)	Secchi (feet)
Detroit/Rice	Big Detroit	18	3	15	25	9	10	<40	<14	>4.6
	Little Detroit	15	3	15	20	5	11	<40	<14	>4.6
Floyd/Campbell	Big Floyd	12	4	14	16	5	12	<40	<14	>4.6
	North Floyd	26	11	10	32	15	8	<40	<14	>4.6
	Little Floyd	25	10	8	24	10	9	<40	<14	>4.6
Sallie/Melissa	Sallie	26	5	15	34	15	8	<40	<14	>4.6
	Melissa	20	4	17	21	8	11	<40	<14	>4.6
	St. Clair*	57	18	4	88	43	3	<60	<20	>3.3
Brandy	Oak	49	44	5	-	-	-	<60	<20	>3.3
Pearl/Loon	Spear	30	7	9	-	-	-	<60	<20	>3.3
	Loon	14	4	9	22	8	7	<60	<20	>3.3
Small Lakes	Glawe	23	6	9	23	6	10	<60	<20	>3.3
	Meadow	13	4	13	17	4	16	<40	<14	>4.6

2020 Weather

The big story of 2020 is heavy rainfall events throughout the year, but especially during the months of June and July. Between April and September, there were a total of 20 rainfall events which precipitated > 0.5" of rain and 11 events which precipitated >1" of rain, with the largest event on June 8th and 9th precipitating a total of 4.41" The wettest months of the year were June and July, with 10.63" of rain in June and 10.66" in July. This is 6.38" and 6.76" over the June and July 10-year average for Becker County (MN DNR Climate Data). Snowfall for 2020 (38.9") was below average (48.27") for the year. An anomaly occurred in October with 9.4" of snow falling, however, warmer temperatures melted the deposited snow shortly thereafter.



2020 Water Levels

Lake Sallie (OHW 1329.30) - Water levels are recorded at the outlet, at County Hwy 22. In 2020, water levels were similar to 2019, falling below the OHW for the majority of the year. Water levels fluctuated between the low 1329.7' MSL on 6/15/20 to a high of 1330.09' MSL on 7/27/20.

Lake Melissa (OHW 1328.60) - In 2020, water levels were similar to average, staying slightly above and below OHW for the season. Water levels fluctuated between 1328.58' MSL and 1328.8' MSL throughout the season.

MN Association of Watershed Districts 2020 Project of the Year



The Pelican River Watershed District was honored to receive the MN Association of Watershed District's Project of the Year award for their accomplishments with Coordinated Research and Adaptive Management of the invasive plant, Flowering Rush.

The battle began in 1976 when the first infestation was documented in Curfman Lake and then spread through the Pelican River chain into Detroit, Muskrat, Sallie, Melissa, Mill Pond and Buck Lakes. In January 2010, PRWD met with research scientists and agency representatives from both state and federal governments to further discuss the possible use of herbicide controls. Phenology and Ecology research was conducted from 2010-11, In-Lake pilot studies began in 2011, and from 2012-14 In-Lake Operational scale treatments followed.



In 2013, 250 acres of FR on Lakes Sallie, Melissa, Detroit and Curfman were treated. The most notable change has been in Detroit Lake where 170 acres were treated in 2013 and only 23 acres required treatment in 2020; and in Lake Melissa 38 acres were treated in 2013, and no treatments were necessary in 2020.

Hours: Mon - Fri 8 am - 4:30 pm

(218) 846-0436 | 211 Holmes St. West, Wells-Fargo Bldg., Suite 201, Detroit Lakes, MN 56501



HOME ABOUT PERMITS OUR WATER OUR WORK RESOURCES CONTACT

Water Resource Management for the Upper Pelican River

The Pelican River Watershed District manages water resources of 120 square miles in Becker and Otter Tail Counties and includes the upper reaches of the Pelican River which eventually drains to the Otter Tail and Red Rivers.

[Our Water](#)

UPDATED WEBSITE: www.prwd.org.

