

PelicanRiver Watershed District

2013 ANNUAL REPORT



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Detroit Lakes, MN 56501

Phone: (218) 846-
0436



Our Organization

Mission

To enhance the quality of water in the lakes within it's jurisdiction. It is understood that to accomplish this, the District must ensure that wise decisions are made concerning the management of streams, wetlands, lakes, groundwater, and related land resources which affect these lakes".

What is a Watershed District?

A watershed district is a special purpose unit of local government in charge of managing water resources within designated watershed boundaries. Watershed Districts work to protect and improve water quality in the lakes, rivers, and wetlands, and to protect residents against flooding.

Because Minnesota is the land of 10,000 lakes, it established watershed Districts as legal entities through the Minnesota Watershed Act of 1955. Minnesota has 48 watershed districts working to protect our lakes, streams, wetlands, and natural habitat.



Background

Acting on a nominating petition submitted by a small group of dedicated citizens on September 15, 1965, the Minnesota Water Resources Board (MWRB) established the Pelican River Watershed District (PRWD) on May 27, 1966—the first district in the state to be formed because of water quality issues and concerns. In explaining its action, the Board found that the...

“principal bodies of water in the upper reaches of the watercourse of the Pelican River, Detroit Lake, Lake Sallie and Lake Melissa, have become at certain times during the summer recreational months, unhealthy and unsightly due to excessive weed and algae growths. Such undesirable growths along the shores of the above lakes have interfered with boating, fishing and swimming; and have denied lake home owners the enjoyment of water scenery. In addition, weeds and algae growths have affected lake property value.” (MWRB, 1966)

The perception that conditions of area lakes were rapidly deteriorating was the primary motivation for creating a watershed district, and has guided formulation of the District’s 1967 Overall Plan and the subsequent efforts of the District Managers since that time. These efforts have included research, storm water management, advocacy of sewer projects and improvement of sewage treatment facilities, aquatic plant management activities, prevention and control of invasive species especially flowering rush, and many other conservation and enhancement activities.

About the District

The Pelican River watershed District covers 120 square miles and includes the City of Detroit Lakes. Located within Becker and Ottertail counties. PRWD drains to the Ottertail river and on to the Red River of the North up to Lake Winnipeg, Canada. Floyd, Detroit, Long, Fox, Monson, Pearl, Sallie, Melissa, and other smaller lakes are located in the PRWD.

A board of seven managers appointed by the Becker County Board of Commissioners guides the work of PRWD. Meetings are held the third Thursday of the month and are open to the public. Officers are elected at the annual meeting, which is generally held in January. PRWD works with other government units, cities, and neighboring watershed districts to protect and improve PRWD’s lakes, streams, wetlands and the Ottertail and Red River of the North.

Finances

State statutes 103D and 103E provide watershed districts the authority to levy property taxes and the amount is include on property tax statements. A budget is developed annually and approved after comments are received and a public hearing is held. The funds received through the property tax levy can be used for projects, grants, programs, and administration as recommended in the Pelican River Revised Water Management Plan (2005-14). More detailed information about PRWD’s finances can by found on the District’s website.

Our Organization

Established by State on

May 27, 1966 by community and lake association leaders to address deteriorating lake water quality conditions.

District Size: 120 Square Miles

Wetlands: 11,957 Acres

Pelican River: 8.3 miles

Lakes: 144

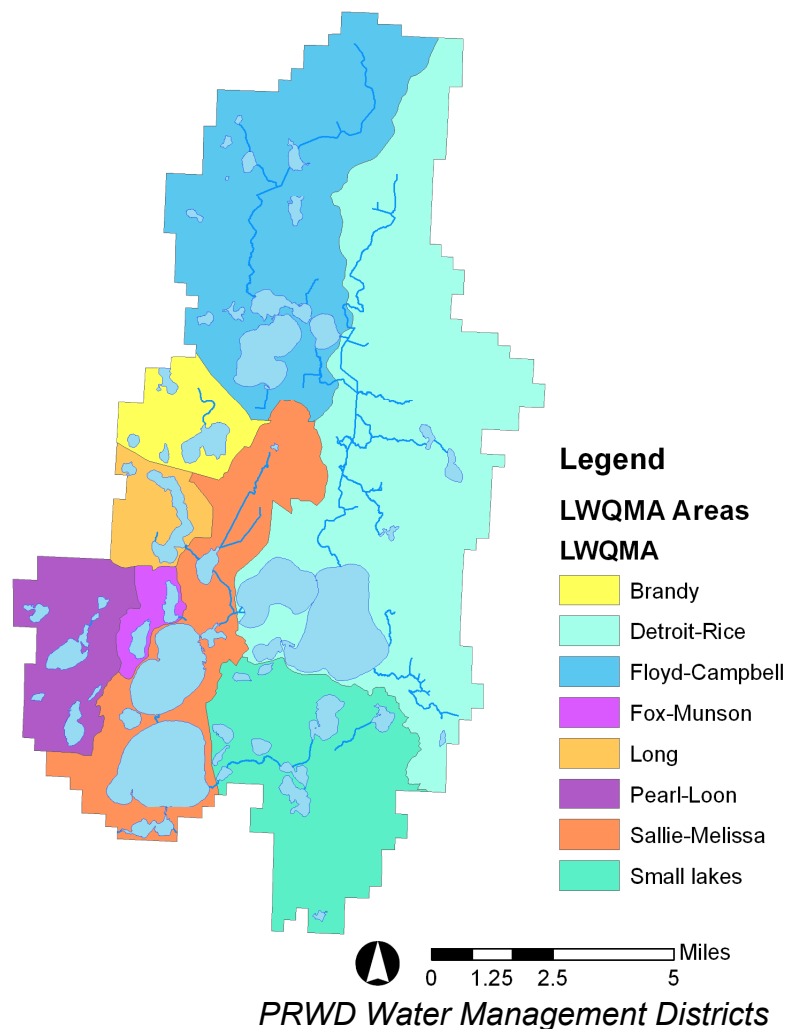
Ditch Systems: 3

The District encompasses 75,160 acres in Becker and 1,747 acres in Ottertail County for a total of 76,907 acres. The area includes the upper reaches of the Pelican River, and several large lakes.

City/Townships: City of Detroit Lakes; Erie, Richwood, Detroit, Lakeview, Lake Eunice, and Holmesville Townships

Major Lakes: Big & Little Floyd, North Floyd, Big & Little Detroit, Sallie, Melissa, Long, Pearl, Fox, St. Clair, Munson, Abbey, Meadow, Johnson, and Reeves.

Board of Managers: 7



District Information.

Office: Wells-Fargo Building
211 Holmes Street West, Suite 201,
Detroit Lakes, MN 56501

Office Hours: 8:00 AM to 4:30 PM Monday
through Friday

Phone: 218-846-0436

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Website: www.prwd.org / Facebook

Upon completion of the “Phase I” Clean Lakes study, funded by the State of Minnesota and the US Environmental Protection Agency to determine the nature and causes of problems in several District lakes and to outline a strategy for accomplishing solutions, attention in 1994 turned to the matter of preparing and submitting a revised management plan, as required by the Watershed District statute. This plan was approved by the Board of Waters and Soil Resources in December, 1994. The plan identified the causes of water quality problems faced by District lakes as follows:

- 1. Incomplete treatment of sanitary wastes, especially septage**
- 2. Inadequately treated storm water effluent**
- 3. Nutrient enriched surface discharges to lake and streams**
- 4. Nutrient enriched groundwater discharges to lakes and streams**
- 5. Removal of wetlands which serve as a natural sediment and nutrient buffers**
- 6. Excessive aquatic plant biomass in lake littoral zones**
- 7. Channelization of drainage ways, and drainage of wetlands which enhances sediment and nutrient discharges to lakes**
- 8. Existence of nutrient-enriched wetlands and lake-bottom sediments wherein nutrients are released under conditions of unusual runoff or anoxia**

The District’s water quality goals described above remain essentially the same as in the 1995 and 1997 Amendments. For the second goal, the wording was generalized: “Water Quality for Any Lakes classified as Eutrophic shall be improved to Mesotrophic.”

