

# 2019 ANNUAL REPORT



MIDDLE SNAKE TAMARAC RIVERS  
WATERSHED DISTRICT

**2019 Annual Report**  
**Middle-Snake-Tamarac Rivers Watershed District**

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## **MISSION STATEMENT**

The mission of the Middle-Snake-Tamarac Rivers Watershed District is to manage the District's resources for the efficient movement of water across the District for purposes of reducing flooding, providing agricultural drainage and to protect and improve water quality.

## LETTER FROM THE CHAIRMAN

Pursuant to the Minnesota Watershed Act, Chapter 103D, we submit this 50th Annual Report for the Middle-Snake-Tamarac Rivers Watershed District (MTRWD) for the year 2019.

Greetings and welcome to the 2019 Annual Report of the Middle Snake Tamarac Rivers Watershed District. The Middle Snake Tamarac Rivers Watershed District (MSTRWD) each year publishes an annual report on the various activities and projects that are taking place within the District. This report also includes comments on the maintenance of the various ditch systems, the financial condition of the District, as well as other items that may be of interest to the public.

Ron Adrian who was a longtime employee of the MSTRWD passed away unexpectedly on Sunday, June 9th. He served as a professional engineer for the MSTRWD for 32 years from July 1973 until retirement in 2005.

2019 was a very wet year with both spring and fall flooding, which resulted in late planting, unharvested crops, and ground saturation.

In 2019, we started the 3-mile improvement project on Polk County Ditch #175. We also have been working with the City of Newfolden on a flood prevention project, and the Judicial Ditch #19 Regional Conservation Partnership Project, while the Swift Coulee/County Ditch #3 project and the Judicial Ditch #14 Regional Conservation Partnership Project both seek to find landowners willing to house a retention site.

The District has also been busy with different ditch maintenance projects.

The Board of Managers and District staff would like to thank you as we conclude a very wet year. Together we will continue with our mission of reducing flooding, providing continued maintenance of agricultural drainage and in protecting and improving water quality throughout the MSTRWD.

I invite you to read this report, and if you have any questions or comments do not hesitate to contact us.

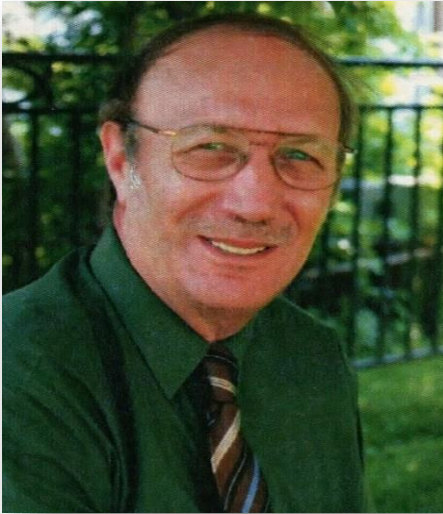
Respectfully Submitted.

A handwritten signature in dark ink, appearing to read 'John W. Nelson', is written over a horizontal line.

John W Nelson  
Chairman

## IN MEMORY OF RON ADRIAN

Ronald “Ron” Adrian, 71, of Warren, MN died unexpectedly at home on Sunday, June 9, 2019 after some recent deterioration of his health caused by ALS.



Ronald John was born on July 2, 1947, in Centerville, MN. He grew up on the family farm in rural Hastings, MN and graduated from Hastings High School in 1965. He enrolled at the University of Minnesota in the fall, pursuing a degree in engineering. After two years of schooling, Ron put his education on hold and answered the call to serve his country. Enlisting in the US Marine Corps, Ron was deployed to Vietnam, where he served as a radio operator from 1967-1969. Upon his honorable discharge as a corporal, he returned to college and earned a Bachelor of Agricultural Engineering degree in 1973.

Ron worked as a professional engineer for the Middle-Snake-Tamarac Rivers Watershed District for 32 years. He received accolades for his role in the Snake River Flood Control Project, which has prevented flooding in Warren since completion in 2006. He retired from the watershed district in 2005 and became a project engineer for Houston Engineering until he retired for good in 2016.



Ron will be remembered as a stoic Christian, a loving family man, an independent thinker, and a talented engineer. He enjoyed sharing his wisdom and debating current events. Most of all, he cherished spending time with his grandchildren.

The District will miss Ron and thank him for his inspired dedication to the people and communities he helped along the way.



## BOARD OF MANAGERS

The Middle-Snake-Tamarac Rivers Watershed District is governed by a seven-member Board of Managers, appointed by the County Commissioners for Marshall and Polk Counties. Marshall County appoints six managers and Polk County appoints one manager. The terms are set so two Manager positions are appointed each year.

The Marshall County Board of Commissioners, in July of 2019, re-appointed Mr. John Nelson of Warren and Mr. Brad Blawat of Viking each to a three-year term.



*Bill Petersen, Roger Mischel, John W. Nelson, Robert Kovar, David Bakke, Brad Blawat*

The terms of the managers are for 3 years. The following table lists the position they hold, county represented and term.



### The Middle-Snake-Tamarac Rivers Watershed District Board of Managers

NAME	OFFICE	HOMETOWN	COUNTY REPRESENTED	TERM ENDS
JOHN W NELSON	President	Oslo	Marshall	Aug 27, 2022
BILL PETERSEN	Vice President	Middle River	Marshall	Aug 27, 2020
ROGER MISCHER	Secretary	Warren	Marshall	Aug 26, 2021
ROBERT KOVAR	Treasurer	East Grand Forks	Polk	Jan 1, 2021
BRAD BLAWAT	Ass't Sec/Treas	Viking	Marshall	Aug 27, 2022
DAVID BAKKE	Manager	Newfolden	Marshall	Aug 26, 2021
VACANT	Manager		Marshall	Aug 27, 2020

### BOARD MEETINGS

The Board of Managers held 24 regular scheduled meetings in 2019. These meetings are normally held on the first and third Monday of each month, at the District Office, at 8:30 a.m., (unless the date falls on a Federal holiday or postponement due to inclement weather).

The week prior to each meeting, the Watershed District posts a notice in the Watershed District office, publishes a notice in the Warren Sheaf and the Middle River Honker, posts a notice on the District website and the notice is sent by mail to those who request it.

Agendas for the upcoming meeting can be viewed here: <http://mstrwd.org/about/agendas/>  
Meeting minutes can be viewed here: <http://mstrwd.org/about/minutes/>

The public is welcome at meetings. Anybody wishing to address the Board can do so, although it is appreciated if the office is notified prior to the meeting so guests can be placed on the agenda.

## DISTRICT STAFF



Joel Praska	Administrator	<a href="mailto:Joel.Praska@mstrwd.org">Joel.Praska@mstrwd.org</a>	218-230-5703
Connie Kujawa	Administrative Assistant	<a href="mailto:Connie.Kujawa@mstrwd.org">Connie.Kujawa@mstrwd.org</a>	218-745-4741
Danny Omdahl	Technician	<a href="mailto:Danny.Omdahl@mstrwd.org">Danny.Omdahl@mstrwd.org</a>	218-201-0495
Kyle Schlomann	Technician	<a href="mailto:Kyle.Schlomann@mstrwd.org">Kyle.Schlomann@mstrwd.org</a>	218-230-4016
Tyler Larson	Technician	<a href="mailto:Tyler.Larson@mstrwd.org">Tyler.Larson@mstrwd.org</a>	218-230-1955

## OFFICE



*Middle-Snake-Tamarac Rivers Watershed District Office*

### Address

453 North McKinley Street  
Warren, MN 56762

### Mail

PO Box 154  
Warren, MN 56762

### Office Hours

8:00 am to 4:30 pm  
Weekdays

**Phone:** 218-745-4741

**Fax:** 218-745-5300

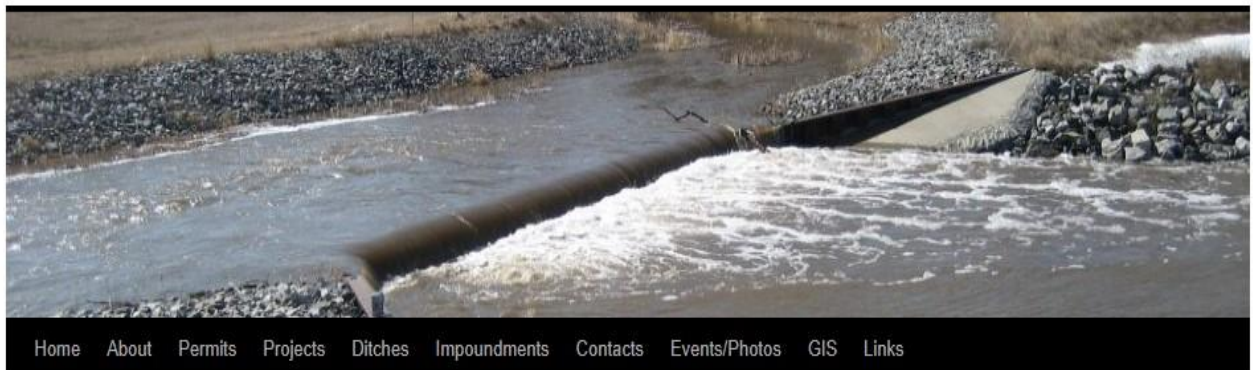
**Email:** [info@mstrwd.org](mailto:info@mstrwd.org)

## WEBSITE

The District maintains a website ([www.mstrwd.org](http://www.mstrwd.org)) where staff posts notices, Board meeting agendas and minutes, reports and updates on District Projects, maps, and information about legal drainage systems (ditches) under MSTRWD jurisdiction and their benefited areas. The website also provides links to other websites that provide information of interest to our constituents.

The website is very user friendly. Once the website loads, the viewer will be on the Home page and will see the current Notices and the status of some Projects. The viewer will also see a calendar on the right-hand side with all our upcoming meetings and events. Also, included on the right-hand of the screen is the contact information for the office and the District's staff. Click on the tabs under Contact to access email information, address information, a map of the office location, and office hours.

## Middle-Snake-Tamarac Rivers Watershed District



*Screenshot of MSTRWD Website*

The "About" tab contains information regarding the District's Board Meeting's Agendas and Minutes. It also has a History tab and contains some important documents such as the Mission statement, the 10 Year Management Plan, Rules & Regulations, and the Annual Report.

The "Permit" tab contains Permit Rules & Regulations, a PDF of Permit Application, a PDF of the Hunting Permit Application, and maps of the locations which one can hunt during official Minnesota hunting seasons. All applications can be printed off and sent to the MSTRWD office by mail, fax, or e-mail.

The "Projects" tab contains a list of all the current projects and project teams in the District. Each project has links to notes from every meeting and report.

The "Ditches" tab contains a user-friendly map that depicts the locations of all the drainage systems that the MSTRWD has jurisdiction over. One can click on the ditch system (or on the files above) to gain access to the historical data of that ditch system.

The "Impoundments" tab contains a list of all the impoundments in the District. Each Impoundment link then gives a brief historical background.

The "Contacts" tab lists the contact information for the District office, Board Members, and District staff.

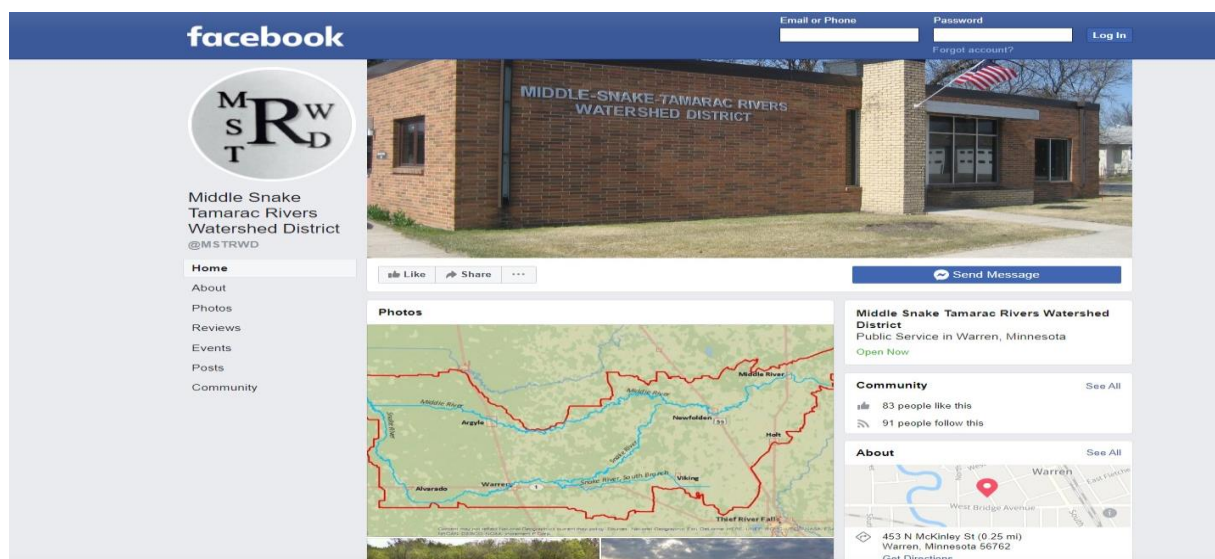
The "Events/Photos" tab is an ongoing blog of what public outreach the District has participated in.



The “GIS” tab is an interactive map called an online watershed viewer, in which the viewer has access to many different informational layers such as soil types, FEMA floodplains and land use. This viewer is so that the public may have quick access to information that may be helpful for personal projects.

The “Links” tab includes links to other websites that may be useful for the public such as Federal, State, or County Government Organizations, Soil and Waters Conservation Districts and many other organizations.

## **FACEBOOK**



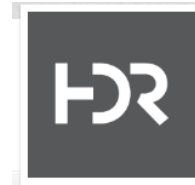
The Watershed District maintains a Facebook page. On the page, staff post images and messages about Watershed District projects, events and outreach activities. The District also shares information from other organization’s pages such as Board of Water and Soil Resources (BWSR) or local Soil and Water Conservation Districts (SWCD). Visitors are encouraged to participate in posts and/or submit pictures of plants, animals, scenery and outdoor recreation activities from around the District. One can find our page by searching in Facebook for Middle Snake Tamarac Rivers Watershed District or MSTRWD or by following this link <https://www.facebook.com/MSTRWD/>

**Please like our page!**



## PARTNERS

### Engineering Services



Houston Engineering Inc. provides engineering for the Watershed District. The District also utilizes HDR Engineering.

### Legal Services



Brink, Sobolik, Severson,  
Malm & Albrecht, P.A.

