District Rules & Permitting

The Watershed District works in cooperation with property owners, contractors and engineers, and local government units to maintain or increase the water quality in our district through the rules and 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.

Permit Type	2021 Issued
Shore Impact Zone Alterations (sand blanket, rip rap, vegetation changes)	35
Subdivisions/PUD	2
Stormwater Management Commercial Residential	 15 6
Roads, Parking Lot, Bridges, Culverts, Storm Sewer	5

Although more permits are issued each year for Shore Impact Zone Alterations than any other category, a larger quantity of staff time is spent on sites requiring an engineered stormwater management plan. These applications often need one or more revisions to meet all the necessary requirements, and likewise, the construction of the larger sites, such as the City of Detroit Lakes South Shore Park project and the local school additions and remodels continue from one calendar year to the next before they are completed.

The effectiveness of the stormwater "Best Management Practices" that are incorporated into these large building sites around the City of Detroit Lakes is very evident during large storm events. Flooding streets are rare and, therefore, less stormwater is flowing into our lakes.

Below are pictures of the Project Tour the PRWD Managers and Staff took in the fall of 2021 to review some of the stormwater practices around Detroit Lakes. The top picture is a stormwater pond at the Detroit Lakes High School and the bottom two are photos of South Shore Park.

Education & Outreach Events

PRWD staff was thrilled to interact with the public during the summer of 2021 at Lake Association meetings, the Becker County Fair, at a Kiwanis meeting and with Becker COLA via interactive technology. We were also invited back into the classrooms beginning in 2022 for both a 5th and 4th grade Water Fest event, a 2-day Sucker Creek event, and a 2-day educational event near Frazee on the former Ike Fischer farm.

The quiet days of the pandemic did offer the district staff an opportunity to assess the educational outreach and grant programs currently in place. In the spring of 2021, Advisory meetings were held with service group leaders and local educators. As a result of these meetings, the district staff prepared a proposal and budget for board review that included environmental education grants for 1) classroom materials such as microscopes and "science kits"; 2) funds for environmental field trips; 3) pollinator gardens; and 4) reimbursement for environmental projects around the community.

The PRWD board of managers responded favorably to supporting local science education and directed staff to move forward. As a result, a 2022 schedule has been developed with the Detroit Lakes school district for various field trips throughout the year to such places as Sucker Creek, Hamden Slough and the Tamarac National Wildlife Refuge. Classroom mini grants for portable microscopes, compasses, and water testing kits and supplies that support water quality, have been approved by the Board of Managers.

Detroit/Rice
Water Management Area
Spring 2022

Our Work: The Watershed District continues to move forward in many directions with water quality monitoring, capitol improvement projects, rules and permitting, education and One Watershed One Plan (1W1P) planning.

- July 2021: A new funding project, Data Collection and Monitoring (DCM-01), was established to better serve the District with water quality monitoring needs.
- Summer 2021: PRWD staff began actively collaborating with the City of Detroit Lakes, and various individuals and agencies, developing the South Shore Park planting plan, which will include a pollinator area with a handicap accessible path and educational signs, approximately 1 acre in size.
- Fall 2021: Phase I of the Rice Lake Capitol Improvement Project was completed, and barring any setbacks, our hope is to complete Phase II of the project in 2023.
- Fall 2021: Staff is collaborating with Becker, Hubbard and Ottertail County COLA groups to host a Minnesota Aquatic Invasive Research (MAISRC) update to be held at M State on June 9, 2022.
- Spring 2022: District resumed classroom education with local students for the first time since COVID-19 reared its ugly head.
- 1W1P: Administrator Guetter and Water Resource Coordinator, Kemper, have been involved in all aspects of planning including technical advisory, policy, and landscape stewardship.
- Grants: District staff continue to work with MPCA to develop the 319 Grant Work Plan for the Campbell Creek area. Grant Agreement documents have been submitted to the Minnesota Department of Public Safety, Homeland Security and Emergency Management for the FEMA Flood Hazard Grant. Grant documents were also completed for the MN DNR and Becker SWCD to help offset the cost of AIS treatments in District lakes.

Water Quality: The Pelican River Watershed District has maintained a comprehensive water quality monitoring program since 1995. The primary goal of the program is to identify areas of decreased and impaired water quality so nutrient reduction efforts can be focused on the locations with the most benefit.