The following specific goals were identified in the 2005 Revised Management Plan:

The water quality in District lakes shall not be further degraded

Lake water quality for any lakes classified as Eutrophic shall be improved to Mesotrophic

Our Organization

Water Management Plan

Timeline

1967—District was Formed

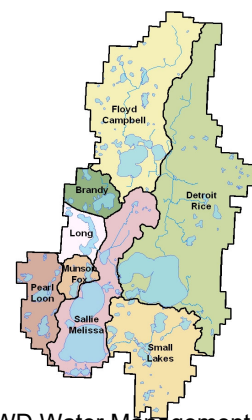
1994- Revised Management Plan called for a monitoring program and described a three-approach strategy to achieving the District's water quality improvement goals: (1) **Implement "Best Management Practices" throughout the District**; this includes resource management measures which are aimed at improving District water quality in general, and an effective education program. These measures must be in place in order for measures aimed at a specific lake or area to be successful. (2) **Reduce upstream releases of stored sediments and nutrients**; restoration and/or improvements to wetlands; better ditch management; and (3) **Undertake in-lake treatments**, including whole lake chemical treatments and continuation of aquatic plant removal. In addition to the Plan Update, substantial changes were made to the **District's Water Management Rules** aimed at preventing practices perceived to be detrimental to the water quality of District lakes.

1997—Revised Management Plan Amendments established (1) **District-wide Basic Water Management Project**; (2) **added responsibility for Becker County Ditches 11-12, 13, 14**; (3) **established a storm water utility** (to fund treatment activities and facilities collection systems, wetland restoration, sediment control devices, storm water detention ponds, constructed wetlands, storm water diversion, storm water detention, stream bank protection, buffer zones, flood easements, ditch plugs, culvert risers, storm sewers, in-stream chemical treatment, conservation pools, and other devices which are designed to reduce storm water flows or the nutrients which are contained in them), and (4) **defined water management districts and options for funding future water quality improvements**.

1998—Water Management Rules Revision

2003—Water Management Rules Revision—The Water Management Rules were completely rewritten and streamlined in 2003. Permits are now required for some activities, especially those including activities in the shore impact zone, impervious surface additions, and major land alterations. Storm water treatment standards were refined.

2005—Revised Management Plan 2005-14 focused water quality improvement strategies using a two-tiered approach. The first tier deals with District wide strategies. In general these reflect on-going actions of the District, with minor modifications, expansions of programs. The second tier strategy involves the establishment of eight Lake Water Quality Management Areas. Each of these eight involve contiguous areas which have similar water quality problems and lend themselves to common actions to address those problems.



PRWD Water Management Dis-

The District's 2005-14 management plan water quality goals

Continue to remain essentially the same as in the 1995 and 1997 water management plan amendments.”

- 1. The water quality in District lakes shall not be further degraded.**
- 2. Lake water quality for any lakes classified as Eutrophic shall be improved to Mesotrophic.**

- 1. Incomplete treatment of sanitary wastes, especially septage**
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Our People

Board of Managers

PRWD is led by a seven-person Board of Managers that guides the implementation of goals and objectives set forth in the 2004-15 PRWD Revised Watershed Management Plan. Board Managers are appointed by the Becker County Board of Commissioners to serve a three-year term.



Dennis Kral
Board President
Floyd Lake Area
Service since 1988
Current Term 2013-16
Email address



Orrin Okeson
Board Vice-President
Rural Richwood Area
Service since 1987
Current Term: 2012-15



David Brainard
Board Secretary
Rural Long Lake Area
Service since 1997
Current Term: 2012-15



Ginny Imholte
Treasurer
Detroit Lake Area
Service since 1991
Current Term: 2011-14



Janice Haggart
Board Member
Muskrat/Sallie Area
Service since 2005
Current Term 2013-16



Rick Michaelson
Board Member
Melissa Area
Service since 2013
Current Term 2013-16



Gary Nansen
Board Member
Long Lake Area
Service since 2012
Current Term 2012-14

Citizen Advisory Committee

The Advisory Committee is comprised of persons representing special constituencies within the District (in accordance with the Watershed District statute), together with people who have special expertise or influence over District lakes: John Okeson, Becker County Commissioner; Ted Heisserer, Izaak Walton League; John Postovit, Floyd Lake Association; Tim James, MPCA; Brad Green, City of Detroit Lakes Streets & Parks; Peter Mead, Becker Soil & Water Conservation District.

Consultant Engineers

Marlon Mackowick, Wenck Associates, Fargo ND/Maple Plain, MN
Emmons & Olivier Resources, Inc, Oakdale, MN

Legal Services

Briggs, Ramstad & Skoyles, Detroit Lakes, MN

Staff

Tera Guetter, Administrator
Jon Staldine, Asst. Administrator
Brenda Moses, Office Assistant
Dick Hecock, Senior Advisor —Retired in August 2013

Seasonal Aquatic Plant Management staff

Terry Anderson, Aquatic Plant—Harvesting/Roadside Pickup (Seasonal)
Jerome Genz, Harvesting/Roadside Pickup (Seasonal)

Seasonal Water Resources Interns

Mathew Pawlowski, Augustana
Savannah Fritz, North Dakota State University

Our Work

PRWD Water Resources

Water resources is the core component of the Pelican River Watershed District, it relates to the creation of the District, and ultimately to all other aspects of District activities.

Central to the water resources aspect of the Pelican River Watershed District is our monitoring program of District lakes and streams. Information gained from this project assists staff and managers to make sound decisions regarding stormwater management, agricultural buffer establishment, and other concerns of the District.



Matt Pawlowski, a 2013 Water Resources Intern with PRWD, uses a two meter integrated sampler to collect samples analyzed for chlorophyll-a, total phosphorus, and orthophosphate content on Lake Sallie.

Stewardship

The Pelican River is an important headwater arm of the Ottertail River, which meanders through the transitional oak savanna, hardwood forests, and prairie ecosystems of west central Minnesota before joining the Red River of the North near Breckenridge, MN and Whapeton, ND.

The status of a headwaters watershed comes with benefit and responsibility; the benefit being that waters of the Pelican River aren't negatively affected by upstream development, land use, or industry. However, downstream resources and communities are affected by the land use implications, policies, and decisions made within this drainage system. By caring for our own resources, we also act as good neighbors.