Check out the new website! District staff has worked very hard through the winter months with a website designer to update the website. We launched the new page on May 1, and will continue to update the information in the coming months. You are able to go into the *Our Water* section and click on your lake to see the latest information. We hope you find it user friendly and informative. The section titled *Our Work*, is loaded with information on current projects and programs and the *Resources* section, contains both current and historical reports and data regarding District activities.

Facebook. If you aren't seeing our posts on your Facebook feed, you may need to "like" or "follow" us to see current information. Due to difficulties with the old District Facebook page, we closed it down and started up a new page in early 2021. In the Process, we lost some of our followers. Check it out for current PRWD updates.



MPCA Otter Tail River Basin WRAPS Study.

The basin-wide assessment study was completed in Spring 2021. Both Melissa and Sallie lakes have a “Protection” water quality goal.

Strategies to maintain WQ, include: forest and lakeshore protection, runoff infiltration on developed

properties (stormwater management), improving upland/field surface runoff, and maintaining individual septic systems on lakeshore.

Aquatic Plant Roadside Pickup Program:

This program runs from Memorial Day through the end of September and is for aquatic vegetation only. Bring your lake vegetation to the curb and Watershed District staff will pick it up once per week.

Please **do not include any yard debris (leaves, twigs, tree branches) or garbage**. Piles containing these items will not be picked up.

Water Management Rules—2020 Activity

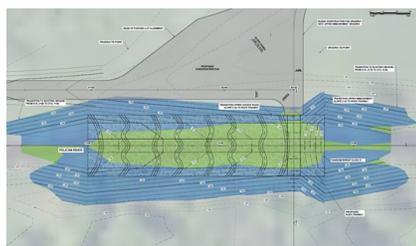
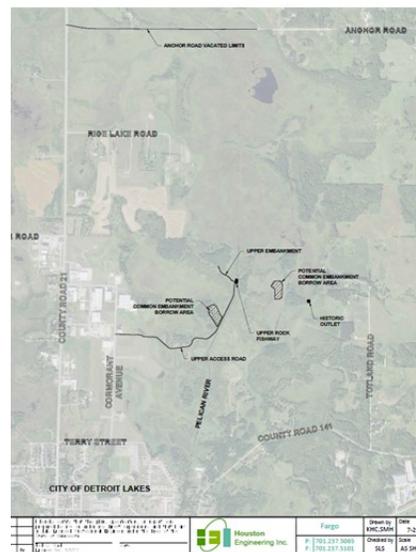
Permits issued: In 2020 the District continued the work of maintaining or increasing water quality within the District boundaries through the permitting process. PRWD has a Memorandum of Understanding with both the City of Detroit Lakes and Becker County to oversee permits relating to shoreline alterations and impervious surface requirements.

Nearly two thirds (44) of the 70 permits issued, by the District in 2020 were for work in the Shore Impact Zone (SIZ), including vegetation changes, rip rap, and sand blankets.

Permit Type	2020 Issued
Shore Impact Zone Alterations (sand blanket, rip rap, vegetation changes)	44
Subdivisions/PUD	2
Stormwater Mgmt.	21
Roads, Parking Lot, Bridges, Culverts, Storm Sewer	3

Rice Lake Wetland Restoration Project: The District has targeted the Rice Lake Wetland project as the primary source of phosphorous loading to Detroit Lake through its monitoring network, and studied the alternatives, effects and benefits of the Rice Lake Wetland Restoration. The wetland restoration nutrient reduction project is ready for on-the-ground construction in 2021, with an anticipated annual phosphorous reduction of between 800-1,200 lbs. to Big Detroit Lake.

The District engaged the services of Houston Engineering to design the project's features which include an upper embankment structure and rock fishway water control structure which incorporates a 15 ft wide low-water crossing and drawn-down capability; upper access road improvement to the existing



Rock Fishway to be built within Ditch 13.

road improvement to the existing access; installing a road terminus and removal of 2 large road culverts on the vacated Anchor township road segment; and replacing the Rice Lake Wetland historic outlet channel culverts with a rock weir grade control structure. An anticipated completion date of Phase I is November 1, 2021.