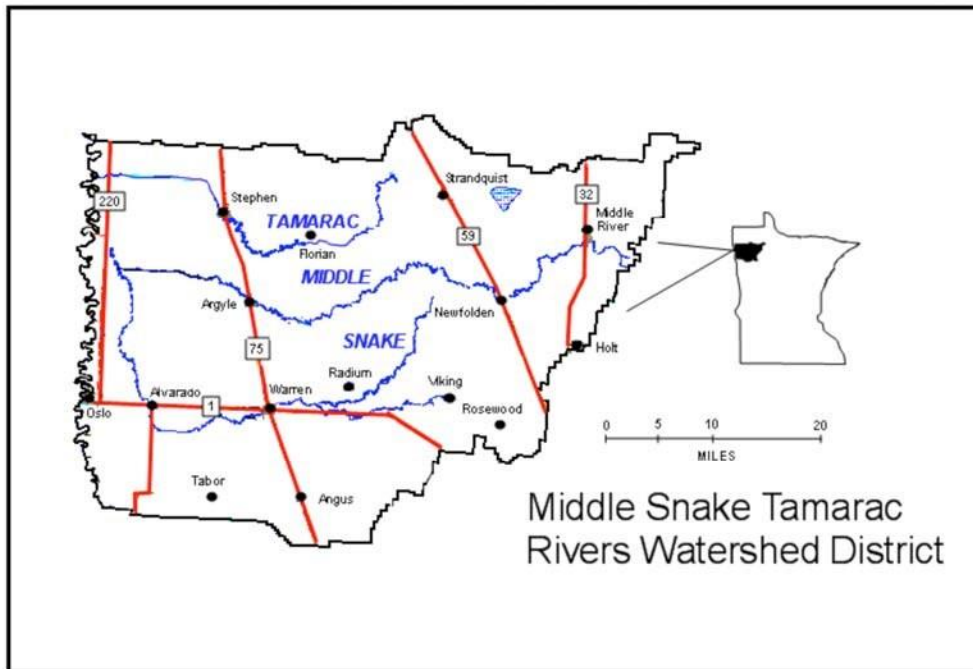
The District's general legal counsel is the law firm of Brink, Sobolik, Severson, Malm & Albrecht P.A.

### Accounting Services



The District uses the accounting services of Brady Martz & Associates, P.C.

## HISTORY OF THE MIDDLE-SNAKE-TAMARAC RIVERS WATERSHED DISTRICT



*Map of the Middle-Snake-Tamarac Rivers Watershed District*

The Middle-Snake-Tamarac Rivers Watershed District was established by an order of the Minnesota Board of Water and Soil Resources (BWSR) on August 28, 1970 to address water resource management issues and to alleviate flooding in the Red River Valley. Since its establishment the District has worked primarily to develop projects that manage surface water.

The District consists of approximately 1,476 square miles in Marshall, Polk, Pennington, Kittson and Roseau Counties. The boundary of the District has been modified five times by boundary change proceedings. The District includes the drainage basin of the Snake River (approximately 750 square miles), the Middle River, a tributary of the Snake River, (approximately 295 square miles), the Tamarac Watershed Area (approximately 431 square miles), and the drainage basin of several Legal Drainage Systems draining directly into the Red River of the North.

In 1973, jurisdiction over the judicial drainage systems within the District - Marshall County Ditch #1, Marshall County Ditch #4, Marshall County Ditch #39, Lateral #7 of Marshall County Ditch #44 and Polk County Ditch #175 - was transferred to the Watershed District Board of Managers by the District Court. At that time, approximately 310 miles of legal drainage systems were under the jurisdiction of the Board of Managers. In 1974, the District adopted rules that regulate certain works in the District. These rules were modified in 1978, 1999 and 2004.

In 1977, the Board entered a Joint Powers Agreement with the other Watershed Districts in the Red River Basin to form the Lower Red River Watershed Management Board whose name was changed

(in 1991) to the Red River Watershed Management Board. This organization provides funding to member districts, primarily for floodwater detention structures that benefit more than one member District. The Red River Watershed Management Board currently consists of eight watershed districts.

In April 2002, at the request of residents, the Marshall County Board of Commissioners successfully petitioned BWSR to add the Tamarac Watershed area to the Middle River Snake River Watershed District. The petition also requested two changes: increasing the number of District Managers from 5 to 7 members, and a new name: the Middle-Snake-Tamarac Rivers Watershed District. In September 2002, BWSR granted the petition, which increased the area of the Watershed District by about 44% (440 square miles). Jurisdiction of the legal drainage systems in the Tamarac Watershed area did not change.

In 2003, both the Middle-Snake-Tamarac Rivers Watershed District and the Two Rivers Watershed District petitioned BWSR to change the District boundaries to follow, as possible, the hydrologic boundary. This petition was granted. The net effect of this petition was to move approximately 14 square miles into the Two Rivers Watershed District and to move about 2 square miles into the Middle-Snake-Tamarac Rivers Watershed District.

In 2004, the District petitioned BWSR to amend the *1994 Watershed Management Plan* to include the Tamarac Watershed area in the District. A hearing on the proposed Amended Plan was held in December 2004. In January 2005, the Board approved the Amended Plan. The Amended Plan was published in May of 2005.

In 2009, the District began the process to update their *10 Year Management Plan*. The process continued thru 2010 and was approved at a hearing before BWSR in June 2011.

In 2010, the Polk County Commissioners gave jurisdiction of Polk County Ditches #43 and #44 (approximately 16 square miles in Angus Township) to the District. This increased the total miles of legal drainage system in the District to 336.

## **ANNUAL REPORT**

Under MN Statute 103D.351 the District Board of Managers are required to prepare a yearly report of the financial conditions of the watershed district, the status of all projects, the business transacted by the watershed district, other matters affecting the interest of the watershed district, and a discussion of the managers' plans for the succeeding year. Copies of the report must be transmitted to the Board of Water and Soil Resources, the commissioner, and the director within a reasonable time.

Copies of past annual reports are available online at <http://mstrwd.org/about/annual-report/> or a hard copy can be made available from the District's office, per request.



## **10-YEAR PLAN**

Under MN Statute 103D.401 the managers must adopt a watershed management plan for any or all of the purposes for which a watershed district may be established. The watershed management plan (WMP) must give a narrative description of existing water and water-related problems within the watershed district, possible solutions to the problems, and the general objectives of the watershed district. The Board of Managers are also required under MN Statute 103D.405 to revise or update a watershed management plan for the District every ten years.

The WMP is an important tool for identifying problems and issues, goals, and long and short term strategies to address these issues and attain the goals. The WMP also inventories resources, assesses resource quality, and establishes regulatory controls, programs, or infrastructure improvements needed to managed the resources within the watershed.

The original “Ten Year Updated Watershed Management Plan” was prepared with the assistance of the Soil and Water Conservation Districts (SWCDs) for Marshall, West Polk, and Pennington Counties; the Board of Commissioners for Marshall, Polk, and Pennington counties; the Minnesota Board of Water and Soil Resources (BWSR); the Department of Natural Resources (DNR), Division of Waters, Division of Wildlife, and Division of Fisheries; and the Minnesota Pollution Control Agency (MPCA). The latest plan revision was completed in 2011.

A copy of the latest 10 -Year Plan is available online at <http://mstrwd.org/about/10-year-plan/> or a hard copy can be made available from the District office, by request.

## **WATERSHED DISTRICT ADVISORY COMMITTEE**

The Watershed District, on behalf of the Committee, holds at least one Advisory Committee meeting every year. Statutorily, the Advisory committee has, if possible, a supervisor of a SWCD, a County Commissioner, a representative of a sporting group, and a representative of a farm organization that are selected by the Managers to provide recommendations on matters affecting the watershed district, including all contemplated projects and improvements. Along with landowners, this group can play an important role in ensuring that the watershed district is fulfilling the needs of the community and is aware of citizen concerns. The meeting is advertised in each county newspaper within the District, and the District sends invitations to previous attendees and township officials. The Advisory Committee meeting is open to the public and the public is encouraged to attend and participate.

On November 18, 2019, the Advisory Committee meeting was held at the Bremer Bank in Warren, Minnesota. Administrator, Joel Praska, opened the meeting and election of officers presided. Dean Danielski was nominated to serve as Chairman and by acclamation, Sharon Bring, assumed the Secretary position.

## 2019 ADVISORY COMMITTEE ATTENDEES

Committee Members	Affiliation
John W Nelson	President, Middle-Snake-Tamarac Rivers WD
Bill Petersen	Vice President, Middle-Snake-Tamarac Rivers WD
Roger Mischel	Secretary, Middle-Snake-Tamarac Rivers WD
David Bakke	Manager, Middle-Snake-Tamarac Rivers WD
Joel Praska	Administrator, Middle-Snake-Tamarac Rivers WD
Danny Omdahl	Technician, Middle-Snake-Tamarac Rivers WD
Kyle Schlomann	Technician, Middle-Snake-Tamarac Rivers WD
Don Dietrich	Polk County Commissioner
Sharon Bring	Marshall County Commissioner
Mike Enright	Ellingson Drainage
Arlyn Dvergsten	Landowner
Mark Weber	Landowner
Dean Danielski	Landowner
Tony Filipi	Landowner
Tracy Anderson	Landowner
Dean Peterson	Landowner
Eric Johnson	Landowner

After introductions, District Administrator, Joel Praska presented a power point presentation which reviewed ditch maintenance performed in 2019, completed projects and works that were scheduled to take place but were postponed due to the wet fall.

Administrator Praska then opened the meeting to comments and questions from the participants.

The pros and cons of drain tile pumping was discussed along with the District's enforcement of when farmers must turn off their pumps. Enforcement may include an injunction and prosecution as a criminal misdemeanor when pumps are operating during flooding conditions. The MSTRWD's Rules, which were updated in 2018, state that no further permits can be issued if the requestor is not following the existing permit conditions.

Mike Enright, Ellingson Companies, elaborated on how drain tile improves overall soil health, reduces runoff and how it can be used as a tool for flood mitigation.

Tracy Anderson, McCrea Township landowner, inquired about the District's policy regarding tractor pumps. Administrator Praska stated that pumping with a tractor pump is allowed in emergency situations though it does require a permit. Under such circumstances, the District's rules require the landowner to apply for an after-the-fact permit.

Eric Johnson, Warrenton Township landowner, mentioned that some of the flooding issues along the Snake River may originate from where Judicial Ditch #14 cuts through the Lilac Ridge. He stated his desire to see some sort of project moving forward to help mitigate some of the flows coming through

the ridge. Technician Omdahl stated the District has an RCPP project that is currently looking at alternatives that include retention sites along JD #14. The District's goal is to come up with a locally based plan within the next year before the federally funded project expires in September of 2020.

There was some discussion regarding the MN DNR's policies around land ownership, wetland conservation, and what their role is in District projects. John W. Nelson, MSTRWD President, stated that the District has taken positive steps in forming a working relationship with the DNR regarding the operation and maintenance of the East Park WMA, Nelson Slough.

Dean Peterson, Brislet Township landowner, raised concerns with the emergency spillway of Agassiz Valley Impoundment. Water from the September and October runoff events was approximately 2' away from overtopping the emergency spillway. Dean suggested that the District keep this fall in mind whenever someone requests for the District to hold water. Administrator Praska mentioned that 2019 is the final year of the MN Audubon's Cattail Study and that Agassiz Valley would be returning to its standard operation and maintenance plan next year.

Eric Johnson requested that the District consider installing a staff gauge within the Warren Diversion ditch that is viewable to the public.

With no further comments or questions from the public in attendance, Administrator Praska concluded the meeting.

The 2020 Advisory Board Meeting will be held November 16, 2020 at 1:30 P.M. at the Bremer Bank in Warren, MN.

## **ONGOING PROJECTS**

### **NRCS RCPP Projects**

In the spring of 2015, the MSTRWD secured funding provided by the NRCS through the Regional Conservation Partnership Program (RCPP). This funding allocated \$12 million dollars to eligible applicants as determined by the Red River Retention Authority (RRRA). The RCPP funding was made available to the MSTRWD for watershed planning in the Judicial Ditch #14 and Judicial Ditch #19 subwatersheds. Because these funds are provided by the NRCS, watershed planning must follow NRCS agency guidelines for compliance with the National Environmental Protection Act (NEPA) requirements. Tasks required for the NRCS Watershed Plan are available in the *Feasibility Study and Plan of Work* document.

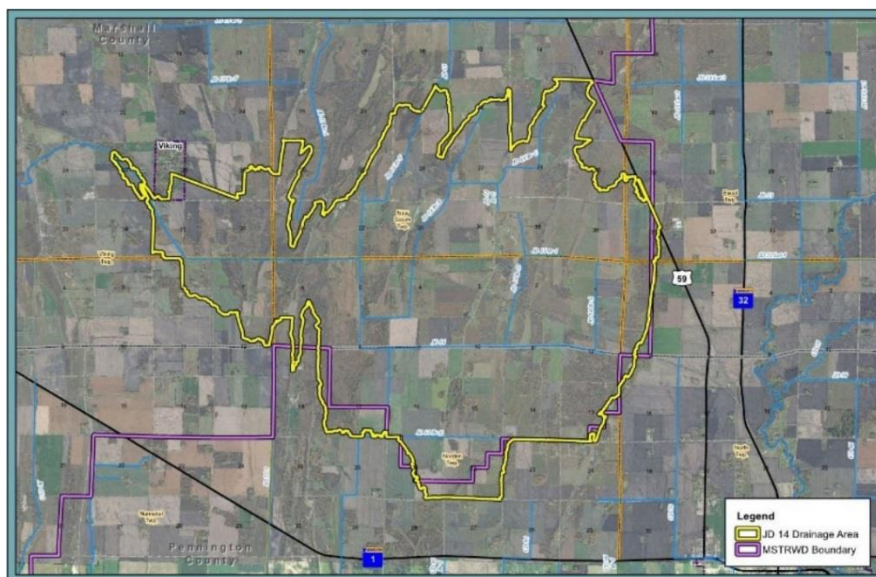
### **Judicial Ditch #14 RCPP Project Team**

A Project Team was developed for the Judicial Ditch #14 RCPP Project. Manager Brad Blawat with Manager, Robert Kovar, as the alternate, serve as the MSTRWD Team representatives. Landowner

representatives are John Hams, Carl Roger VanHorn, and Gregory Dyrdaahl, with Donovan Dyrdaahl as an alternate.

Both spring and summer flooding has resulted in many problems with the Judicial Ditch #14 watershed. The watershed is drained primarily by artificial channels which do not provide the capacity sufficient for most agricultural production nor does the channel systems have an adequate outlet. Large areas are becoming inundated from excessive runoff impacting agricultural production. Roads and culverts in the area are also impacted.

A grant agreement was entered with the NRCS on February 16, 2016, in the amount of \$500,000.00. The funding cost share is 70% NRCS and 30% Middle-Snake-Tamarac Rivers Watershed District. This work includes developing a Purpose and Projected Outcomes document, evaluating various flood damage reduction strategies, and working with impacted landowners in areas with potential to store runoff.



*Drainage area of Judicial Ditch #14*

Review Points 1 – 3 have been submitted to NRCS. The project has received a contract extension through NRCS with a new deadline date of September 30, 2020. Currently Houston Engineering is performing Hydrologic & Hydraulic (H&H) modeling on alternatives in addition to alternatives discussed at the last project team meeting. More information will be returned to Board committees for review as necessary.

Up-to-date information about the project and project team can be found at <http://mstrwd.org/current-projects/jd-14-rcpp/>.