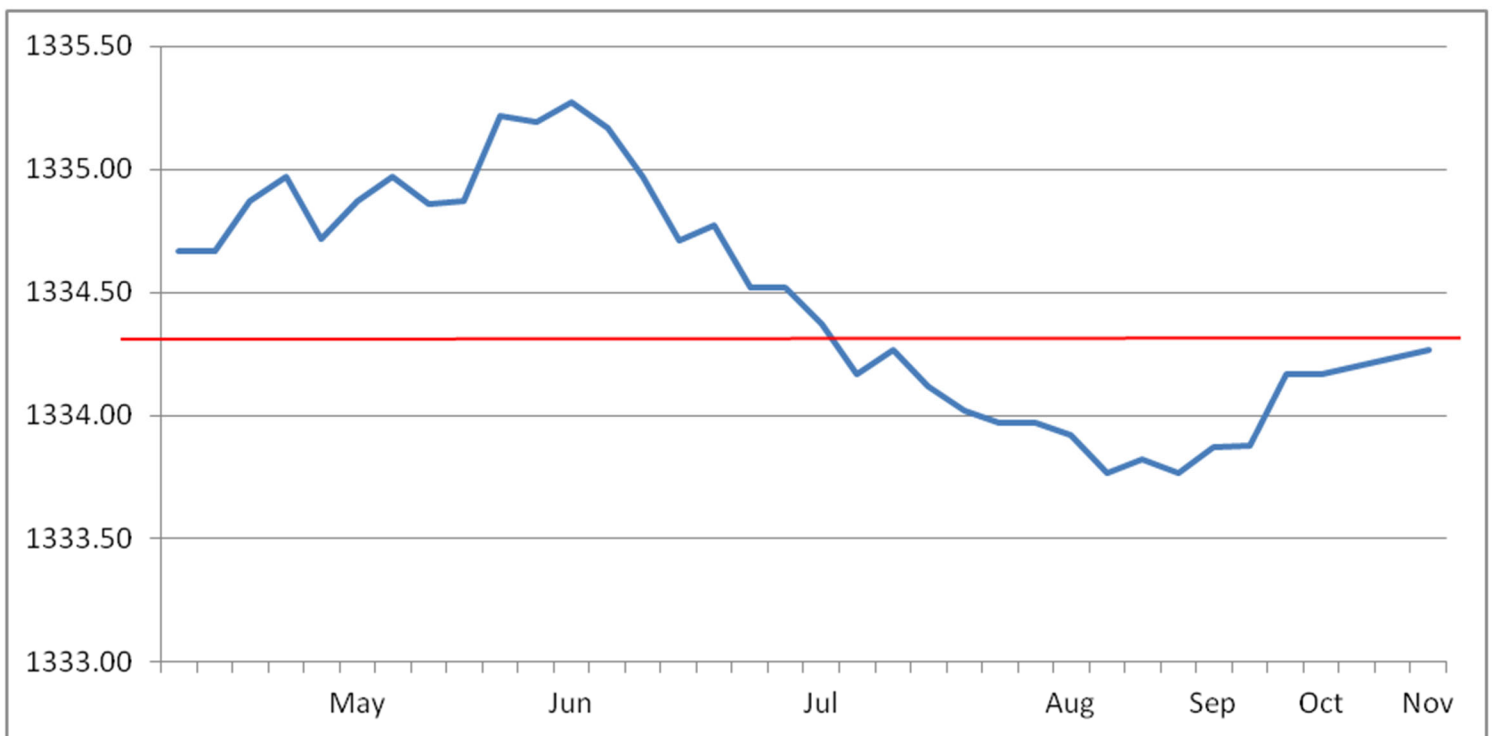


Climate & Water sources

February accumulations of snow cover created conditions for later than usual ice out date on District lakes. This is in stark contrast to 2012 season conditions which lead to near record early ice on dates. Cooler weather through May kept snow accumulation on the ground longer, with high levels of moisture content releasing a great deal of water through the Pelican River and its tributaries. Nuisance algal blooms were found in area lakes in July, August, and September due to warm periods and in-lake nutrient levels.

Following a two year drought originating in 2011, 2013 saw precipitation levels exceed the 20 year average record by more than 8%, an increase of approximately 30% above the previous two years. Despite this, area lakes including Big & Little Detroit saw particularly low levels in August and September. These levels did not drop below 2012 levels, but became low enough for some residents and visitors to experience some difficulty utilizing a few lakes.

Precipitation occurred sporadically, with a few heavy rainfall events occurring throughout the summer, and another in October. While overall precipitation may have been higher than average, the ground was left thirsty by two years of drought. The Pelican River Watershed District contains an incredible density of wetland and open water coverage, all of which is dependent on water availability (precipitation) exceeding system losses, or evapotranspiration. Much of the rainfall may have been absorbed to replenish the soil moisture, as well as rejuvenating ephemeral and perennial wetlands prior to entering the lakes.



Big & Little Detroit Lake Levels, OHW 1134.3 ft.

Our Work

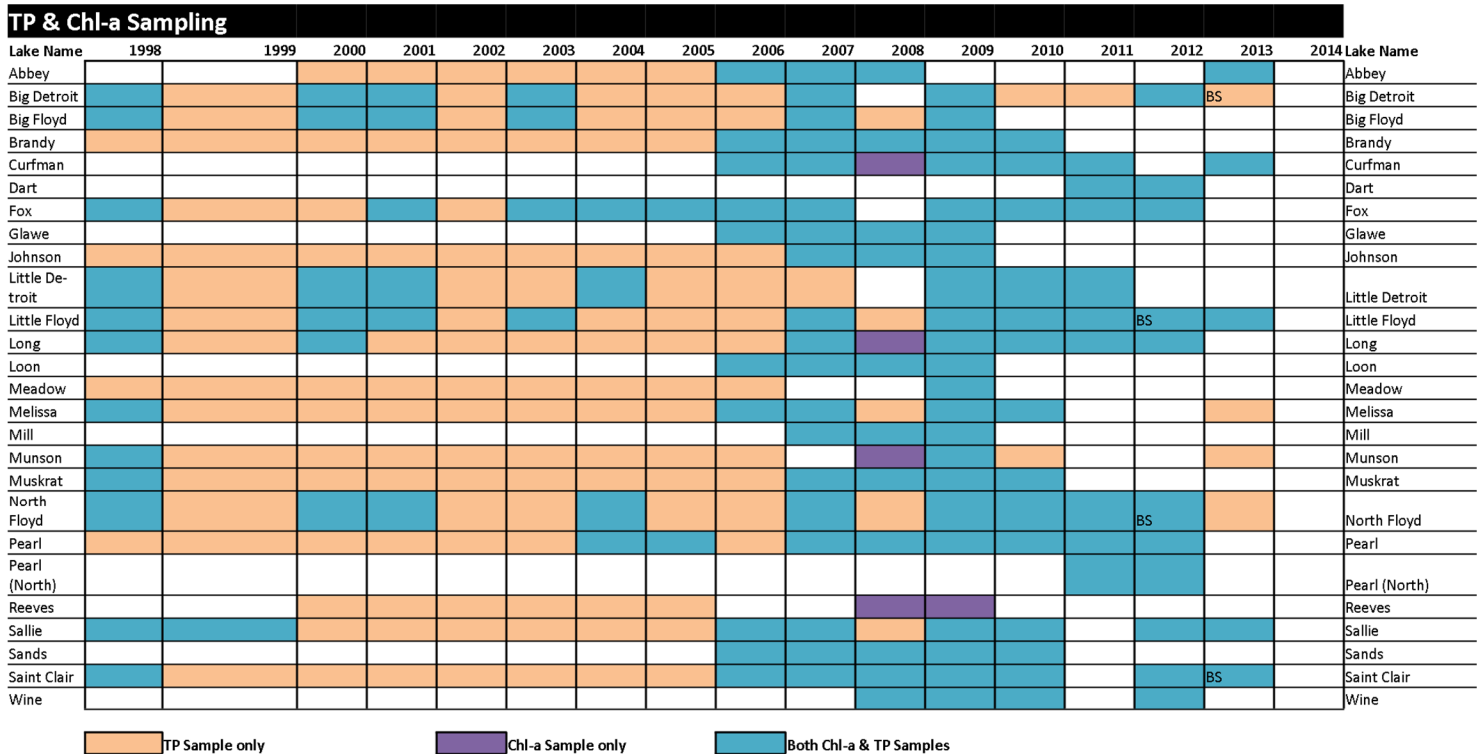
Monitoring Program

PRWD has maintained a comprehensive water quality monitoring program, monitoring lake and stream data throughout the district.

Streams are monitored for total phosphorus and orthophosphate, as well as total suspended solids in the Campbell Creek drainage. Additional stream sites are monitored following storm events of approximately an inch or greater, looking at potential point source loading concerns.

Nine lakes were monitored in 2013, profile samples were collected including temperature, pH, dissolved oxygen, and specific conductivity. Additionally clarity (Secchi disk) information was recorded, and two meter integrated samples were taken for total phosphorus, orthophosphate, and chlorophyll-a. Zebra Mussel samplers were placed at public accesses throughout the district, and data was collected on a monthly basis during the open water season. No zebra mussels were detected by PRWD staff, but the threat of infestation remains an important concern for our lakes.

Boat and dock survey information was collected for several lakes, including Big & Little Detroit Lakes, Long Lake, Pearl Lake, and Lake Sallie. This information will be collected over a five year revolving interval for many district lakes to evaluate changes in use and development on district lakes.