This program maintains an emphasis on tracking phosphorous as it travels through the watershed. Additional water quality metrics including water clarity (secchi depth), chlorophyll-a (CHL-A), total suspended solids (TSS), Dissolved oxygen (DO), etc. are captured at sample points to maintain a robust data set.

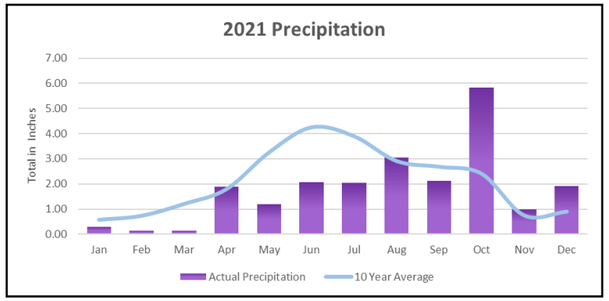
In 2021, PRWD staff conducted water quality sampling on 14 lakes and 17 locations on 5 different stream systems. Stream bank assessments were performed in partnership with the Minnesota Department of Natural Resources at several locations on Campbell Creek. Diagnostic sampling of E. coli on the Pelican River between State Highway 34 and Detroit Lake occurred to locate the source of the pollutant.

The water quality was above average on lakes across the District, which may be attributed to zebra mussels, improved stormwater management, and shoreline restoration. Zooplankton sampling continued in 2021 on various District lakes, including Big and Little Detroit, with samples being sent into the MN DNR for analysis.

Two college interns are hired each summer to collect water samples from area lakes and streams, conduct shoreline and aquatic plant surveys, and update monitoring databases.

Water Management Area	Lake	2021 Average			Historical Averages (2001-2020)			MNPCA Lake Standards		
		TP (ppb)	Chl-a (ppb)	Sechhi (feet)	TP (ppb)	Chl-a (ppb)	Sechhi (feet)	TP (ppb)	Chl-a (ppb)	Sechhi (feet)
Detroit/Rice	Big Detroit	15	3.85	17	25	8.26	10	<40	<14	>4.6
	Little Detroit	13	2.24	14	19	4.68	12	<40	<14	>4.6

2021 Weather & Aquatic Invasive Species Treatments

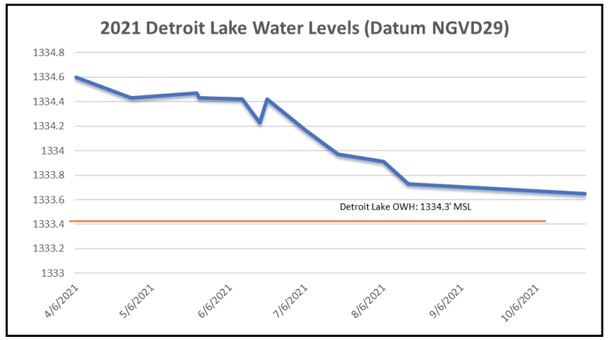


Weather: The year 2021 will be remembered for widespread summer drought, the June Heat Wave, the two-week Arctic Cold Wave of February, the record number of air quality alerts during the summer (mostly due to smoke from wildfires in the west and in Canada), and the tornadoes in December.

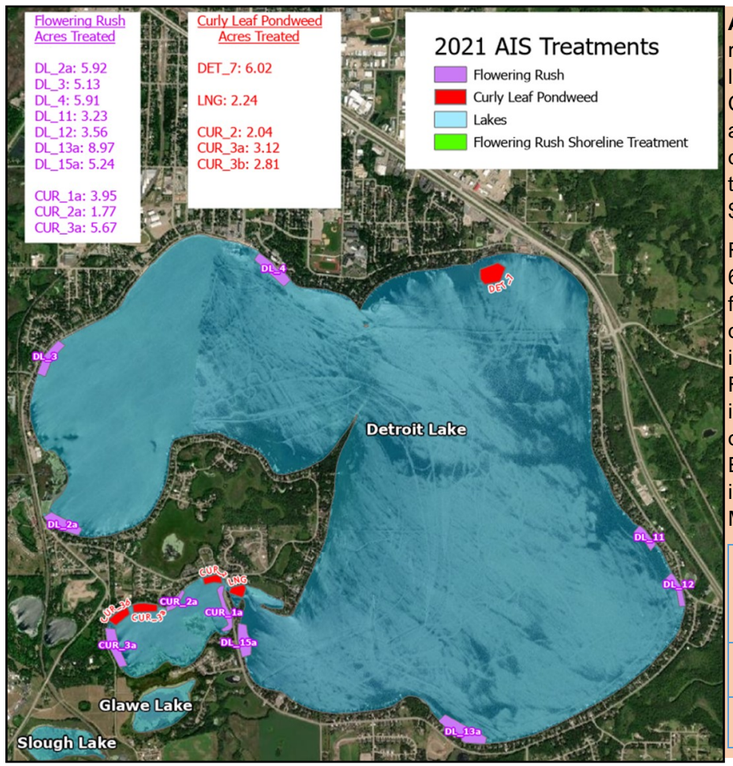
2021 will go down as the 5th warmest year in state history. On a statewide basis, only one month was cooler than normal. February was 7 to 9°F below normal. In contrast June was 5°F warmer than normal, making it the 3rd warmest June in state history.