### Judicial Ditch #19 RCPP Project Team

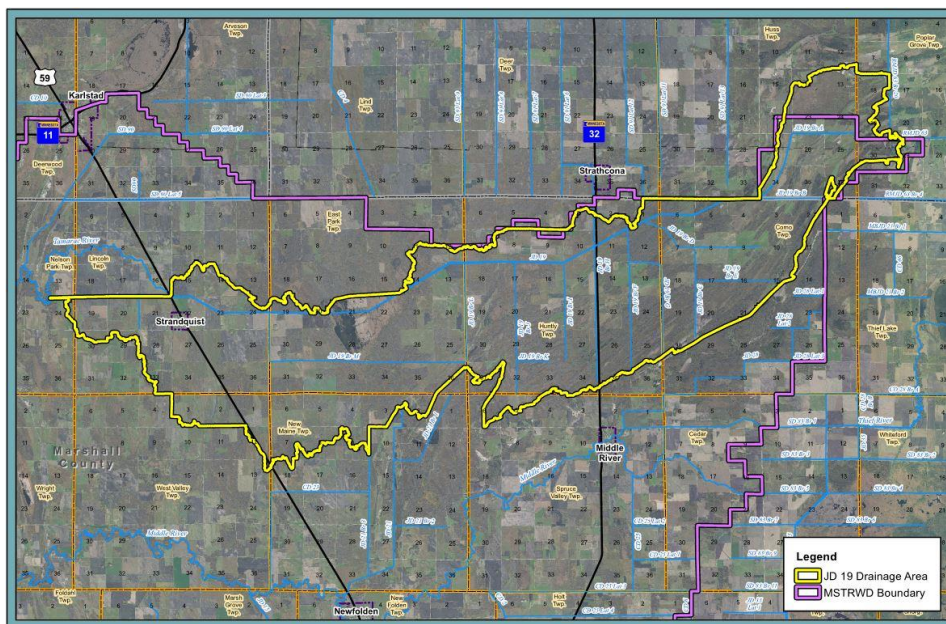
Judicial Ditch #19 RCPP Project Team, formerly known as the Tamarac Subwatershed Project Team, have Managers Bill Petersen and Brad Blawat serving as the MSTRWD representatives. Neil Widner, Larry



Eftefield, Ken Borowicz, J Myron Larson, Mark Anderson, Dennis Olson, Richard Hanson, Paul St. Germain and Earl Anderson represent the landowner team members.

Both spring snowmelt and summer rainfalls have historically resulted in flooding problem throughout the agriculturally dominated landscape. Water resource problems in the Judicial Ditch #19 Watershed include recurrent flood damages to roads, culverts, agricultural fields, and artificial and natural waterways. Floodwaters from the Judicial Ditch #19 Watershed also contribute to a larger scale flooding and flood damages downstream of the Watershed outlet along the Tamarac River and the Red River of the North.

The District signed a grant agreement with the NRCS, in the amount of \$500,000.00, February 18, 2016 to perform technical studying and hydraulic analysis for a future flood damage reduction project within the Judicial Ditch #19 sub-watershed. The funding cost share is 70% NRCS and 30% Middle-Snake-Tamarac Rivers Watershed District.



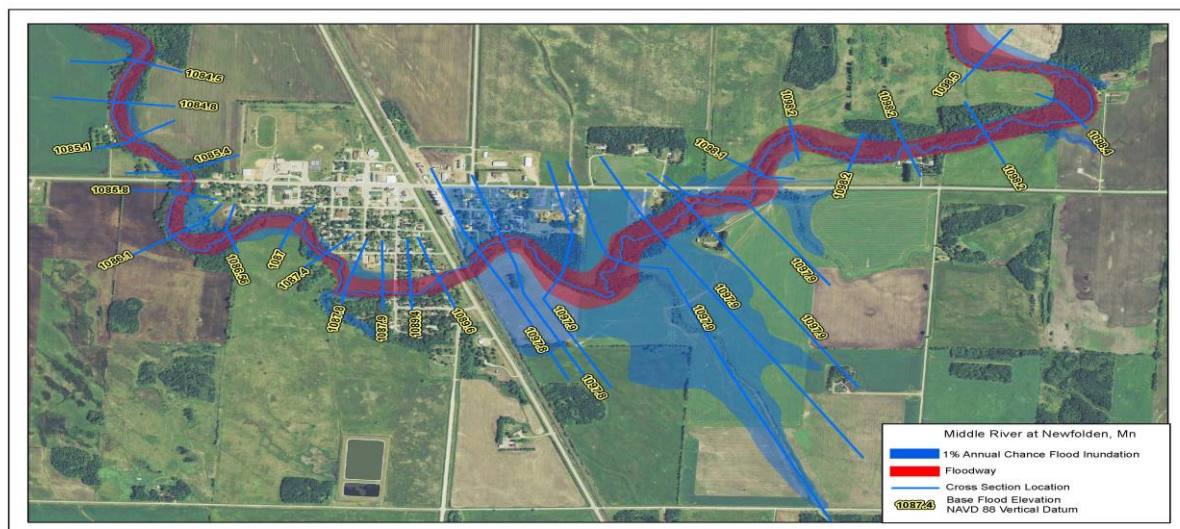
Review Points 1 – 3 have been submitted to NRCS. The project has received a contract extension through NRCS with a new deadline date of September 30, 2020. The MSTRWD and the DNR are currently developing a potential plan for the East Park area to improve Flood Damage Reduction Benefit and improve wildlife habitat. An alternative screening document is currently under development for all alternatives that have been identified during the watershed planning process. A Project Team meeting is currently being scheduled to review the potential East Park FDR improvements and discuss the alternative screening document.

Up-to-date information about the project and project team can be found at <http://mstrwd.org/current-projects/jd-19-rcpp/>.

## Newfolden / Middle River Subwatershed Flood Damage Reduction Project Team

A Project Team was developed for the Newfolden / Middle River Subwatershed Flood Damage Reduction project. The City of Newfolden had been mapped for the 100-year Flood Plain Zoning (FPZ) for the first time, in 2015. The Federal Emergency Management Agency (FEMA) and the MNDNR produce Digital Flood Insurance Rate Maps (DFIRM) for selected counties in the state. These maps are often referred to as FEMA Floodplain maps.

This resulted in numerous properties with homes, on the east side of US Highway 59 and a few on the west side, in the 100 year FPZ. The City contacted HDR Inc. and reached out to the MSTRWD for guidance and assistance. An appeal was given to the MNDNR to seek alternatives.



*Current mapping from DNR HEC-RAS Model as of May 6, 2016*

Brad Blawat, Bill Petersen and Roger Mischel, as the alternate, serve as the MSTRWD Team representatives. Landowner representatives are David Lokstad, David Myhre, David Thompson, Roger Rivera, Jr., Glenn Meekma, Norman Lindemoen and Derrick Converse.

The PWT has discussed mitigation alternatives such as to construct a levee along the river, diverting a portion of water around the city, potentially adding culvert(s) to the Canadian Pacific Railway and possible impoundment sites. The purpose of the project is clear, remove the City of Newfolden from the 1% annual (100 year) FEMA floodplain.

The MSTRWD submitted a task order to HDR Engineering to develop a preliminary engineers report to identify and breakdown potential alternative options for flood prevention measures. Soil boring tests along two possible sites for impoundments and a possible diversion have been completed by NTI and

integrated in the development of the preliminary engineers report that was presented to the public, the PWT, and the MSTRWD on April 15, 2019.

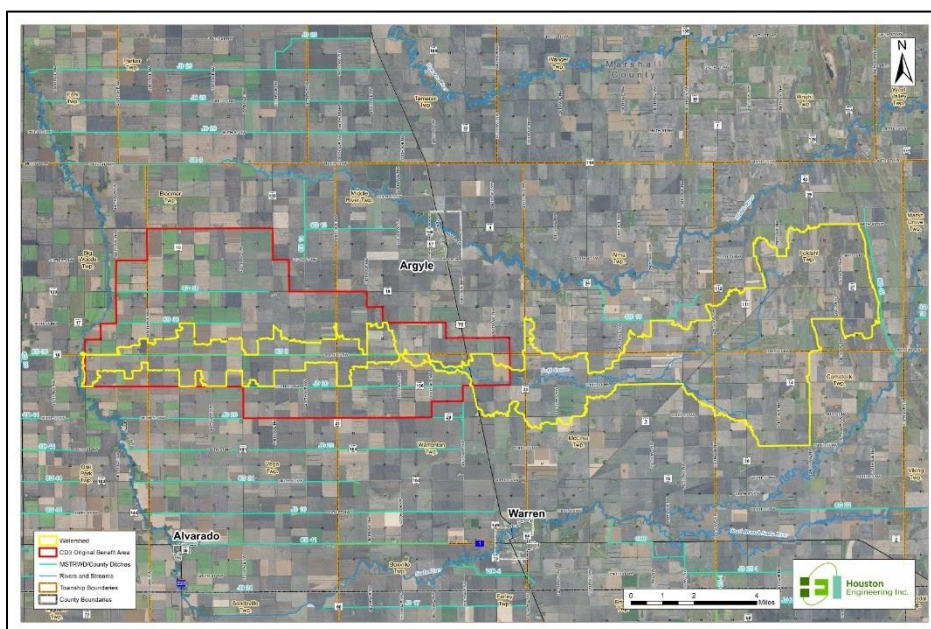
As of to date, the MSTRWD Board of Managers ordered the project to be officially established. A meeting was held with Canadian Pacific Railroad on November 14<sup>th</sup> to discuss Project aspects pertaining to the railroad embankment through Newfolden. The meeting resulted in positive feedback and future coordination is planned. HDR and the District continue to discuss the Project with the local landowners. Right-of-way discussions are in progress with the landowners located within the proposed impoundment site and those along the inlet channel. The feedback has been positive with the landowners in support of the project. Final engineering is anticipated to begin in the spring of 2020.

Up-to-date information about the project and project team can be found at <http://mstrwd.org/current-projects/middle-river-sub-watershed-feasibility-study/>

### Swift Coulee / Marshall County Ditch 3 Project Team

The Swift Coulee's drainage area starts approximately ½ mile southeast of the Old Mill State Park. It empties into Marshall County Ditch #3, which drains into the Snake River. Flooding issues along CD #3 see water leaving the ditch both on the north and south sides, as there is no set spoil or road height to control outbreaks. Much of the drainage area of the Swift is not in the Benefited Area of the Marshall County Ditch #3. There is also a sediment issue in the Swift Coulee causing a bottleneck to flows on the west side of US Highway 75.

The Project Team's District representatives are Roger Mischel and Brad Blawat. Landowner representatives are Ken L Johnson, Stuart Nordling, Jim Vansickle, Mark Yutzenka and Fred Nicholls.



*Comparison of Swift Coulee drainage area (yellow) and Marshall County Ditch 3 benefited area (red)*



In the summer of 2017, District staff assisted Houston Engineering in surveying the Swift Coulee/County Ditch #3 area. The generated information was used for the preliminary hydraulics and hydrology modeling report.

Concurrence Point #1 & 2, which includes the purpose and need statement and development of alternatives have been approved by USACE. Concurrence Point #3 is currently under development and the project team is still exploring additional alternatives that will improve conveyance through the Swift Coulee without causing downstream impacts to Marshall County Ditch #3.

The District held a PWT meeting December 10 to discuss possible channel restoration along the Swift and possible impoundment sites within the area. The District sat down with landowners along these possible impoundment sites to gauge their response. The main obstacle is drain tile. Most all of the land within the 3 proposed impoundment sites has drain tile installed. Currently, the District is seeking landowners who may be interested in having an impoundment site on their land.



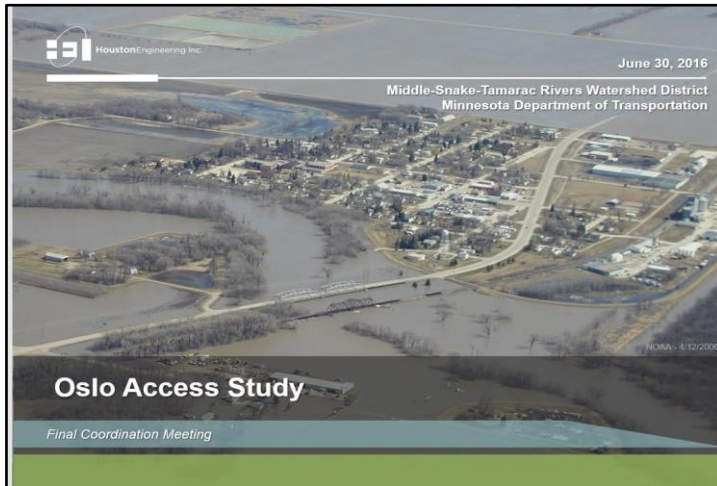
*Houston Engineering performed a drone flight of the Swift Coulee in the spring of 2019*

Up-to-date information about the project and project team can be found at <http://mstrwd.org/current-projects/swift-coulee-pt/>

### Oslo Access Study

In December of 2014, the Middle-Snake-Tamarac Rivers Watershed entered into a grant agreement with the Minnesota Department of Transportation to conduct a hydraulic analysis of Minnesota Trunk Highway #1, in the vicinity of Oslo, Minnesota to analyze various options to address flooding.





*Aerial photo of the City of Oslo*

The Board of Managers executed a Client Services Agreement for Phase 2 of the Oslo Minnesota Area Hydraulic Analysis with Houston Engineering, and executed a grant agreement with the State of Minnesota, to conduct hydraulic modeling of alternative floodway options for the reach including upstream and downstream of the Minnesota and North Dakota agricultural levees near Oslo, Minnesota. This modeling must include evaluating removal of floodway flow obstructions, channel obstructions, transportation access and equalization of agricultural levee protection. This project

must be conducted in partnership with the Border Township Association Group (BTAG) representing four Minnesota townships and the City of Oslo and the three adjacent townships in North Dakota. The grant agreement with the State of Minnesota provides for 100% reimbursable expenses, not to exceed \$187,000.00, and expired June 30, 2018. The North Dakota State Water Commission is providing matching funds for the hydraulic analysis.

On June 28, Houston Engineering presented the Oslo Area Hydraulic Analysis – Phase 2 Report to the MSTRWD and the Walsh County Water Resource District. The study began with the identification and evaluation of over 70 potential flow restrictions within the study area, with modifications to 5 bridges being part of the initially identified restrictions. Early model simulations indicated that with all of the initially identified restrictions being removed there would be a significant reduction in peak water surface elevation near Oslo for the synthetic and historic flood events that were simulated. Multiple iterations of model simulations were completed in order to prioritize the over 70 restrictions and to eliminate potential restrictions that were not affecting the flood elevations. The prioritization of the potential flow restrictions resulted in the elimination of approximately half of the initially identified restrictions.

The road raise/levee component was incorporated to keep floodwaters closer to the river channels and to convey more water through the modified bridges. This alternative was eventually defined as Alternative B. Model results for Alternative B indicate benefits to the transportation infrastructure by reducing overtopping depths and durations for the range of flood events.

The scope of the study is to evaluate the effects of removing flow restrictions within the Red River floodplain. Alternative B has an estimated probable cost of \$39 million for Minnesota and \$57 million for North Dakota with a total estimated probable cost of \$96 million.

The Board appointed Manager John W. Nelson as the District's representative to the steering committee and Manager Bill Petersen as the alternate.

Up-to-date information about the project and project team can be found at <http://mstrwd.org/current-projects/oslo-access-study/>

### Watershed Restoration and Protection Strategies (WRAPS)

The Federal Clean Water Act was established in 1972, requiring states to set water quality standards for all surface waters and to develop a list containing all waterbodies that do not meet their water quality standards. These waters that do not meet their water quality standards are then required by the U.S. Environmental Protection Agency (USEPA) to have a Total Maximum Daily Load (TMDL) developed for that waterbody. A TMDL is designed to reduce the amount of pollutants in a waterbody and allow it to meet standards. A formula is used to calculate the maximum amount of a pollutant, like sediment or phosphorus, a waterbody can receive and still meet the state's water quality standards.