Citizen Lake Monitoring Program

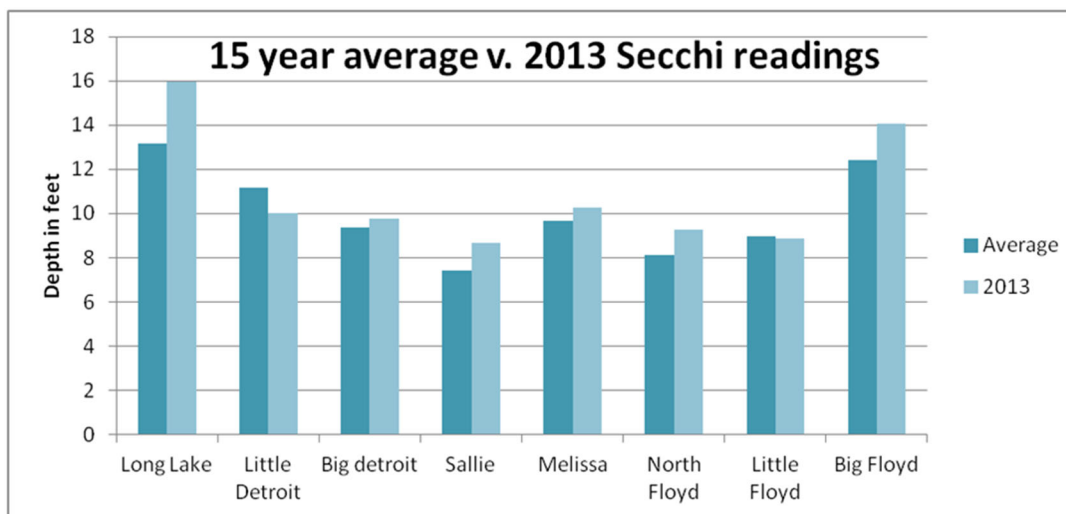
PRWD gains valuable supporting information collected by volunteers through the Minnesota Pollution Control Agency's Citizen Lake Monitoring Program. This program utilizes a simple device known as a Secchi disk to monitor water clarity. Through these volunteer measurements; District staff can track changes occurring over time, as well as aid in statistical analysis for comprehensive assessment. Participation in this program is a great way to get involved, and District staff is happy to aid in training participants.



Our Work

2013 Water Quality

Most lakes within the district monitored in 2013 had an average to above average year for water quality. One notable exception is St. Clair, which had a large spike in total phosphorus levels, nearly reaching levels found prior to alum treatment in 1998. PRWD staff attribute this largely to waning efficacy of the alum treatment. Alum acts as precipitant, binding plant available phosphorus from the water column and holding it on the substrate of the body of water. This treatment is particularly successful in lakes with long residency periods and proportionately small inflows of water. St. Clair does not have a large catchment, but inflows are greatly augmented through collected municipal stormwater and wastewater treatment effluent. Phosphorus levels in these sources are regulated, but the inflow of phosphorus must equilibrate with phosphorus sinks (plant utilization, precipitation, nutrient outflow).



Big Detroit, Little Detroit and Curfman (Deadshot Bay) Lakes respectively had average years in terms of water quality & clarity. Big Detroit has the most complete monitoring record of these associated lakes, looking at historical trends the total phosphorus levels are generally holding steady. Extended hot & humid periods in mid to late summer were associated with decreased clarity and higher than long term average chlorophyll-a levels in August and September samples.

In spite of elevated total phosphorus in St. Clair outflows, Sallie had a pretty good year 20% lower average chlorophyll-a, 15% lower average total phosphorus, and a 7% improvement in average clarity. However, lake Sallie has a history of poor water quality and significant changes in Muskrat Lake or Lake St. Clair could present a tipping point for this major lake within the Pelican River Watershed District.

Lake Melissa showed a 7% improvement over average clarity, and a 24% less phosphorus than in the long term average. Likely due to the late ice-out date, the annual curve was delayed by approximately a week or two. Chlorophyll-a data was not collected on Lake Melissa in 2013.

Storm event discharge measurements are taken to evaluate discharge of phosphorus, orthophosphate, and total suspended solids into the lakes within the Pelican River Watershed District. Some of these points are regularly monitored stream sites, while others monitor areas of special concern that may drain agricultural or industrial lands. These storm events often carry particles bound with phosphorus, as well as other nutrients and contaminants, into streams and lakes

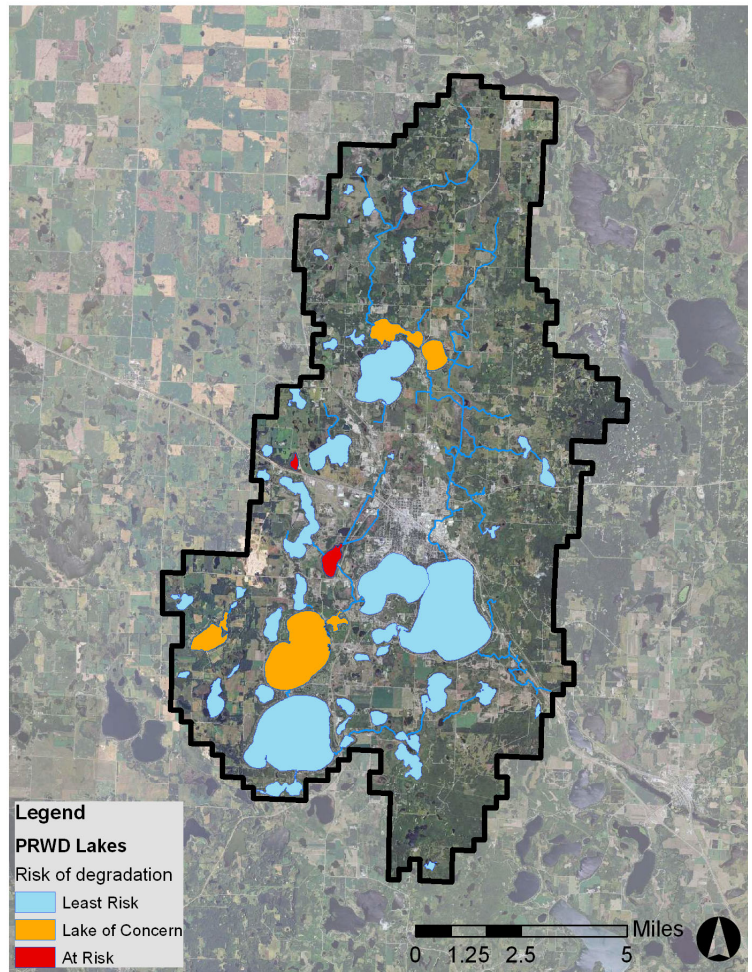
Lakes at Risk & Lakes of Concern

Certain lakes within the Pelican River Watershed District have impairments, or are likely to have impairments to beneficial use. These impairments restrict the ways in which wildlife, and humans are able to utilize the landscape. Other lakes lie near a critical threshold of becoming impaired, requiring additional information to be collected for analytical use.

Wine and Brandy lakes are shallow, eutrophic lakes with generally high phosphorus levels and poor clarity. Prior land uses, including a closed landfill, likely contributed to diminished water quality, transmitting contaminants into generally captive basin. More information needs to be gathered about these lakes, as well as nearby Oak and Oar Lakes.

St. Clair is part of an ongoing Total Maximum Daily Load study (TMDL) to determine what amount of phosphorus the lake can carry while continuing to support beneficial uses. This is compounded by the connection to Muskrat Lake and Lake Sallie, which was historically adversely affected by municipal wastewater discharge and resulted in anthropogenic advanced eutrophication and pronounced harmful blue-green algal blooms on Lake Sallie during the 1960's & 1970's.

North Floyd Lake receives Campbell Creek, a stream that carries a considerable load of sediment. In recent years PRWD has partnered with NRCS in planning sedimentation basins and buffered filtration strips set in long term easement agreements with cooperating landowners. In 2013 implementation of these measures was completed, enabling efficacy data collection to begin in the 2014 field season.



Map illustrating At-Risk and Lakes of Concern

completed, enabling efficacy data collection to begin in

Our Work

Lakes at Risk & Lakes of Concern, *continued*

Little Floyd Lake receives water from North Floyd Lake in addition to adjacent watershed runoff. Although water quality is fairly stable in Little Floyd over time, it has the propensity for dense algal blooms and elevated total phosphorus levels in the late summer months that warrant keeping an eye on conditions. Monitoring water quality in Little Floyd, in addition to its outflow can also assist in understanding the effects of the downstream Rice Creek project once it is implemented.

Lake Sallie and Muskrat Lake receive outflows of Lake St. Clair through the Becker County Ditch 14 legal ditch system, which comingles with the Pelican River immediately downstream of the PR6 monitoring site. With waning efficacy in the alum treatment of St. Clair, regular outflow from treated wastewater effluent, and a prior history of poor water quality, these water bodies require regular monitoring for change over time.