Precipitation was less than normal in 2021, but only the 31st driest year in state history. May, June, and July were all drier than normal, putting most of the state landscape into drought. Statewide average precipitation for 2021 was under 24 inches, marking the driest full year since 2006.

Precipitation finally came during the month of October with 5.84" of much needed rain, which was well above the historical average of 2.41". To end the year, we received 25.45" of snow. This was above the historical average of 13.29".



Ice in/Ice Out: The ice out date on big Detroit in 2021 was on April 4, and the lake did not freeze again until November 25, resulting in 235 days of open water.



AIS Treatments: The number of acres requiring chemical treatment for Curly leafed pondweed (CLP) on Detroit/ Curfman continues to decrease. From 63 acres in 2019, to 26.7 acres in 2020, and only 16.1 acres in 2021. The cost for CLP treatment was $10,209 on Detroit Lake and $6972 on Curfman.

Flowering Rush (FR) was treated on 6/28/21 with a second treatment on 8/9/21 for those areas where the plant was more dense. Number of acres treated and cost is found on the chart below. Total cost for FR treatments in 2021 was $11,743. This is considerably higher than 2020, when the cost of FR treatment was only $3281. Even though more acres needed treatment in 2021, we still consider our Adaptive Management for FR a huge success.

Treated	6/28 FR Acres	Cost	8/9 FR Acres	Cost
Detroit	37.8	$5413	31.1	$4454
Curfman	11.3	$1618	1.8	$258

Rice Lake Wetland Restoration Project Phase I Construction

Rice Lake Capital Improvement Project (CIP) - Phase 1 Upper Structure Completed!

The District was awarded a MN Clean Water Land and Legacy Trust grant for construction of the Phase 1 Upper Water Control Structure in 2021. The project was advertised for bids and in March 2021, the project was to Williams Excavation and Seeding based out of Ashby, MN in the amount of $501,499.27.

After the May 13th pre-construction meeting, letters were sent to nearby landowners to let them know the project is finally underway and expectations over the summer construction period. Williams Excavating began construction of the Phase 1- upper structure access road (Industrial Park and along Ditch 13) and Anchor Road Improvements. Anchor Road Improvements included removal of 3 existing culverts in Ditch 13/Pelican River, removal of the road segment to Becker CSAH 21 and re-establishment /seeding of the road slope. On June 3rd, construction started on the Pelican River/Rice Lake Wetland in-channel impoundment section (earthen dam, rock fishway). Project construction schedule was modified as there were ongoing delivery delays with the concrete water control structure until October. However, the contractors, HEI, and MN DNR staff revised an alternative construction method to continue project construction on the rock fishway and historic outlet portions of the project and then install the water control structure and the concrete piping for the waterway bypass in early October and finish final site clean up by November.
This project is projected to reduce summer phosphorus loading to Detroit Lake by 600– 1,000 lbs annually, depending upon weather conditions.

Project Partners

- Clean Water Legacy Amendment
- Lessard-Sams Outdoor Heritage Funds
- NRCS- USDA University of MN
- MN Pollution Control Agency- Clean Water Partnership
- MN DNR –Landowner
- City of Detroit Lakes– Landowner
- 34 private landowners
- Detroit Township
- Pelican River Watershed District and its residents