In 2013 the State of Minnesota established the Clean Water Accountability Act which ensures that pollution sources are properly identified and that state funding is targeted to areas that provide the max water quality benefit. It also defined and set WRAPS reports into law and made them the responsibility of the Minnesota Pollution Control Agency (MPCA). A WRAPS document is intended to establish the strategies used to restore impaired waters and protect waters that are not impaired. It creates a path for implementing the TMDLs and guides local implementation of management practices aimed at improving water quality, ensuring compliance with the Federal Clean Water Act.

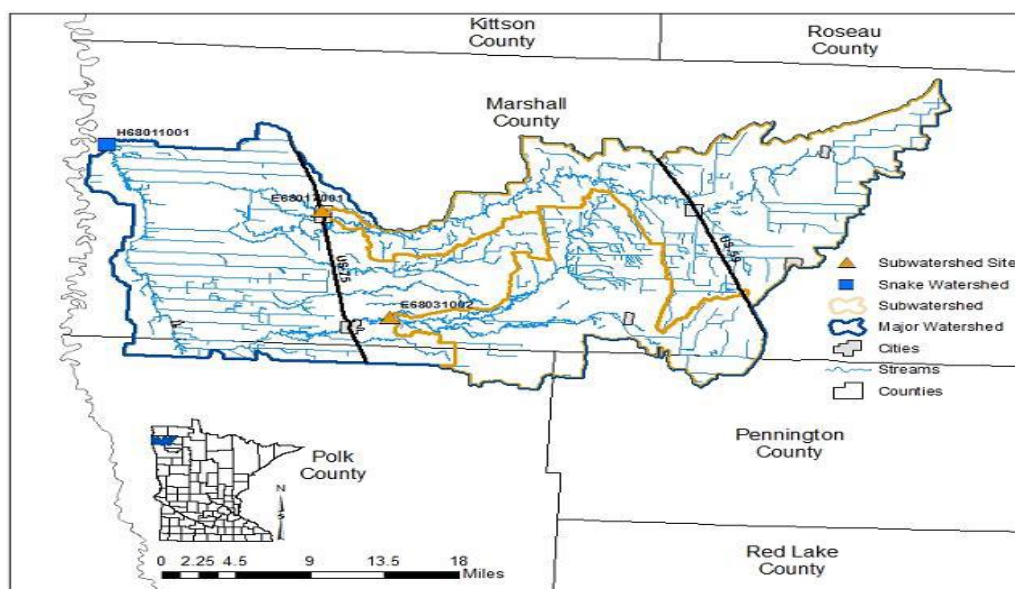
The State of Minnesota adopted the “watershed approach” which sets a 10-year cycle for each major watershed to first monitor and assess impairment status for its surface waters, then establish work plans to improve/protect water bodies. When the 10-year cycle ends, it starts over again. The major benefit of this approach is the integration of monitoring resources to provide a more complete and systematic assessment of water quality at a geographic scale useful for the development and implementation of effective TMDLs, project planning, effectiveness monitoring and protection strategies.

Along with the Watershed approach, the MPCA developed a 4-step process to identify and address threats to water quality in each of the major watersheds.

- Step 1 begins with a two-year intensive monitoring program of lakes and streams which the MPCA determines their overall health and identifies impaired waters. The Monitoring and Assessment Report and a Stressor Identification Report are the outcomes of the first step.
- Step 2 is to assess the data based on the results. The MPCA determines whether a water resource meets water quality standards, list needed waters as impaired, identify waters to be protected and identify stressors affecting aquatic life in streams.
- Step 3 is to develop strategies to restore and protect the watershed's water bodies creating a WRAPS report and a TMDL. The two provide details on water quality issues and identifies what needs to be done to clean the stream and lakes that are impaired and to protect those that are at risk of becoming impaired.

- Step 4 is when restoration and protection projects are conducted in the watershed. Local units of government including watershed districts, municipalities and SWCDs take the lead in developing and carrying out plans.

## Snake & Middle Rivers WRAPS



*Watershed of Snake and Middle Rivers*

Phase 1 of the Snake River WRAPS was completed in 2017. Phase 1 included data collection, modeling of sediment sources and delivery, the identification of impairments within the rivers, and the creation of a Watershed Conditions Report and community outreach.

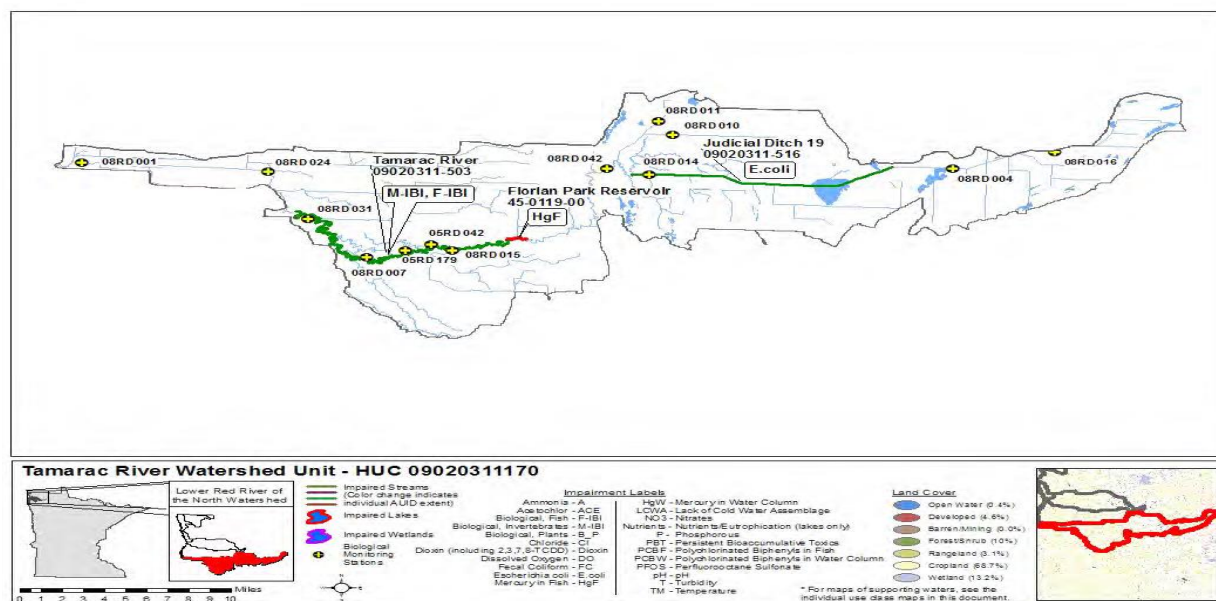
Phase 2 of the project was completed in 2018. This involved the development of Total Maximum Daily Loads for the various impaired reaches, the development of strategies to restore and protect water quality within the rivers, the development of a WRAPS report and community outreach.

Phase 3 of the project, the development of restoration and protection strategies and the development of a draft WRAPS report was performed in 2019. This includes water-quality monitoring data and HSPF model simulations that evaluate and describe the current and historical water-quality conditions of surface waterbodies within the Snake-Middle River Watershed. A combination of tools, assessments, and resources will be used to prioritize Best Management Practices to be implemented within the Snake-Middle River Watershed for future realization.

Up-to-date information regarding the Snake & Middle Rivers WRAPS can be found at <http://mstrwd.org/current-projects/snake-middle-rivers-watershed-restoration-and-protection-strategy-wraps/>.

## Lower Red River WRAPS

The WRAPS is a joint effort between the Two Rivers Watershed District (TRWD), the Joe River Watershed District (JRWD) and the MSTRWD. The Joe River, an unnamed coulee in the TRWD and the Tamarac River were coopted together according to a hydrologic unit code (HUC). The TRWD manages the grant funding from the MPCA. The WRAPS gathers research from all the water quality data available for a given watercourse. If the data is not sufficient, then additional water quality and stream flow data is collected to produce a “conditions report” to get a full picture of the quality of the resource. The data is then analyzed to determine if any portions of the sub-watershed are impaired or polluted in any way. If impairments are found, the project will do further investigation and research to determine the source of impairment and how best to address the problems, if possible.

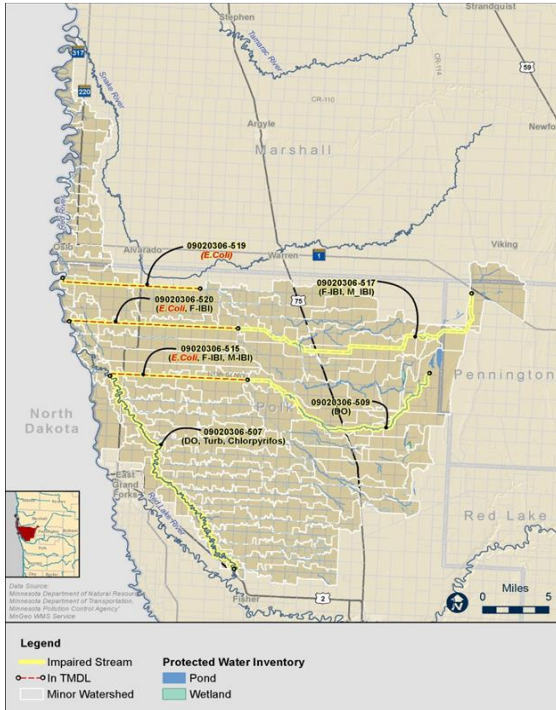


*Watershed of the Tamarac River.*

Please refer to Two Rivers Watershed District’s website at <http://www.tworiverswd.com> or view their 2017 Annual Report for more information.

## Grand Marais Creek WRAPS

Through a grant from the MPCA, the Red Lake Watershed District hired Emmons & Olivier Resources, Inc. (EOR) to assist in documenting the current health of Grand Marais Creek Watershed and to develop management strategies for its protection and restoration. This project was initiated in 2012 and was funded by the MN Pollution Control Agency. The project covers lands in the Red Lake Watershed District and the Angus Oslo Planning region of the MSTRWD.



### *Watershed of the Grand*

For more information please refer to Red Lake Watershed District’s website:

<http://www.redlakewatershed.org>

or Red Lake’s 2017 Annual Report at:

[www.redlakewatershed.org/Annual%20Reports/2017%20Annual%20Report.pdf](http://www.redlakewatershed.org/Annual%20Reports/2017%20Annual%20Report.pdf)



## JUDICIAL DRAINAGE SYSTEMS

Since 1973, when the jurisdiction of the Judicial drainage systems within the District was transferred by the District Court to the Board of Managers, the Board has been responsible for the maintenance and repair of legal drainage systems. Since that time, additional drainage systems have been transferred to the District and proceedings have been held concerning the establishment of legal drainage systems.

The following table lists the Public Drainage systems under the jurisdiction of the Board of Managers of the Middle-Snake-Tamarac Rivers Watershed District.

Drainage System	Date Established	Approximate Length (Miles)
JD 1	1903	16
JD 14	1912, benefits redetermined 2014	30
JD 15	1911	39
JD 16	1910	11
JD 17	1910	6.5
JD 20	1910	36
JD 21	1910	13.5
JD 24	1911	3.5
JD 25-1	1912, benefits redetermined 2014	12.5
JD 25-2	1912	17
JD 28	1913	16
JD 29	1917	40
JD 68	1919	1.5
JD 75	1928	21
MCD 1	1902, became part of JD 29 in 1917	18.5
MCD 4	1902	2.5
MCD 4	Re-named to WD #4 in 1987	2.5
MCD 39	1948	2.5
MCD 39 Improvement	1996	.04
MCD 44 L7	1967, re-named to WD 7 in 1999	3.25
PCD 175	1969	12
SD 3	1903	6
SD 5	1896	3
WD 1	Not constructed	-
WD 2	1992	1
WD 3	Project dismissed	-
WD 4	1990, benefits re-determined	2.5
WD 5	1999	14
WD 6	1999	12.8
WD 7 Improvement	2000	.12
PCD 43	1903	10
PCD 44	1904	5

## **DITCH MAINTENANCE**

The District maintains the legal drainage systems under its jurisdiction, and follows a maintenance schedule for individual ditch systems. Sediment removal, mowing, spraying and dam removal account for most of the maintenance work. There are designated ditches which culvert replacement is performed, as needed.

To control cattails, bulrushes and brush in 2019, the District hired an aerial applicator to spray legal drainage ditches under its jurisdiction and impoundment areas. The contractor sprayed 48.93 miles of ditch and 9.97 miles of ditches related to the impoundments.

Beavers, beaver dams and gophers continue to be a problem in drainage systems and in project areas. In 2019, contractors removed beavers, their dams and debris from ditches, culverts and impoundment areas, while gophers continue to be trapped at the District Impoundment sites.

The District had approximately 168 miles mowed in 2019. The mowers also work at the District's impoundment properties. Typically, the related ditches and some areas of the impounds are mowed. Brushing and aerial spraying are also utilized as needed at the impoundments.

## Polk County Ditch #43

The District held several landowner meetings concerning the sloughing along CD #43 Main and Lateral #1 located in Angus Township, section 8 & 9. By working with the landowners, the District was able to identify 4 miles of ditch that was in need of repair. Implementing a clean water approach, the West Polk County SWCD, NRCS and FSA agencies partnered with the District to implement side water inlets, rock drop structures and grass buffers. Kraulik Excavating was awarded the contract and work began June 3, 2019.



*Polk County Ditch #43, Main*



*Polk County Ditch #43 Repair*

## Judicial Ditch #1

The south side slough repair work that took place in 2018 along section 20, Higdem Township, received noticeable erosion to the outside slope of the ditch during the spring melt of 2019. The interior slough repair that was performed in 2018 reappeared, to a smaller scale. Repairs were ordered, as Lunke Inc. restored the area to the pre 2019 spring melt. After the September rain events, the interior began to slough once again. In 2020, the District intends to purchase more right-of-way in order to install a shelf in the area where the ditch turns to the north before entering the Red River.



*JD #1 slough repair*



*JD #1 erosion from spring melt*



## County Ditch #175

In recent years, the District has received numerous comments and complaints related to drainage issues of Polk County Ditch #175. In 2016, public meetings were held with landowners, renters and agencies, to discuss the issues plaguing the ditch and to entertain possible solutions. On April 3, 2017, landowners presented a Petition for the Improvement of Polk County Ditch #175 and the Watershed Ditch #5 Outlet to the District Board. The petition seeks to alleviate the drainage problem at MN Trunk Highway #220; to provide uniform benefits to all properties in the existing benefited area of PCD #175, and to provide an adequate outlet. At the regular meeting of the Board of Managers, held April 17, 2017, the Board found the Petition to be adequate and appointed the Engineering Firm of Pribula Engineering to prepare a Preliminary Engineers Report.

The final hearing was held, and the Board determined the improvement benefits are greater than the total estimated improvement cost and the proposed improvement to Polk County Ditch #175 would be of public utility and benefit and would promote public health and welfare and ordered said improvement and redetermination of benefits be adopted. Bids for the project were solicited in January 2019 and Breidenbach Excavating was awarded the contract. Setbacks due to the weather, both spring and fall, didn't allow for the project to be completed in 2019. Minor shaping, rock placement and seeding will be completed in 2020.







The District received a Clean Water Competitive Grant, in the amount of \$144,000.00, from the Minnesota Board of Soil and Water Resources for the installation of 23 multipurpose drainage management practices. These practices will include grade stabilization structures and grassed waterways with a continuous berm.