Causes of Change

Several District lakes have underwent tremendous amounts of developmental change in the past two decades, greatly increasing the number of lakefront residences, the conversion of seasonal use cottages from the first half of the 20th century to substantially larger single family homes, with an increasing trend for year round use. In 1991, a sewage line was run from the city of Detroit Lakes circling Big Detroit, Little Detroit, and Curfman Lake. Tying in to the city's wastewater treatment system removed many aged septic systems plaguing these lakes, while it simultaneously shifted an additional phosphorus loading burden on St. Clair. PRWD processes permits for impervious surface coverage exceeding 25% of lot or in excess of 1 acre (10,000sf in shoreland district), shoreline alteration activities, steep slope & bluff alterations, and planned unit developments within the district.

Concurrent to residential development, the way residents and visitors utilize lakes within the district has changed significantly in the same time period. Industry trends have created increased demand for larger, more powerful watercraft. The increased engine sizes, in conjunction with aggressive prop pitches, have greater potential to disrupt sediment in shallow areas known as the littoral zone. Since the mid 1990's, personal watercraft (jet-skis) have become much more common on major lakes of the district. These craft have shallow draft requirements, and are more than capable of generating wakes that can accelerate bank erosion. PRWD collected boat & dock survey information on several District lakes, establishing a 5 year rotational survey cycle to monitor changes in watercraft abundance & relative type distribution.

Removing riparian vegetation decreases bank stability and increases the susceptibility to erosion. Depending on soil conditions, fetch, wave action, and a few other variables including emergent aquatic vegetation presence the consequences can be severe. On site visits for shoreline alteration permit applications, in 2013 PRWD staff routinely stressed the significance of including shoreline vegetation in installations, receiving success with several projects. Prior efforts made by the District, including the highway 10 overlook east of Detroit Lakes, have had an impact on numerous residents and local landscape contractors. A trend is emerging of interest in native and planted shorelines, moving away from the installation of barren rip-rap and sand blanket beaches still prevalent on area lakes. In 2013 PRWD staff began to partner with Becker County Soil & Water Conservation District's Shoreline Specialist to develop a cooperative cost share program active in 2014.



Washington Dept. of Ecology

Nutrient Management

Nutrient loading affects the quality of our lakes. Increased development pressures, such as the high density development along Big & Little Detroit, Sallie, Melissa, and Paradise Point of the Big and North Floyd, along with non-point source pollutant loads from stormwater runoff create additional strains on our lake system.

This nutrient loading leads to favorable conditions for toxic blue-green algae blooms, characteristic of conditions found on Lake Sallie in the 1960's and 1970's. It also creates favorable conditions for aquatic invasive species.

Altered Shorelines

Highly altered or manicured shorelines do no favors for water quality or lake ecology, often affecting use of the lake.

Despite a mile long public beach, some shoreline owners insist on private beaches, which can affect fish and plant diversity.

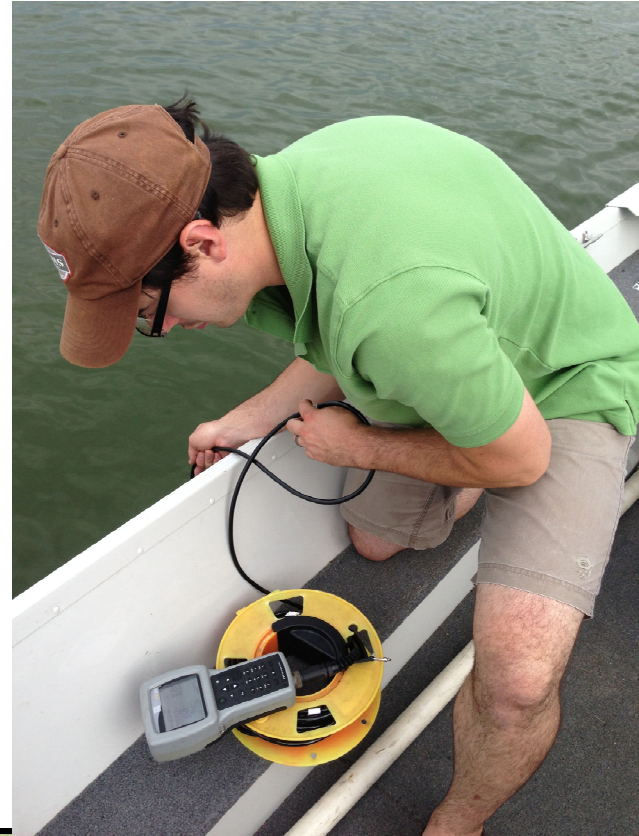
Removing shoreline trees and vegetation accelerates bank erosion. Some areas of the lakes have seen significant shoreline movement over the years. The condition shown at right also encourages geese, while discouraging loons, frogs, herons, turtles and other species, possibly affecting their populations in the area.



Our Work

PRWD Water Resources

The water resources located in PRWD all eventually discharge to the Red River of the North. The eight major lakes in the PRWD are Floyd Chain, Big/Little Detroit Lakes, Long, Sallie, Melissa. All eight lakes serve important recreational needs for the residents and visitors, including fishing, boating, swimming. The District has a comprehensive water quality monitoring program.





Our Work

Pearl Lake Clean Water Partnership

PRWD was awarded \$47, 188 in 2010 by the Minnesota Pollution Control Agency under a Clean Water Partnership agreement to conduct a diagnostic study on Pearl Lake. The study analyzes the source(s) of nutrients to the lake, and builds recommendations for reducing nutrient loads within Pearl Lake. Component information for the study includes lake sediment fractionation, phosphorus & orthophosphate sampling, chlorophyll-a sampling, and lake profiling (pH, dissolved oxygen, temperature & conductivity).

Why a diagnostic study was necessary

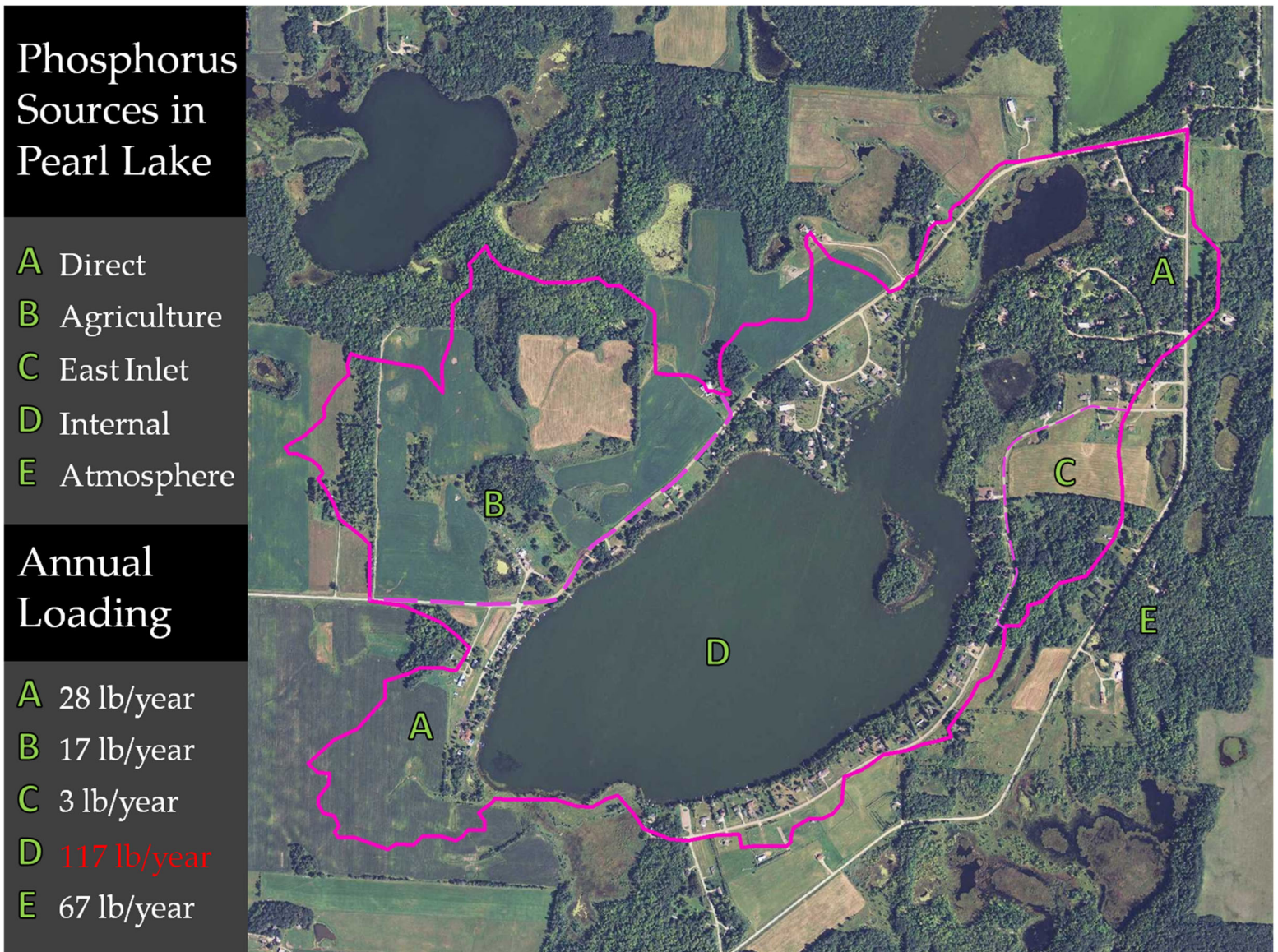
Pearl Lake historically has had widely variable water quality, and has generally experienced a trend of decline over the period monitored by PRWD. During this period significant change in land use was made surrounding Pearl Lake through greatly increased residential development occurring in the 1990's and early 2000's. Concern from the Pearl Lake Association also prompted the Pelican River Watershed District to take further action in monitoring and gaining knowledge of Pearl Lake.