### March Impoundment



*Sandsville Section 14 – Sloughing along the banks of the Snake River was identified and Olson Construction repaired the failure after harvest to prevent crop damage.*

## JD 25-1



*McCreia Twp Section 1 Strip – The District partnered with the township to remove trees along the ditch north of Agassiz Valley Impoundment. Olson Construction performed the work.*

## JD #15, Br A



*New Solum Twp section 30 – In the fall the District received a call from the township. A beaver had blocked a culvert as ~4' of road eroded. With assistance from the Marshall County Highway Department, Weleski Excavation borrowed an old telephone pole to try and release the debris free. After several unsuccessful attempts, the District replaced the culvert, while the township repaired the road.*



## Beavers

Again, in 2019 beavers continue to be a nuisance within the impoundments and legal drainage ditches of the District. The District hires trappers to remove the beavers and reimburses the trappers for each beaver trapped. The District also hired contractors to remove beaver dams at Judicial Ditch #15, Judicial Ditch #25-2, Judicial Ditch #21 and Judicial Ditch #28.

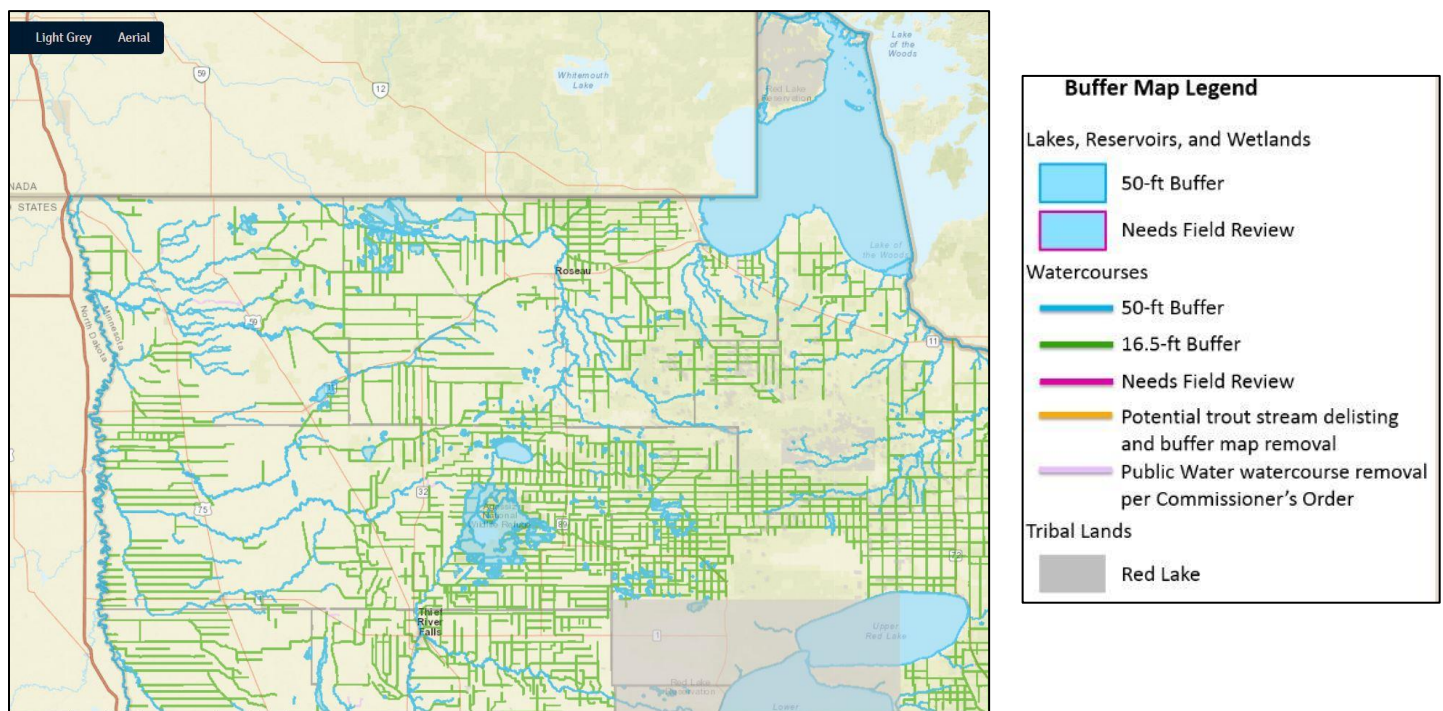
The District does not participate in the trapping of beavers in rivers, unless they immediately affect a Legal Ditch or impoundment under the District's authority.



*Impressive beaver dam located in section 7 of Spruce Valley Twp just north of Middle River*

## BUFFER LEGISLATION

The buffer law which passed in 2015 requires perennial vegetation to be established along public waters and legal ditches throughout the State of Minnesota. The deadline for establishing buffers along public waters was November 1, 2017. The minimum buffer width along public waters is 30 feet with a required average of 50 feet measured from the top of the bank. Legal drainage systems require a minimum 16.5 foot buffer measured from the top of the constructed channel and must be installed by November 1, 2018. The local SWCD offices can provide assistance to determine the top of the bank or constructed channel. It is the responsibility of the landowner to attain compliance. The SWCD may have cost share funds available for the implementation of the buffers. Landowners may choose to plant hay or grass crops on their own and not be restricted to federal or state requirements. For more information, including cost share, please contact your respective SWCD office.



*Minnesota DNR Buffer Map*

The Board of Managers of the Middle Snake Tamarac Rivers Watershed, on June 14, 2017 adopted a Resolution electing jurisdiction of the Buffer Law on approximately 205.5 miles of public drainage ditches in Marshall County; approximately 9.5 miles in Pennington County and approximately 107.9 miles in Polk County.

## RAINFALL PROGRAM

The District has volunteers, throughout the Watershed, who record and submit monthly rainfall amounts. We appreciate our faithful reporters, and we are in need of others who would like to participate to be rainfall reporters. The District will supply the rain gauge, reporting forms, and stamped envelopes to mail your reports to the office. If you are interested in volunteering for the program, please contact the District office.

The following is the rainfall amounts for 2019, as reported:

### 2019 ANNUAL SUMMARY OF MONTHLY RAINFALL MIDDLE-SNAKE-TAMARAC RIVERS WATERSHED DISTRICT

Ref	Observer	Township	Sec	Twp	Rg	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
31	Ron Ueland	New Maine	22	157	44	0.45	2.29	2.60	3.99	3.43	7.68	4.36	<b>24.80</b>
33	Myron Jesme	Rocksbury	4	153	43	0.08	2.10	1.70	4.54	1.93	10.32	4.34	<b>25.01</b>
36	Nick Drees	Excel	34	155	43	0.15	1.25	1.62	3.45	2.52	7.25	no report	<b>16.24</b>
37	Harold Maijala	Spruce Valley	36	157	43	0.38	1.92	3.29	3.55	2.21	6.60	3.73	<b>21.68</b>
38	Harold Klamar	Rollis	33	157	40	0.43	1.90	3.60	5.06	2.80	8.83	4.02	<b>26.64</b>
54	Nick Smieja	West Valley	28	157	45	0.30	1.58	2.58	4.83	3.71	6.64	3.92	<b>23.56</b>
56	Dennis Erickson	Foldahl	31	156	46	0.32	1.58	2.69	3.76	3.38	7.86	3.41	<b>23.00</b>
90	Alvin Nybladh	Donnelly	35	158	49	0.47	0.92	2.80	4.30	1.90	7.05	4.58	<b>22.02</b>
91	Sharon Bring	West Valley	29	157	45	1.58	1.92	2.97	5.12	3.86	8.97	4.17	<b>28.59</b>
93	Peter Solem	Higdem	7	154	50	1.50	1.70	1.49	4.46	3.12	8.05	3.52	<b>23.84</b>
100	James E Johnson	Warrenton	32	155	48	0.61	1.48	2.76	4.57	no report	no report	no report	<b>9.42</b>
101	J Bolduc	Parker	7	157	49	0.44	1.06	2.74	3.20	1.77	6.38	3.52	<b>19.11</b>
102	MSTRWD					0.69	1.55	2.92	4.10	3.21	7.57	3.45	<b>23.49</b>
104	Paul Morken	Comstock	10	155	46	no report	1.23	2.07	4.65	3.2	8.9	6.65	<b>26.70</b>
105	Dean Danielski	Farley	18	148	48	0.87	1.87	3.06	4.19	4.32	7.19	4.40	<b>25.90</b>



## WATERSHED DISTRICT RULES AND REGULATIONS

A copy of the 2018 Amended Rules can be found at our webpage or by dropping by the District office to obtain a printed copy.

It is the intention of the Managers to promote the use of the waters and related resources within the District in a provident and orderly manner to improve the general welfare and public health for the benefit of its present and future residents.

The requirement for a permit from the Managers for certain uses of water or for certain works within the District are not intended to delay or inhibit development, rather the permits are needed so that the Managers are kept informed of planned projects. The Managers can advise, in some cases provide assistance and insure that development of the resources of the District is orderly and in accordance with the overall plan of the District.

### ○ Works Requiring Permits from the Board of Managers

A Permit shall be obtained from the MSTRWD prior to any work being commenced for:

- A. Waste disposed of directly or indirectly into any drainageway, including public drainage systems.
- B. Any in-field drainage, including installation of surface and subsurface drains which create new or improve existing downstream outlet control on a public drainage system.
- C. Any installation of a new or improvement to an existing subsurface tile drainage system which increases drainage coefficient.
- D. Any new diking, excavating or levee construction or improvement to an existing bridge, dike, levee or culvert in or adjacent to any drainageway that will change the hydraulic efficiency of the drainageway or inhibit or restrict flows adjacent to the drainageway.
- E. Any work causing the flow or drainage of surface water to cross a subwatershed boundary and thereby deliver water into another subwatershed.
- F. Any diversion or acceleration of water into any public drainage system from any land not assessed to that drainage system.
- G. Any Construction, installation or alteration of a road or utility crossing beneath a public drainage system.
- H. Any pumping of water, including the use of temporary or portable pumps, into a public drainage system or other drainageway. In emergency situations such pumping may be subject to an after-the-fact permit as provided in these Rules.

A Permit granted by the MSTRWD does not relieve the applicant of the responsibilities of obtaining any other authorization required by law or regulation, or alter the applicant's responsibility or liability under statutory or common law.

### ○ Works Administratively Approved

The MSTRWD Administrator is authorized to approve the following Permit applications without Board consideration or approval:

- A. Emergency repairs requested by a governmental agency concerning public safety.
- B. Lengthening of an in-place culvert.
- C. To maintain or replace culverts or crossings, so long as the replacement or maintenance does not increase or change the hydraulic capacity, size, elevation or location of the culvert or crossing.
- D. Requests from other governmental agencies (township, city, county, state) that include hydraulic analysis performed by a Licensed Professional Engineer.
- E. Culverts installed in drainageways that conform to the MSTRWD's Culvert Size Chart contained in Appendix II.
- F. Relocation of crossings that do not alter the hydrology of a drainageway.
- G. Improvements to culverts of less than eighteen (18) inches to a culvert size of eighteen (18) inches or less.

In addition to the other guidelines and standards outlined herein, when considering the types of Permit applications described under Works Administratively Approved paragraphs A, B, C, D, E, F, G the following Rules shall apply:

- H. The MSTRWD Administrator shall not approve Permit applications which propose to change the elevation or grade of a drainageway.
- I. The MSTRWD Administrator may add reasonable conditions to the approval of a Permit to address site-specific or work-specific concerns. All conditions of the Permit, to the extent possible, shall be met before the Permit can be deemed complete. Conditions requiring performance prior to the initiation of work shall be met before the applicant can begin work.
- J. If a Permit application meets the administrative approval requirements (under Works Administratively Approved paragraphs A, B, C, D, E, F, G but the MSTRWD Administrator determines that administrative approval is inappropriate due to unusual circumstances or additional information is required, the Permit application shall be brought before the Board for approval.
- K. The MSTRWD Administrator shall report all administratively approved Permits to the Board.
- L. The MSTRWD Administrator is not authorized to deny a permit but may provide the Board with a recommendation for denial of the Permit application, including reasons for denial.

### ○ Works Not Requiring Permits

No Permit from the MSTRWD is required:

- A. To perform maintenance on an existing drainageway that is not under the authority of the MSTRWD. A landowner or public entity performing maintenance is responsible for ensuring the work constitutes maintenance as defined in these Rules. If a landowner is unsure whether proposed work constitutes maintenance, they may seek technical assistance from the MSTRWD.
- B. To maintain, repair or replace damaged subsurface tile drainage or subsurface tile drainage pump within a private drainageway without altering the original permitted design of the system.

- C. To install in-field drainage improvements where the outlet for such improvements is not a public drainage system and the immediate downstream outlet control (i.e. a culvert or other restriction is not improved).
- D. To perform maintenance or repair on levies and dikes which does not alter the original works permitted by the MSTRWD.
- E. Nothing herein shall relieve the applicant of the responsibilities of obtaining any other authorization required by law or regulation, or alter the applicant's responsibility or liability under statutory or common law.

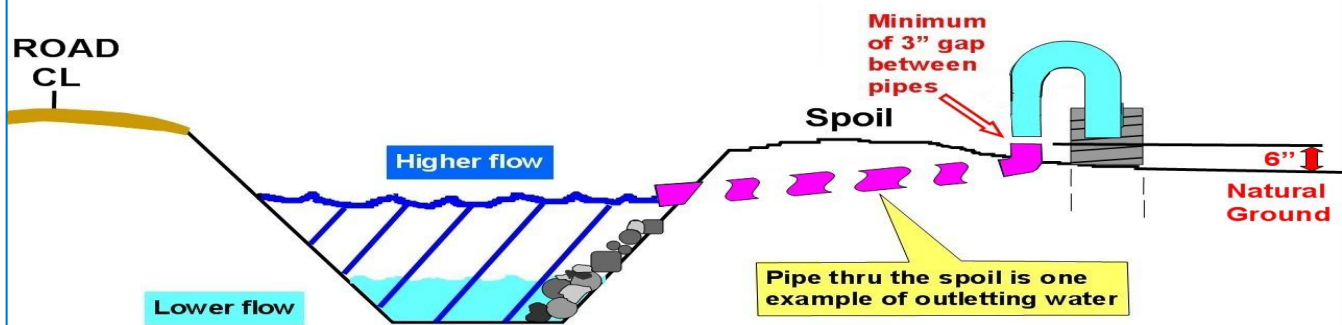
Permits need to be submitted by Wednesday at noon prior to the Board Meeting. The Board reviews permit applications at each regular meeting. Anyone contemplating any work described above is urged to contact the Watershed District office for additional information. To get a copy of the Amended Rules & Regulations an individual may stop by the office or view and print them from our website.

*Example of a well-designed tile sump pump and pipe infrastructure emptying into Judicial Ditch 20 Branch A SW4 section 19 Vega Township*



- When implementing a tile outlet pipe thru a road or spoilbank into a ditch there must be a gap of 3" between the pipe that comes from the sump hole (BLUE) and the pipe that goes thru the road or spoil (PINK).
- The inlet end of the pipe that goes thru the road or spoil cannot project higher than 6" from the natural ground in the vicinity.
- The diameter of the pipe that goes thru the road or spoil (PINK) must be larger than the diameter of the pipe that comes from the sump hole (BLUE)

Doing so will prevent water from entering the ditch during higher flows when the ditch has reached its capacity.

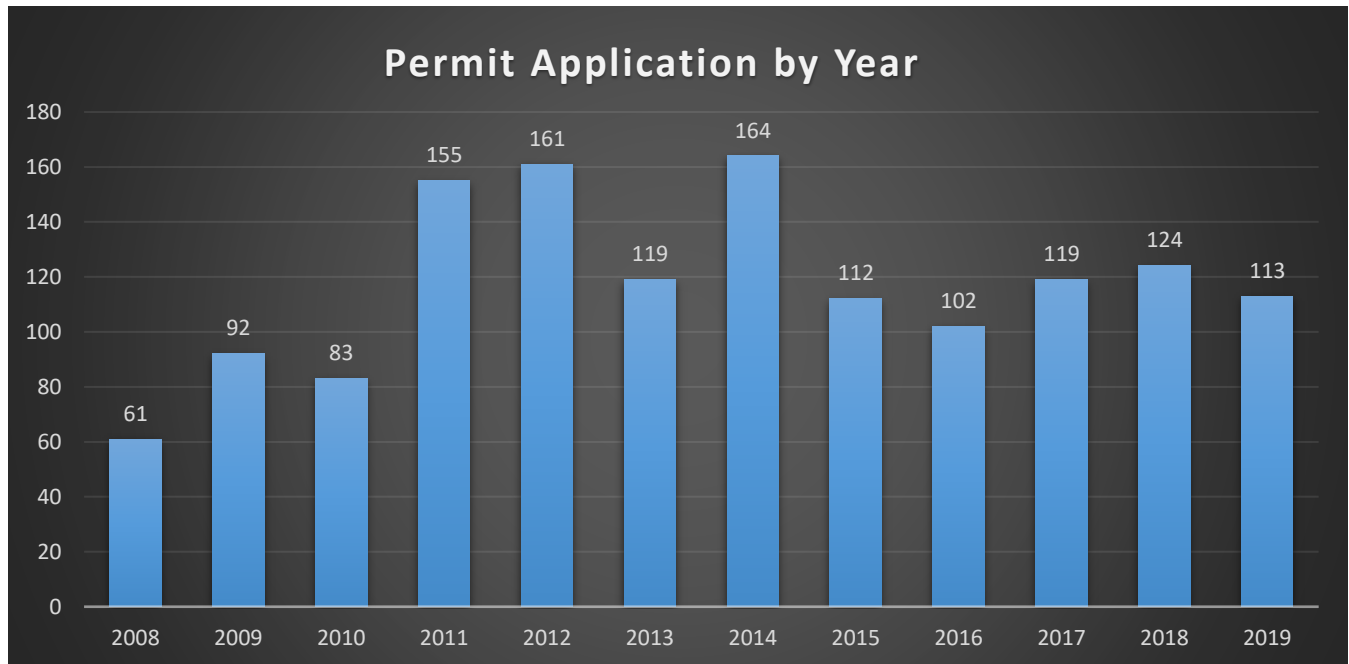


*A diagram that demonstrates how the Board of Managers would like to see drain tile pumps and outlet pipes installed*

## PERMITS

The District Board requests that all permit applications be submitted by Wednesday, at noon, prior to the next Board Meeting to allow for staff to gather information for the Managers in a timely manner.

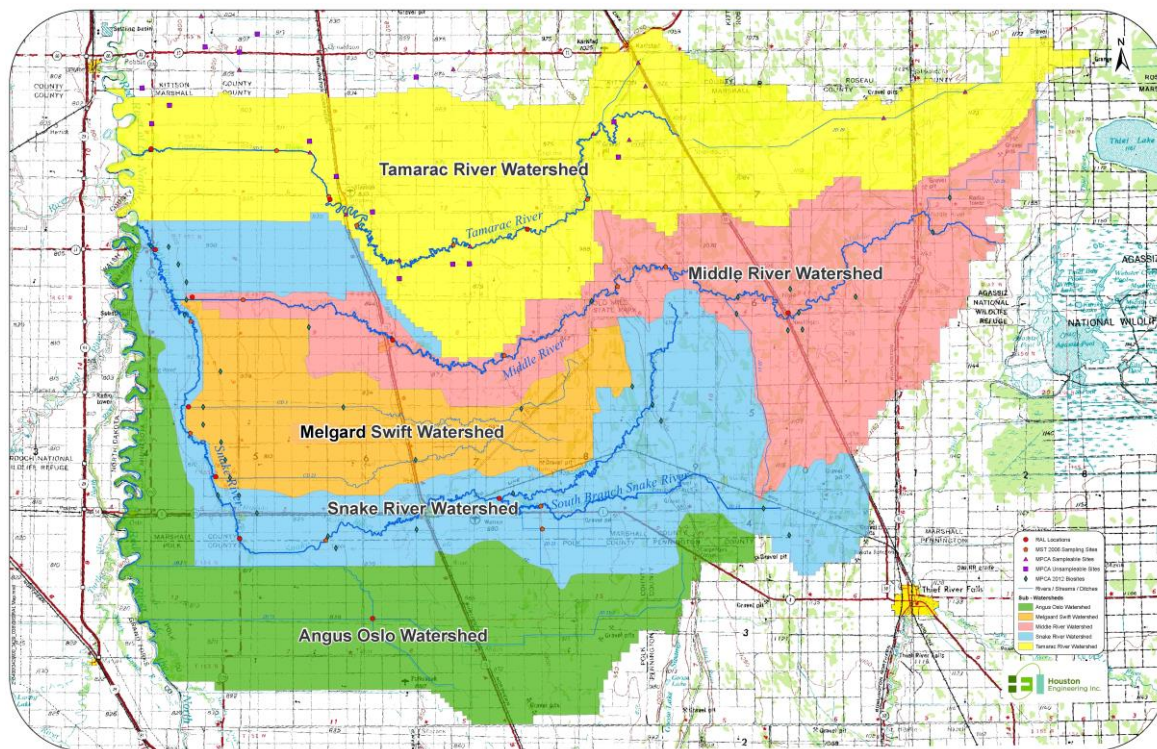
In 2019, the Board reviewed 113 permit applications. Some approved permits had conditions, such as District staff setting the grade of culverts. The following table reflects the number of permit applications per year:



*Graph of each year's total number of applications*



## FIVE PLANNING REGIONS OF THE MSTRWD



*Each of the five planning regions of the MSTRWD are highlighted in different colors*

### 1. Tamarac River Planning Region

In general, issues within this planning region are associated with flooding/runoff reduction, erosion and sediment control, channel maintenance, water quality, wildlife and land use management.

Flooding is common throughout the District during spring melt and heavy rains. Floodwaters from both the Tamarac and Middle Rivers frequently break out of the banks near Stephen and east of Argyle, which cause overland flooding. Additionally, runoff initially designated for the Roseau River is being diverted into this planning region and continues to aggravate flood conditions. The region also struggles with providing adequate drainage, while minimizing erosion and maintaining channel stability. Throughout the region, channels appear to be undersized. This is evident by the widespread instability of the channels as they down cut and widen to handle flows. In addition to water erosion, soils within the region are highly susceptible to wind erosion. Wildlife and water quality issues include fish passage concerns, low base flow conditions and the impaired status of the river.

For more information on current projects within this planning region please see Judicial Ditch #19 RCPP Project Team and Tamarac River WRAPS under the Ongoing Projects section of this document.

## 2. Middle River Planning Region

As with the Tamarac River, the Middle River planning region exhibits a number of problem areas associated with flooding, erosion, channel stability, loss of habitat, and water quality. Accelerated runoff from the eastern portion of the region contributes to higher flows and flooding in the middle and western portions of the region. Despite the accelerated runoff, drainage systems in the eastern portion are undersized for the flow they receive. This contributes to the bank instability and erosion observed across the region. The accelerated runoff also created low flow conditions in the region that do not adequately support aquatic life, as is evident by the impaired status of the river.

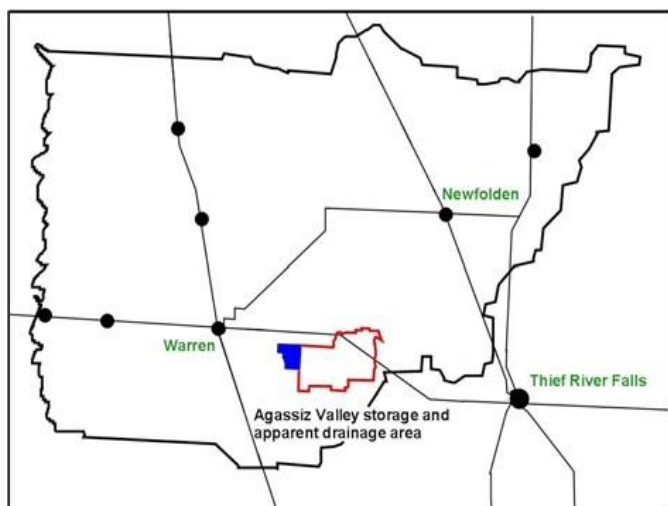
For more information on current projects within this planning region please see Newfolden/Middle River Subwatershed Flood Damage Reduction Project Team and the Snake & Middle River WRAPS under the Ongoing Projects section of this document.

## 3. Snake River Planning Region

Overland flooding, channel instability and insufficient channel size are persistent problems through this planning region. Channel improvements and restoration projects are needed along the Snake River, contributing ditches and coulees, to remove sediment and debris, to stabilize stream banks. The intent of these efforts is to prepare the stream to handle the flows without floodwaters spilling over the banks. As in other regions, soil erosion caused by wind, conversion of CPR land and the farming of riparian buffer strips are prevalent concerns. Wildlife management issues in the region include a need for clarification of DNR permits/requirements when cleaning Protected Waters, ditches and streams, a request to shift emphasis from managing public land from waterfowl to all wildlife species, and concerns about effect low base-flow conditions in the streams affecting fish habitat.

For more information on current projects within this planning region please see Judicial Ditch #14 RCPP Project Team and the Snake & Middle River WRAPS under the Ongoing Projects section of this document.

## Agassiz Valley Water Resources Management Project



*Agassiz Valley Water Resource Management  
Location and Drainage Area*

The Agassiz Valley Water Resource Management Project (Agassiz) was developed from the outcome of the Mediation Agreement between the State of Minnesota and the Red River Watershed Management Board. The project was one of four funded by the State Legislature at a cost share of 75% State and 25% local. A multi-purpose project, it combines flood control and environmental enhancement features. Groundbreaking for the project was held June 24, 2008 and the entire flood control project was operational in the spring of 2010.

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### Project Statistics

Drainage Area (square miles)	~31.6 square miles
Total Floodwater Storage (acre-feet)	10,670 acre-feet = 6.4 inches of runoff
Gated Flood Storage (acre-feet)	6,840 acre-feet = 4.1 inches of runoff
Temporary Flood Storage (acre-feet)	3,830 acre-feet = 2.3 inches of runoff
Approximate Land Requirements	2,600 acres
Prairie and Emergent Wetland Areas	~ 480 acres
Estimated Total Cost	\$10,700,000

Agassiz occupies four sections of land and includes inlet ditches to total approximately 2,600 acres in the vicinity of Comstock Strip Township & McCrea Strip Township in Marshall County and Helgeland Township & Brislet Township in Polk County. The impoundment temporarily stores floodwater originating in the drainage area of Judicial Ditch #25-1. The project includes the construction of approximately 5.25 miles of embankment; associated inlet and outlet work; approximately 5.5 miles of inlet channels and approximately 2 miles of bypass channel.





*Figure 1 Agassiz Valley aerial photo looking southeast, the outlet structure is located at the bottom of the photo. JD #25-1 is the ditch that Agassiz outlets into, which flows to the Snake River.*

*Agassiz has a significant impact in reducing flood damages in the Snake River Basin and also reduces flood damages in the Red River Basin. In addition to providing significant flood control and water quality benefits, the project provides grassland and woodland habitat, increased species diversity, educational and recreational opportunities, interpretive trails and overlooks, and a summer base flow augmentation for the Snake River.*

In 2017, the Watershed District and Audubon Minnesota partnered together to address

the issue of wetland habitat degradation within the Agassiz Valley Impoundment caused by the rapid expansion of invasive hybrid cattails. The project calls for the improvement of habitat for birds and other wildlife. Ideal conditions include a 50:50 ratio of open water and emergent vegetation within the impoundment. This environment will attract the highest diversity of wetland birds and promote optimal recruitment for population growth.

Audubon Minnesota has secured grant funding by the Legislative-Citizen Commission on Minnesota Resources through the Environment and Natural Resources Trust Fund program in the amount of \$195,000 with an in-kind resource amount of \$54,000 provided by the MSTRWD. The 3 year project will focus on monitoring of migratory and breeding birds species at the Agassiz Valley Impoundment before, during, and after invasive hybrid cattail removal/control management activities.

September, 2017 saw the initial treatment of cattail management with the aerial application of herbicide using a wetland-approved glyphosate-based herbicide to 500 plus acres of land within the impoundment. In February, Audubon Minnesota and the District hired a rotary mower to clip the standing cattails prior to spring thaw as part of the second phase of the project. The third phase called for the District to augment their operation and maintenance plan by holding water at a higher level within the impoundment for a greater period of time to aid in the prevention of germination.

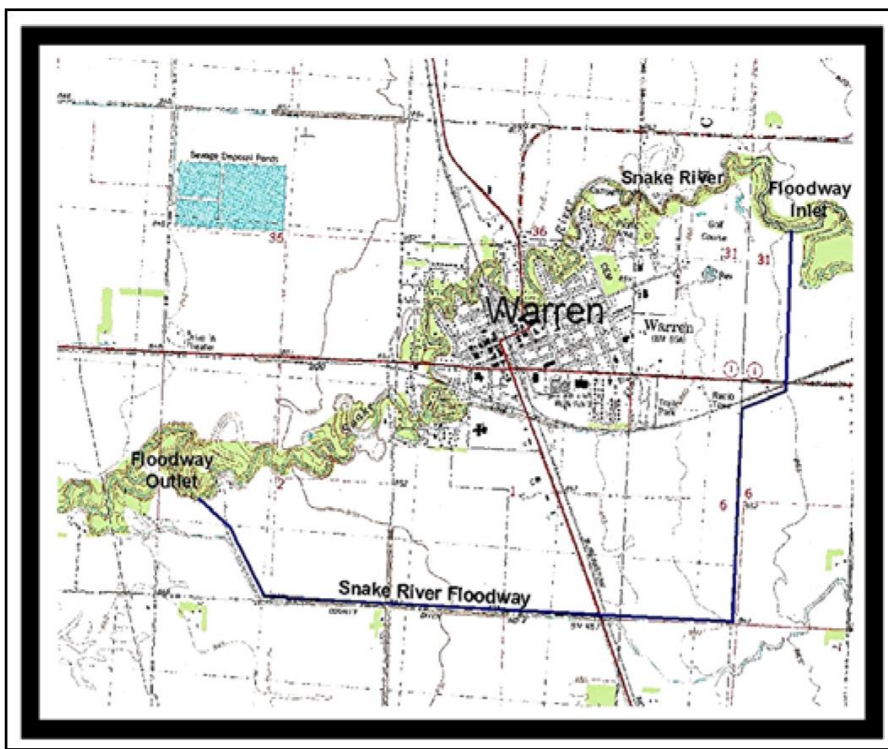
The final phase of the project was performed in 2019 where the level of water was held again at 912.65' to aid in drowning cattails. Aerial spraying finalized the 3-year project, while a drone flight of the 500 plus acre area assisted in the project outcome in reducing the expansion of invasive hybrid cattails.