Observations through the diagnostic study

Pearl Lake is a unique example within the Pelican River Watershed District. Perched in impermeable layers of glacial deposition, Pearl Lake has very limited connectivity with the nearby aquifers feeding Lake Sallie or Fox Lake. The watershed driving Pearl Lake is much smaller than was anticipated, limiting the effect of nearby present agricultural practices and lingering effects from past practices. Internal loading was determined to be the greatest contributor at 45.3% of the overall phosphorus load; 26.0% of the phosphorus load was accounted for by atmospheric deposition. During the course of the diagnostic study precipitation averaged more than 20% less than the long term average, causing the lake to function as an endorheic basin when lake levels were below the outlet elevation. A defined outlet elevation was established on the south shore of Pearl lake sometime after 2000, set very near the DNR defined high water level.

Outcome of the Pearl Lake Diagnostic Study

First tier and second tier residential development on Pearl Lake likely contributed to water quality decline through the introduction of septic effluent, increased stormwater runoff, and concurrent changes in outlet elevation to suit development in different areas of the lake. Riparian landowners have the greatest potential to positively influence water quality in Pearl Lake through residential Best Management Practices (BMP's) and maintaining compliant septic systems. A stable high water elevation is also critical in maintaining water quality in Pearl Lake, and the current elevation seems to be functioning well.



Phosphorus sources & annual loading rate in Pearl Lake

Our Work

St. Clair Lake TMDL Update

Rewrite this page

Lake St. Clair was designated as a water that is “impaired” for recreational use because of high nutrients by the state of Minnesota and the United State Environmental Protection Agency in 2009. Because several areas within the lake’s watershed are being considered for major development (new roads, intersection expansion, expanded airport runways), and because the City of Detroit Lakes sewage treatment plant is going through a permit review process, the District asked that the preparation of a Total Maximum Daily Load Plan be undertaken sooner rather than later. The rationale was that any of these proposed actions could have a significant effect on Lake St. Clair, and that provisions should be taken to minimize those effects.

Working with the Minnesota Pollution Control Agency staff, it was decided that the District would contract with EOR Associates to undertake the development of a plan. The plan’s objective is to set the maximum amount of Total Maximum Daily Load of phosphorus discharged to the lake, and to allocate the sources of those discharges.

The District provided to EOR a large amount of data and previous studies that were considered to have some relevance to the plan’s preparation.

At EOR’s request, a preliminary stakeholders’ meeting was held on October 9th. A broad range of potentially affected parties were invited, and approximately 20 persons, representing the City, MNDOT, PCA, and various interested citizens, attended the meeting. Presentations by the PCA and EOR focused on the TMDL process, and the sources and roles of nutrients in degrading lakes. Information concerning possible options for reducing nutrient discharges was also presented.

An October 25th follow-up meeting was cancelled due to concerns about the District’s lack of involvement in reviewing the modeling results and load allocations. In further negotiations with PCA and EOR by phone and in PRWD offices on November 16, past studies were reviewed, and there was a detailed discussion concerning the modeling approaches, assumptions and inputs, and load allocation source areas (regulated, non-regulated and special land use areas). A tour of the impacted area was conducted after the meeting.

It is anticipated the St Clair TMDL will be submitted to the State of MN and the Federal Environmental Protection Agency for final review and approval in 2013.

Our Work

Water Management Rules and Permitting

Water Management Rules

The District's Water Management Rules and permitting program works to ensure that those altering shore impact and bluff impact zones of lakes and rivers, impervious surface changes, subdivisions, highways, parking lots and certain steep slope properly manage stormwater runoff and prepare plans for proper erosion and sediment control. District staff inspect permit sites and enforce permits as needed. In some cases the staff solicits input from professional engineers.



Permitting Program

Permit totals for 2013 returned to more typical figures after high numbers in 2012 following pronounced ice-push and ice-jacking events. A mild winter in the 2012-13 season left fewer repairs needed and focused on alterations instead.

During the 2013 season, many shoreline homeowners were encouraged to look at alternative shoreline stabilization measures including the use of native vegetation during permit application. Several permits issued in 2013 elected to include native vegetation in part or as the basis of shoreline stabilization. Through the use of erosion control fabric, coir logs, and deep rooting native species shorelines can be effectively protected in many circumstances from ice push, wind erosion, and overland runoff erosion through planted strips. While protecting the lakeshore, these features also provide habitat for beneficial species, discourage nuisance geese, and attract important pollinators as well as simultaneously assisting in infiltration of nutrient rich runoff water before it enters the lake.

9/16/2013
Native Plant
Installation



Shoreland impact zone permits continue to be the most prolific form of permit issued by the Pelican River Watershed District, and it is the intent of the district to convince additional applicants of the merits behind shoreline vegetation. From 2014 onward, PRWD will partner with Becker SWCD and the Blue Thumb organization to promote shoreland planting and the use of native vegetation within the shoreland impact zone.

Water Management Permits by Year

	2009	2010	2011	2012	2013
Shoreland Impact Zone	23	26	29	61	31
Imp. Surface, storm-water mgmt.	7	8	10	8	2
Subdivisions, plats, PUDs	1	1	0	1	0
Roads, parking, bridges, culverts	1	3	2	5	0
Total permits issued	32	38	41	75	33

Our Work

Education and Outreach

Outreach

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River Clean-Up

Becker County Fair

Water Festival

Blue Thumb



Our Work

Purge the Pelican

In August of 2013 water levels in the lower reaches of the Pelican River dropped substantially, resulting in very low flow south of Highway 34. Administrators Guetter and Staldine had a difficult time estimating the location of the assumed beaver dam using gage records and the established monitoring sites between Big Detroit Lake and highway 34. Donning waders and working upstream from the mouth, numerous accumulations of debris were noted, contributing to flow blockage in the river.

PRWD Staff thought that this would make a great volunteer opportunity for the community to get involved with the conditions of their eponymous lake. Approximately 35 people showed up to help, including members from the Prairie Woods chapter of the Izaak Walton League, the DNR Area Hydrologist, and the community at large. PRWD manager Rick Michaelson and former administrator Dick Hecock gave their time to assist in leading the event. The Becker County Sentenced to Serve crew also contributed significantly to the effort, tackling the most congested area of the river. Zorbaz graciously brought pizza for the volunteers to help thank them for their community service.

The City of Detroit Lakes Parks & Recreation Dept. assisted in removal of debris pulled from the river, coordination of the event, and logistics of setting up pickup sites. By early morning the next day everything was picked up and hauled offsite, leaving a much cleaner and better flowing river behind.

The Pelican River Watershed District would like to keep some legacy of this event, ideally as a cooperative effort with a local service organization, outdoor recreation organization, or group of concerned citizens on an annual or biennial basis. Purge the Pelican was a great success, and the Pelican River Watershed District sincerely thanks all those who participated - it couldn't have happened without a little help from our friends!