The cattail management project was a valuable experience that will help guide watershed districts and other governmental agencies when developing wildlife enhancement elements into floodwater management plans for existing and future impoundments throughout the region.

### Snake River PL-566 Project

Throughout its history, the City of Warren has endured numerous floods. In 1996 and 1997, the city suffered 3 major floods that caused an estimated \$12.7 million dollars in damages. The late Mayor of the City of Warren, Richard P Nelson had a dream to spare his City from more years of ravaging floods from the Snake River. Mr. Nelson recognized the opportunity provided by the USDA/NRCS Small Watershed Program, and set out to make his dream become a reality.

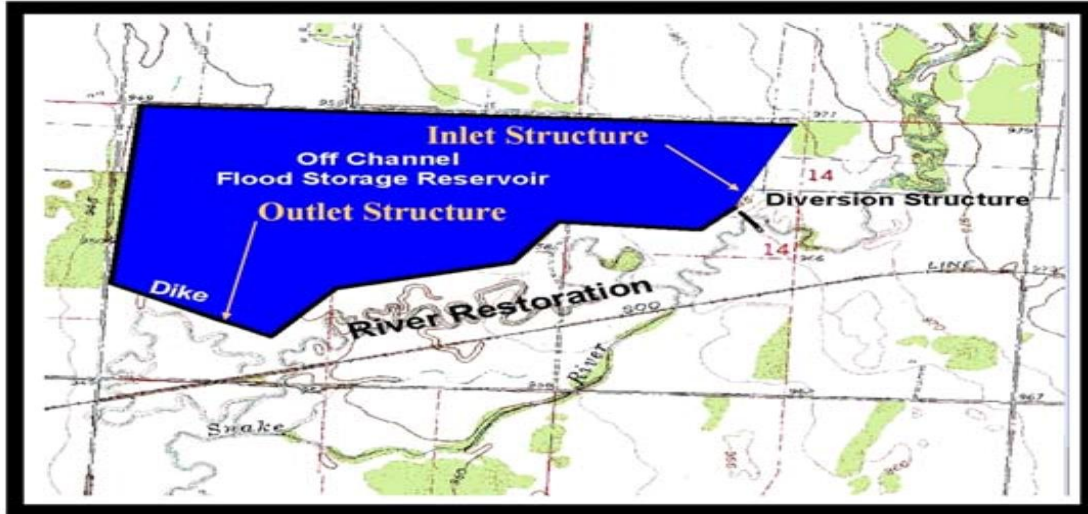


*Map demonstrating how the Snake River interacts with the City of Warren*

In 1997, the City of Warren and the Middle-Snake-Tamarac Rivers Watershed District, the local sponsors of the project, asked the Natural Resources Conservation Service (NRCS) for assistance on planning and construction on the Snake River Watershed Project.

In November 1999, project plan consisted of 4 phases of construction: the lower mile of the floodway and outlet chute, the off-channel floodwater storage site, the Snake River diversion structure and upper 3 miles of floodway, and the establishment of the mitigation features. In 2000, the Middle-Snake-Tamarac Rivers Watershed District held two public hearings and unanimously passed the Order for the Establishment of the PL-566 Project. The Snake River PL-566 Project groundbreaking ceremony “*Soaring to a Bright Future*” was held on October 26, 2001.

Although the project was not totally complete, it was operational in the spring of 2006 and it saved the City of Warren from flooding. The NRCS’s estimation was approximately \$8.7 million of flood damages that could have occurred. The PL-566 Project was officially dedicated in the summer of 2010. The Natural Resources Conservation Service and the Middle-Snake-Tamarac Rivers Watershed District provided funding for the landscaping of the Richard P. Nelson monument.



*Map showing the location of the Off-Channel Flood Storage Reservoir located in Comstock Township*

The Off-Channel Flood Storage Reservoir and Diversion ditch were funded by PL-566 which requires that the NRCS do yearly inspections of the project. Dave Jones from the NRCS completed an inspection of the Snake River Off Channel Storage Site. Cracking and deterioration along the inlet channel to the outlet drop structure has not changed from the 2016 inspection. Varmint digging continues to be an issue on the outside face of the embankment. This will require ongoing maintenance by the watershed district. Dave Jones also inspected the Snake River Diversion Ditch. Everything is in good working condition



*Aerial photo of the Off-Channel Storage Reservoir located in Comstock Township*

#### 4. Melgard-Swift Coulee Planning Region

Overland flooding is the major concern in this region, particularly in the vicinity of CSAH 3 and TH 75. In addition, there is a general concern about channel instability and capacity in the areas of CD3 and along both the Melgard and Swift coulee channels. Soil erosion caused by water and wind has been deposited in the channel beds. The process is thought to be exacerbated by the conversion of CRP land to farmland and the farming of coulee edges, resulting in the need for more frequent channel maintenance. As with other regions, additional storage is likely needed to correct accelerated runoff timing and mitigate both minimum and peak flows. For more information on current projects within this planning region please see the Swift Coulee/ Marshall County Ditch 3 Project under the Ongoing Projects section of this document.

#### 5. Angus-Oslo Planning Region



*Map of Angus Oslo #4 Impoundment*

Overland flooding, channel stability, soil erosion and ditch maintenance are issues in this planning region. During flood events access to the city of Oslo is limited. Restricted access to Oslo can be as long as five weeks. Portions of townships roads are under water with the worst problems being near the Red River. The channelization of streams in this region has reduced aquatic habitat diversity. Three of the District's five projects are in this Planning Region.

For more information on current projects within this planning region please see the Oslo Access Study and the Grand Marais Creek WRAPS under the Ongoing Projects section of this document.



## Angus Oslo #4 Impoundment



*Angus Oslo #4 Outlet Structure*

### **PROJECT STATISTICS**

Top of Dam		
Elevation	(ft-msl)	958.0
Storage	(ac-ft)	8068
Emergency Spillway		
Elevation	(ft-msl)	956.2
Storage	(ac-ft)	6431
Primary Spillway		
Elevation	(ft-msl)	954.0
Storage	(ac-ft)	4505
Gated Flood Control		
Storage	(ac-ft)	4505
Runoff	(inches)	3.62
Weir Flood Control		
Storage	(ac-ft)	1926
Runoff	(inches)	1.55
Drainage Area	(sq mi)	23.35

In December 1994, the Board of Managers initiated by resolution for a new project to establish an off-channel impoundment in the vicinity of Sections 3 and 10 of Brandt Township, Polk County, Minnesota. Construction of the impoundment started in 1999 and has been operational since 2001. The total estimated cost of the project is \$3.3 million. The Red River Watershed Management Board funded approximately 85% of the construction cost. The Watershed paid approximately 15%, with additional funding from a State of Minnesota Flood Damage Reduction Program Grant.

The drainage area above the project is approximately 23.4 square miles. The project can store 4,500 acre-feet of water (5.2 inches of runoff) - up to the emergency spillway.

*Angus Oslo #4 Project Statistics*

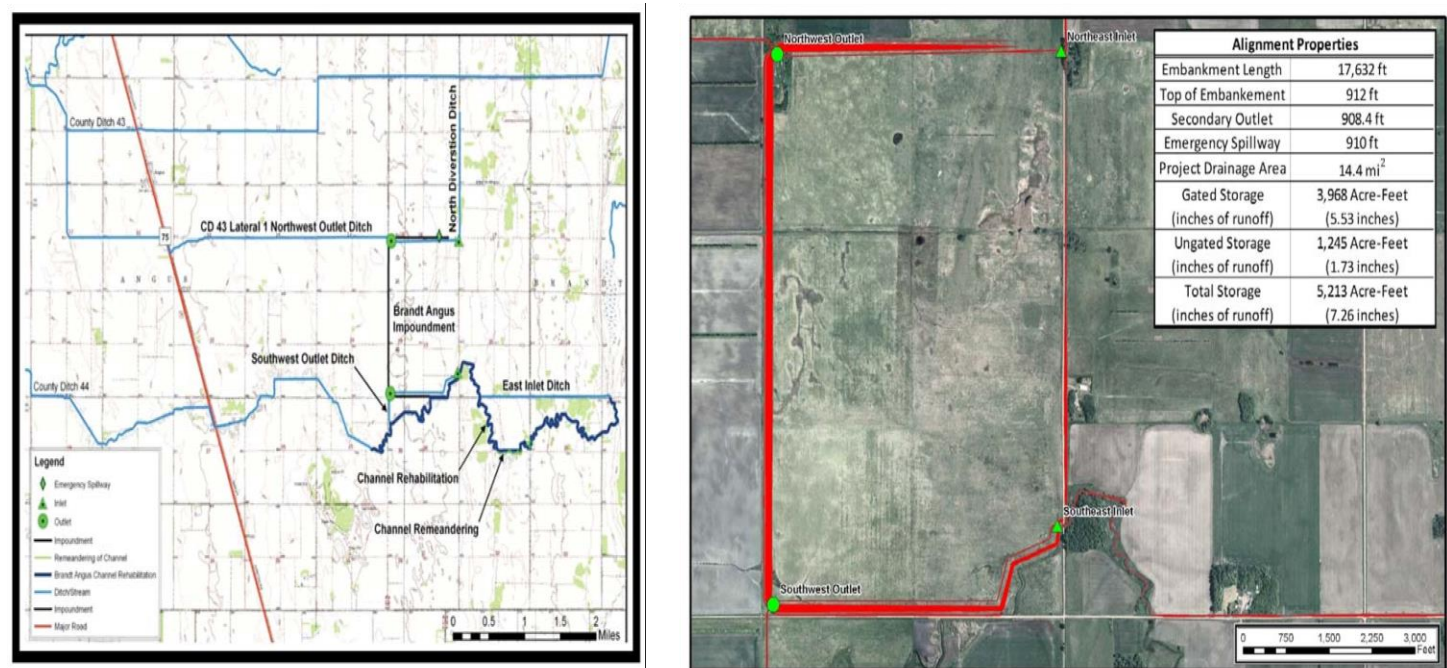


# Brandt/Angus Coulee Project

The Brandt/Angus impoundment is a multi-purpose off channel flood control project combining both flood control and environmental enhancement features through Wetland Reserve Program (WRP). It became operational in 2012 and it occupies approximately 1.5 sections of land (960 acres) 3.5 miles southeast of Angus in Polk County. The impoundment can hold 5,213 acre-feet of water (3,968 acre feet of gated and 1,245 of un-gated to the emergency spillway) from a calculated 7.26" of runoff.

The primary purpose of the Brandt-Angus project is to reduce flood damages downstream, reduce the frequency of summer storm flooding of agricultural land and to restore/maintain/enhance the natural stream habitat in the Brandt Angus Coulee. Secondary features are to provide for environment enhancement features such as wet prairies, stream restoration and water quality benefits.

The Red River Watershed Management Board and the MN Department of Natural Resources partnered with the Brandt/Angus Project through the Flood Damage Reduction Program and the MSTRWD.



Map of Brandt-Angus Impoundment



In 2010, the Project received Step II approval from the RRWMB and entered into a Flood Damage Reduction grant agreement with the MN DNR. With the natural resource enhancements that have been incorporated into the project, a 65% State 35% local cost share was obtained.

In addition, the District was able to utilize the Natural Resource Conservation Service Wetland Restoration Program (WRP) to offset land acquisition costs. Over 575 acres were enrolled into a conservation easement at a savings of over \$450,000 to the Project. Restoration of wetlands relates to the District's management plan by increasing quality wetlands.

*Wetland Reserve Programs signs are posted around the property mapping the boundaries of the wetland restoration*

## Angus Oslo Site #1 Impoundment

SELECTED STATISTICS		
100 yr		
Storage	(ft.-msl)	941.8
Volume	(ac-ft)	570
10 yr		
Storage	(ft.-msl)	940.8
Volume	(ac-ft)	340
Gated Storage		
Storage	(ft.-msl)	940.5
Volume	(ac-ft)	295
Drainage area	(sq mi)	3.1

*Angus Oslo 1 statistics*

The Board of Managers of the Middle River Snake River Watershed District (now the Middle-Snake-Tamarac Rivers Watershed District) established the Angus Oslo Site #1 Impoundment in 1982. Primarily a flood control project, Angus-Oslo #1 also provides incidental wildlife benefits. The affected area includes a wetland area totaling approximately 125 acres and approximately 145 acres of cropland. Completed in 1983, the \$152,000 project was funded by the Legislative Commission on Minnesota Resources (LCMR), the Red River Watershed Management Board and the Middle River Snake River Watershed District project fund.



*Map of Angus Oslo #1 Impoundment*

## **THE RED RIVER WATER MANAGEMENT BOARD**



The Middle-Snake-Tamarac Rivers Watershed District is a member of the Red River Watershed Management Board. In 2017, Manager Roger Mischel was appointed by the MSTRWD Board of Managers as the District's representative and Manager John W Nelson, the alternate.

As a member, the District coordinates with the RRWMB on the following projects:

- The District cost-shares with the RRWMB on Flood Damage Reduction Projects.
- The District supports the RRWMB River Watch program with high schools in the Red River Basin. Students from Warren-Alvarado-Oslo, Marshall County Central and Stephen-Argyle Central collect water samples in the District. The resulting data is forwarded to the International Water Institute
- The District partners with the RRWMB on cost sharing with the US Geological Survey in the maintenance and operation of stream gauges.
- In 2010, the RRWMB entered into an agreement with the Red River Joint water resources Board in North Dakota to form the Red River Retention Authority (RRRA) whose purpose is to seek funds to construct flood retention projects on both sides of the Red River of the North.

The RRWMB website [www.rrwmb.org](http://www.rrwmb.org) features RRWMB news, current projects, meeting documents, governing documents, policies, maps, contact information of RRWMB members and more!

## **MARSHALL COUNTY WATER RESOURCE ADVISORY COMMITTEE**

The District is a member of the Marshall County Water Resources Advisory Committee (WRAC). District staff attends quarterly WRAC meetings along with landowner and Marshall County Township Association representatives and staff from the Minnesota Pollution Control Agency, Red Lake Watershed District, the Soil & Water Conservation District, the Natural Resources Conservation Services, US Fish & Wildlife Service, Board of Water and Soil Resources, Agassiz National Wildlife Refuge, MN DNR and the Marshall County Commissioners.

## **POLK COUNTY WATER RESOURCE ADVISORY COMMITTEE**

The District is a member of the Polk County Water Resources Advisory Committee (WRAC). District staff attend quarterly WRAC meetings along with Polk County Commissioners, East Polk Soil & Water Conservation District, West Polk Soil & Water Conservation District, Board of Water & Soil Resources,



Polk County Environmental Services, MN Department of Natural Resources, Sand Hill River Watershed District, Red Lake Watershed District, MN Pollution Control Agency, The Nature Conservancy, River Watch, and International Water Institute.

## **EDUCATION AND OUTREACH**

District staff encourage college and high school students, birdwatchers, community groups, outdoor recreation clubs and tourists to contact the District for tours of the MSTRWD flood control projects. The District continues to promote outdoor recreation at the impoundments, while working at developing the birding trail sites through habitat restoration projects.

The MSTRWD and the Red Lake Watershed Districts have 5 locations where informational kiosks have been placed along impoundment sites to aid in educating bird enthusiasts and others interested in the natural resource enhancements impoundment sites have to offer within the area. The 5 locations are listed below.

### **Agassiz Valley Water Resource Management Project**

5 miles east of Warren on 280<sup>th</sup> Ave NW and 1 miles south of Warren on 210<sup>th</sup> ST NW.

### **Agassiz Audubon**

5 miles east of Warren on 280<sup>th</sup> Ave NW and 3 miles south of Warren on 190<sup>th</sup> ST NW.

### **Brandt-Angus Impoundment**

2 miles south of Angus on US HWY #75 and 2.5 miles east of Angus on 120<sup>th</sup> St NW.

### **Euclid East Impoundment**

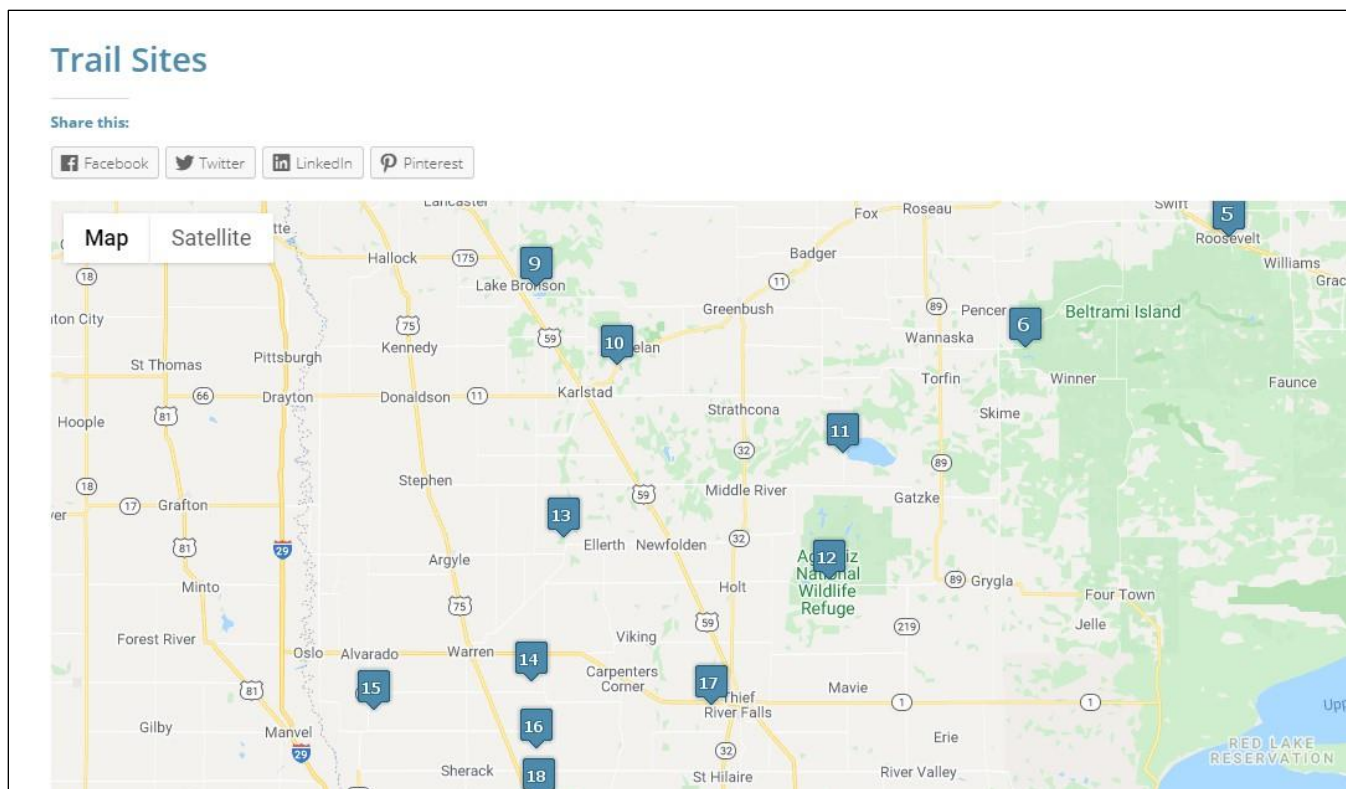
1 miles east of Euclid on County Road #19.

### **Parnell Impoundment**

4.5 miles south of Euclid on US HWY #75 and 2.5 miles east on County Road #17.



The Agassiz Valley Water Resource Management Project, Angus Oslo #4 Impoundment and the Brandt/Angus Impoundment sites were added to the Pine to Prairie Birding Trail. The Minnesota Trail is over 200 miles in length with 45 sites to view birds. The Pine to Prairie International Birding Trail extends another 300 miles north of Minnesota into Manitoba, Canada with an additional 23 sites and bird species.



*Locations: #14 Agassiz Valley Water Resource Management Project; #15 Angus-Oslo #4;  
#16 Brandt/Angus*

Additional information can be found on the Pine to Prairie International Birding Trail website, <https://mnbirdtrail.com/about/>.



*All photographs taken by Heidi Hughes*



*All Photographs taken by Heidi Hughes*

The ditch systems and impoundments in the MSTRWD bring lots of wildlife and birds to the area. Impoundments such as Agassiz Valley and Brandt Angus Coulee, have great viewing areas that are open to the public. There are a spectacular variety of waterfowl especially during the migration seasons. The photos above, taken by Heidi Hughes who works with the Agassiz Audubon Society, are just a few birds that one can see. The Agassiz Audubon Society does bird conservation, habitat restoration, nature field trips, public programs, and more. They provide lots of opportunities to go birding and experience nature throughout the Red River Valley and the 480-acre property formerly known as the Agassiz Audubon Center at Wetlands Pines and Prairie Audubon Sanctuary. The property is owned and operated by the Middle-Snake-Tamarac Rivers Watershed District. If you would like more information about this organization, check out their Facebook page or e-mail at [aggassizaudubon@gmail.com](mailto:aggassizaudubon@gmail.com). You can even call to report bird sightings at 218-745-5663.



*All photographs taken by Heidi Hughes*

## **HUNTING**

The District has a public access permit procedure whereby an applicant reads and understands the District's access rules. The rules were developed from citizens within the District, which were edited and approved of by the District Board. 177 people obtained permits to hunt, trap, fish and hike on the District's properties in 2019.



## CITY OF WARREN AND THE DISTRICT



*New District Garage*



*Warren Fire Department*

The City of Warren approached the District to see if we were interested in selling our garage located east of the fire hall to help the Warren Volunteer Fire Department with their need for additional storage. Bids were called upon to erect a 40' by 60' garage located south of the District office. The project was awarded to Klopp Construction out of Argyle and completed in the summer of 2019.



*The City of Warren employees Brian Evin, Brian Knutson and Jeff Wohlers met District staff onsite at the diversion gate structure outside the east edge of Warren to learn how to operate the structure.*



## PROJECTIONS FOR 2020

### The Impoundments

The District will continue to maintain the impoundments. Inspections will continue by staff and engineers. Staff and consultants will again monitor vegetation on mitigated wetlands at Agassiz Valley and Brandt Angus Coulee. The MSTRWD staff continues to work on proposals to fund habitat restoration projects, developing the birding trail sites and developing a field station at Agassiz Valley.

### Ditch Maintenance

The MSTRWD will continue to respond to landowner requests for ditch maintenance on the legal drainage systems under the jurisdiction of the District, as well as continue its ditch maintenance program throughout the Watershed District; including, inspection for sediment, weeds, brush, beaver dams and other obstructions to flow.

### Water Quality

Phase 3 of the Middle and Snake Rivers WRAPS project will move ahead, with District staff focused on community outreach. Staff will also assist with the Lower Red River and Grand Maris Creek WRAPS projects, as needed. The District continues to support the River Watch Program and utilize them in the water monitoring of its flood control projects.

### The Red River Watershed Management Board

The District will continue to work with the Red Board in constructing flood control projects through the Mediation Agreement of 1998. The Middle-Snake-Tamarac Rivers WD is committed to the RRWMB goal of 20% reduction of peak flows on its tributaries into the Red River.

### Stream Maintenance

The rivers and streams in the MSTRWD are important to the managing of surface water in the Middle-Snake-Tamarac Rivers WD. Therefore, we will continue to assist landowners and agencies in the maintenance of these waters, using programs such as "Sentence to Serve."

### Outreach and Education

Tours of the PL-566 Richard P Nelson Floodway and Off Channel Storage Site, the Agassiz Valley Water Resources Management Project can be arranged. We will continue to expand programs linking impoundment sites and natural resources. The trail kiosks have been installed at Agassiz Valley, Brandt/Angus and the Agassiz Audubon Society location. To go along with the installation of the kiosks, all of these sites including Angus/Oslo #4 have been designated bird friendly sites mapped out by Pine to Prairie. The walking trails created and maintained by the Agassiz Audubon Society are open for exploration during the growing season and cross-country skiing in the winter months.

### Drainage Management

Whether staff and the Board are working on the next flood damage reduction project, a ditch maintenance project or stream debris removal, the District will strive to incorporate its management plan, while the District's funding partners have been an important ally towards improving our natural resources, we anticipate further future opportunities in coordinating approaching projects with fellow agencies.

### DITCH LEVIES

On the following page is a listing of the 2019 ditch levies for drainage systems under the jurisdiction of the Board of Managers and "Independent Auditors Report" for the year ending December 31, 2019. Once the levies are set, they are given to the Marshall, Pennington and Polk County Auditors.

## 2019 Ditch Levies for Drainage Systems under the Jurisdiction of the MSTRWD

System	County	Portion	Redetermination of Benefits	Benefits	2019 Levy	
			Year		%	(\$)
JD #1	Marshall	13.56%	1992	\$497,195	4.12%	\$20,484
	Polk	86.44%	1992	\$3,168,795	1.37%	\$43,412
WD #2	Marshall	100.00%	1991	\$40,513	0.99%	\$401
SD #3	Marshall	100.00%	1958	\$98,435	12.00%	\$11,812
WD #4	Marshall	73.33%	1991	\$97,791	0.99%	\$968
	Polk	26.67%	1991	\$35,575	2.25%	\$800
WD #5	Polk	100.00%	1998	\$2,568,049	0.50%	\$12,840
WD #5 bond retirement fund	Polk	100.00%	1998	\$2,568,049	4.25%	\$109,167
WD #6	Polk	100.00%	1998	\$1,940,736	0.50%	\$9,703
WD #6 bond retirement fund	Polk	100.00%	1998	\$1,940,736	3.61%	\$70,079
WD #7	Marshall	58.40%	2000	\$304,504	0.50%	\$1,522
	Polk	41.60%	2000	\$34,063	0.50%	\$170
WD #7 Imp	Marshall	58.40%	2000	\$76,133	0.75%	\$570
	Polk	41.60%	2000	\$54,237	0.75%	\$406
JD #14	Marshall	74.92%	2014	\$983,879	3.00%	\$29,516
	Pennington	25.08%	2014	\$329,416	5.00%	\$16,470
JD #15	Marshall	100.00%	1980	\$1,535,665	2.75%	\$42,230
JD #16	Marshall	100.00%	1987	\$929,352	0.50%	\$4,646
JD #17	Marshall	6.48%	1982	\$43,470	0.00%	-
	Polk	93.52%	1982	\$627,149	1.00%	\$6,271
JD #20	Marshall	100.00%	1985	\$2,354,906	1.50%	\$35,323
JD #21	Marshall	100.00%	1985	\$279,838	0.50%	\$1,399
JD #24	Marshall	72.78%	1990	\$247,353	0.10%	\$247
	Polk	27.22%	1990	\$92,494	0.10%	\$92
JD #25-1	Marshall	38.34%	2014	\$388,653	4.00%	\$15,546
	Polk	56.33%	2014	\$571,047	4.00%	\$22,841
	Pennington	5.33%	2014	\$54,032	4.00%	\$2,161
JD #25-2	Marshall	9.21%	1989	\$70,810	4.00%	\$2,832
	Polk	55.66%	1989	\$427,954	4.00%	\$17,118
	Pennington	35.13%	1989	\$270,062	4.00%	\$10,802
JD #28	Marshall	100.00%	1913	\$55,990	20.00%	\$11,198
JD #29	Marshall	100.00%	1981	\$2,237,910	2.50%	\$55,947
CD #39	Marshall	100.00%	1990	\$125,681	0.99%	\$1,244
CD #39i	Marshall	100.00%	1996	\$108,466	0.99%	\$1,073
CD #43	Polk	100.00%	1989	\$1,176,137	3.00%	\$35,284
CD #44	Polk	100.00%	1989	\$1,001,112	1.70%	\$17,018
JD #68	Polk	100.00%	1995	\$248,110	0.10%	\$248
JD #75	Polk	100.00%	1990	\$3,653,439	3.00%	\$109,603
CD #175	Polk	100.00%	1997	\$1,180,524	2.75%	\$32,464

## FALL FLOOD OF 2019



*District Technician Kyle Schlomann is seen monitoring water levels at the Angus/Oslo #4 impoundment site in October as fall flooding filled the site beyond its gated storage capacity.*



*The Off-Chanel Storage Site located in section 15 & 16 of Comstock Twp was also at full capacity in October. The site diverts high water from the Snake River that is ultimately diverted around the City of Warren.*





*Technician Danny Omdahl is pictured measuring the amount of excess water overflowing the spillway at Agassiz Valley Impoundment site this past fall.*



*The southwest outlet structure of Brandt/Angus Impoundment site reached maximum gated storage level in October. Water remained in the site until late November.*

## CONCLUSION

2019 was an interesting year. From spring flooding to fall flooding, the District was overwhelmed by excess precipitation. The year will go down as the wettest on record for the valley. The pain was felt in our tight knit communities as harvest season was unlike any other with many crops left unharvested as the snow came with an early freeze up.

District projects were delayed, while a handful had to be postponed until 2020. Never the less, the District was able to achieve many set goals and is eager to proceed with the works we set out to accomplish in 2019 but were unable to perform due to the elements.

In 2020, the District will resume the petitioned improvement of Polk CD #175 project that already has withstood last falls flood waters and is paying dividends to landowners along the system. The Angus/Oslo #4 impoundment bypass ditch project that was scheduled for last fall is another project that will be addressed in the coming year. The District is also pleased to say major progress is being met with the City of Newfolden Flood Prevention Project and the JD #19 RCPP Project, while the Swift Coulee Project and the JD #14 RCPP Project both seek to find landowners willing to house a retention site.

The District will continue to serve the public in accordance to State Statutes. The public is encouraged to stop by the office, call in and to be active participants in their local government. Many times, without local input, concerns may not be addressed. This is why, the District welcomes your involvement, your ideas and your contributions to achieving the District's mission statement.

The Board of Managers and District staff would like to thank you as we conclude an unforgettable year of dealing with flood waters. Together we will continue with our mission of reducing flooding, providing continued maintenance of agricultural drainage and in protecting and improving water quality throughout the MSTRWD.

If you have any questions, comments or concerns related to the mission of the Middle-Snake-Tamarac Rivers Watershed District, please contact any of the Board of Managers or the District office.

Thank You

## **INDEPENDENT AUDITOR'S REPORT**

Management's Discussion and Analysis

Basic Financial Statements

Notes to Basic Financial Statements

Supplementary Information

Supplementary Statements

Independent Auditor's Report on Legal Compliance