DLHS students really helped Purge the Pelican!



Keeping our lakes clean and giving back to the community!



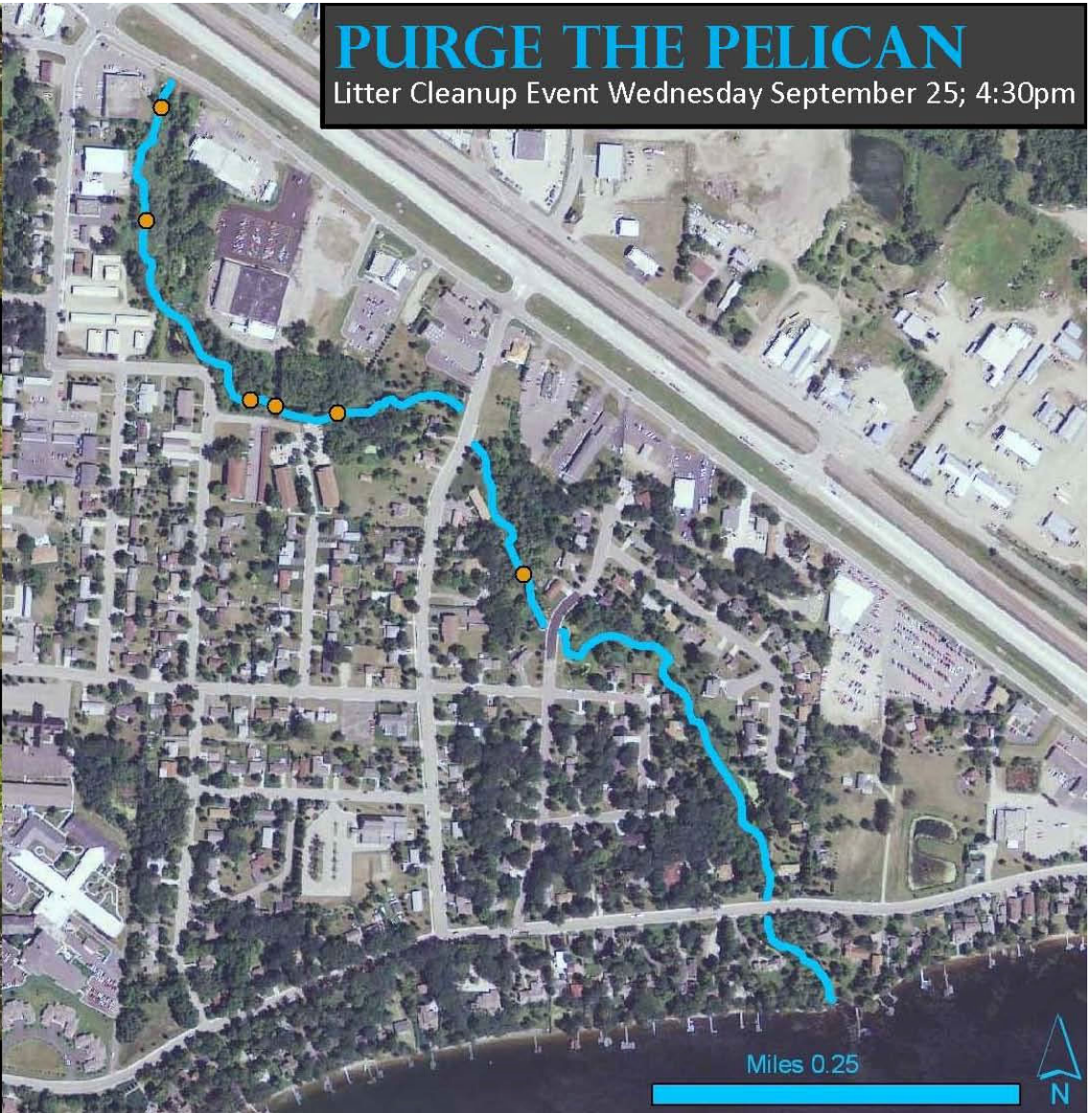
Embedded Debris



Large Stream Litter



Bank to Bank Jams



PURGE THE PELICAN

Litter Cleanup Event Wednesday September 25; 4:30pm

Promotional flier for Purge the Pelican, showing areas of focus for the event.



Left: Signs, beams, cans, pallets, bricks, car batteries, tires, rims, mufflers, a shopping cart, even a mannequin foot are among the items found during the cleanup.

Right: DLHS senior Brandon overlooks a cleaner & more freely flowing Pelican River.



Our Work

Education and Outreach

Aquatic Invasive Species Booth at the Becker County Boat Show



Concordia College—Student monitoring



Our Work

Aquatic Invasive Species

Research

MN AIS Advisory Committee/ Becker County

Involvement with State Committees

During 2012, the Minnesota DNR's Aquatic Invasive Species Management Stakeholders Committee included Administrator Tera Guetter as a representative of Minnesota's watershed districts. Deliberations of the Commission were wrapped up early in the year. Many of the committee's recommendations were incorporated into legislation that was signed into law in May, 2012, or were adopted as policy by the DNR.

Guetter also participated in the DNR's Annual "Round Table" deliberations, a large meeting of stakeholder, DNR personnel, legislators, and others held each January in St. Paul.



Portable decontamination system

As a stewardship organization for water quality management, the District aims to act responsibly when entering and leaving water bodies. Aquatic invasive species are found in several lakes within the Pelican River Watershed District's jurisdictional boundaries, in addition to nearby threats including Zebra Mussels.

During the summer of 2013 the District acquired a hot water pressure washer used to form a critical component of a new portable decontamination unit utilized on monitoring equipment.

With a need to continuously transfer between lakes within the district, a means of eliminating the risk of transferring plant material or juvenile organisms is a necessary aspect of the monitoring operation.

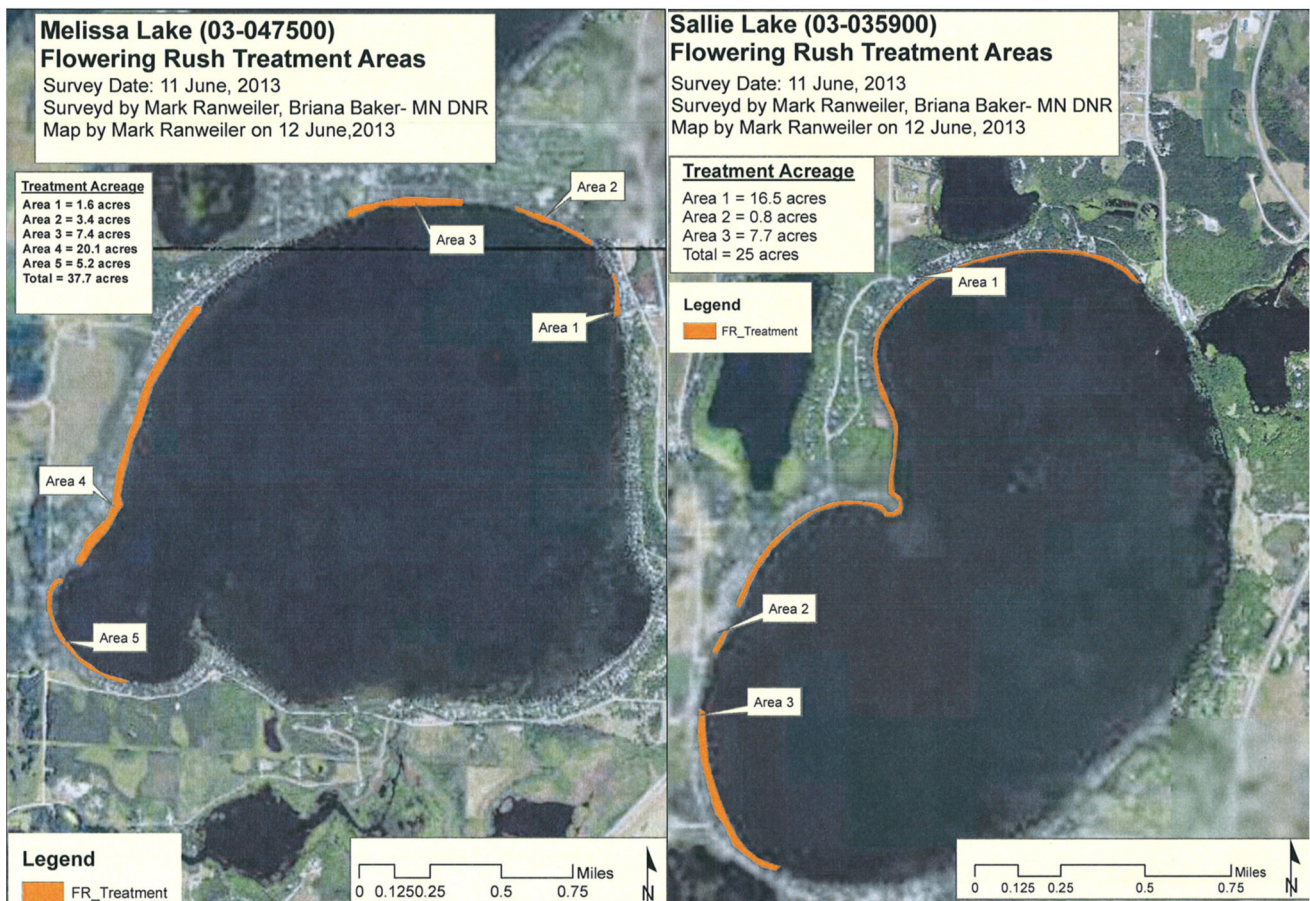
Based on current research, water heated to 140 degrees Fahrenheit at the point of contact for ten seconds will kill zebra mussel veligers. Additionally, the high pressure stream aids in effective removal of any vegetation from monitoring craft.



Our Work

Aquatic Invasive Species

Management

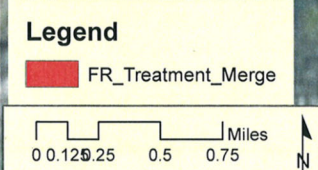


Detroit Lakes (03-038100)
Flowering Rush Treatment Areas
 Survey Date: 7 June, 2013
 Surveyed by Mark Ranweiler, Joe Eisterhold- MN DNR
 Tera Guetter- Pelican River Watershed Dist.
 Survey Date: 11 June, 2013
 Surveyed by Mark Ranweiler, Joe Eisterhold, Briana Baker,
 Jessica Leverty, Leslie George-MN DNR
 Map by Mark Ranweiler on 12 June, 2013



Treatment Acreage

Area 1 = 7 acres	Area 8 = 83.4 acres
Area 2 = 8.3 acres	Area 9 = 14.2acres
Area 3 = 5.4 acres	Area 10 = 19.3acres
Area 4 = 4.2 acres	Area 11 = 11acres
Area 5 = 9.5 acres	Total Treatment = 170.9 acres
Area 6 = 5.6 acres	
Area 7 = 4 acres	



Curfman (03-036300)
Flowering Rush Treatment Areas
 Survey Date: 7 June, 2013
 Surveyed by Mark Ranweiler, Joe Eisterhold- MN DNR
 Tera Guetter- Pelican River Watershed Dist.
 Survey Date: 11 June, 2013
 Surveyed by Mark Ranweiler, Joe Eisterhold, Briana Baker,
 Jessica Leverty, Leslie George-MN DNR
 Map by Mark Ranweiler on 18 June, 2013



Treatment Acreage

Area 1 = 1 acre
Area 2 = 1.4 acres
Area 3 = 11.1 acres
Total Treatment = 13.5 acres



Our Work

Campbell Creek



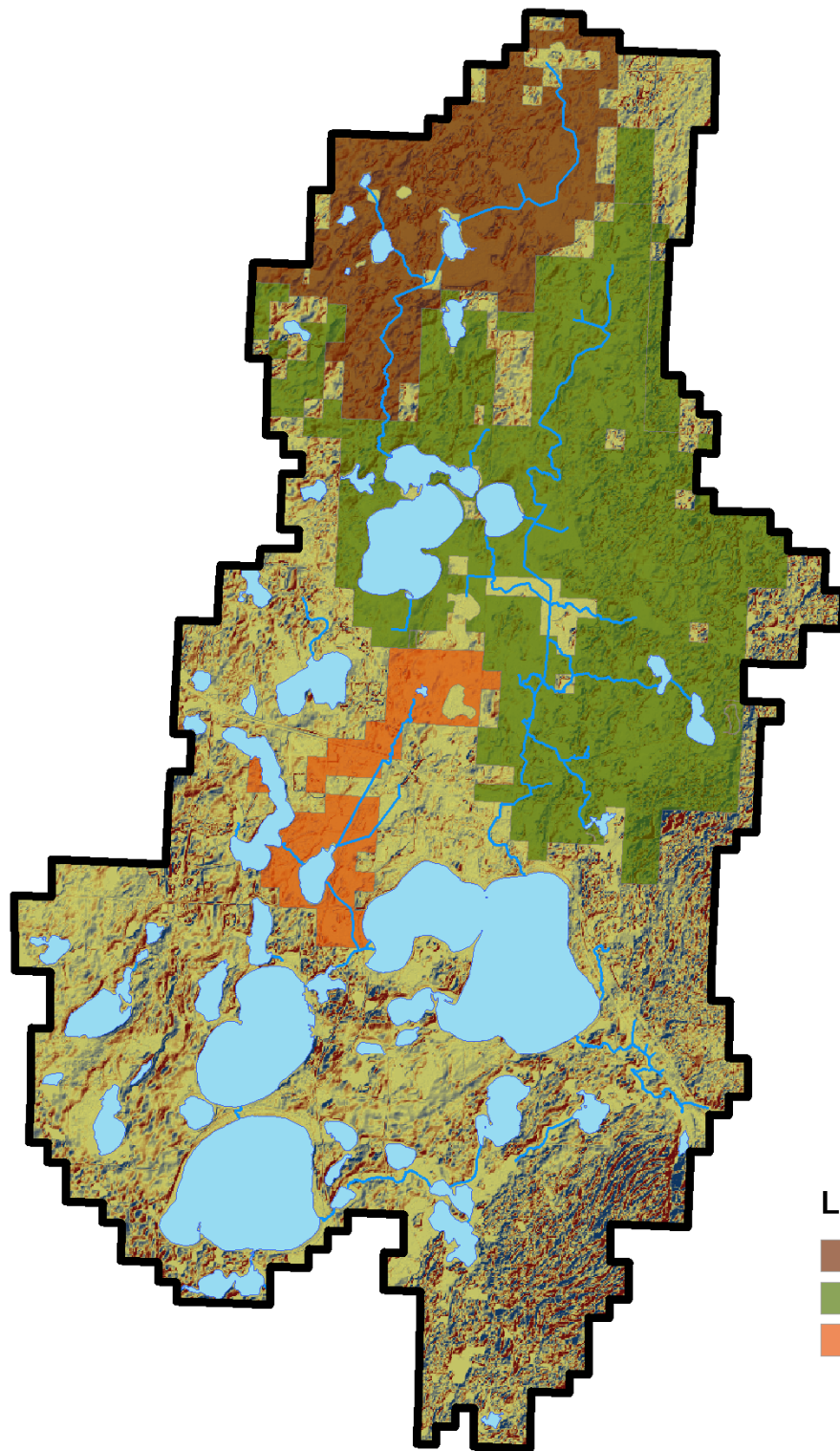


Our Work




Drainage Management

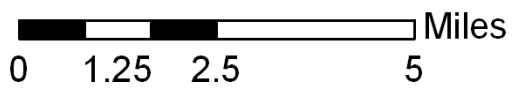
The District has statutory responsibility for the management of 3 public ditch systems. These ditches were dug in the early part of the 20th century, from 1913 to 1918 in order to benefit adjacent property owners by facilitating drainage. The District is responsible for maintaining the flow of water through these ditches.





Legend

-  Ditch 11-12
-  Ditch 13
-  Ditch 14



"A LAKE IS THE
LANDSCAPE'S MOST
BEAUTIFUL &
EXPRESSIVE
FEATURE.

It is Earth's eye;
LOOKING
into which the
BEHOLDER Measures
THE DEPTH OF HIS DOWN
Nature."

H.D. Thoreau