TWO RIVERS WATERSHED DISTRICT

IN ROSEAU, KITTSON, & MARSHALL COUNTIES

2016 ANNUAL REPORT

**410 South 5th Street, Suite 112, Kittson County Courthouse,
Hallock, MN 56728**

www.tworiverswd.com

INTRODUCTION

The Board of Managers of the Two Rivers Watershed District would like to present this 2016 Annual Report. It contains information about the District's projects, programs, and initiatives through the year.

The Two Rivers Watershed District is a local unit of government and operates under Minnesota Statutes 103E – the drainage law – and 103D – the Watershed law. These statutes assign the duties of water management relative to lakes, rivers, streams, groundwater and other water related parameters. The District focuses on flood control, drainage, water quantity, and water quality.

The District, organized in 1957, was the second watershed district in the State of Minnesota to be established, and is governed by a 7 member Board of Managers, two appointed the Roseau County Commission and 5 appointed by the Kittson County Commission, each to serve a 3 year term. The District employs 2 full time staff. The duties of the District are to carry out water management activities set forth in MN Statute 103D. In the performance of its duties, the District manages over 92 miles of legal ditch systems, has constructed 3 impoundments which store over 9,000 acre feet of flood water, designed and cost shared on over 20 farmstead ring dikes, and has constructed and maintains 10 projects for drainage and flood control purposes. The District is also involved with water quality studies, flow monitoring, surveying, and has adopted rules which require permits for certain water related activities.

High on the list of course is flood control, and the District is continuing to work on its latest project, the "Klondike Clean Water Retention Project #11". This project will focus on flood control and providing an adequate drainage outlet for Lateral 1 of State Ditch #95. It will also provide a means to handle overflow flooding that comes from State Ditch 72 and the Roseau River. In addition, water quality benefits and natural resource enhancements will be accomplished. Plans are in the works which will give the project the ability to store approximately 37,000 acre feet of water.

For 2016 the District will continue with maintenance of existing projects and infrastructure, monitoring of stream flows and water quality, and planning for future projects. We strive to work with landowners to solve water related problems to ensure that drainage, flood control, and water quality concerns are addressed.

2016 LIST OF MANAGERS

Darrel Johnson, **President**
2224 190th Ave
Hallock, MN 56728
(218) 843-2496
Term Expires: October, 2017

Jim Kukowski, **Vice President**
17485 County Road 6
Strathcona, MN 56759
(218) 781-2478
Term Expires: October 2017

Paul Olsonawski, **Treasurer**
3762 285th Ave
Lancaster, MN 56735
(218) 762-1911
Term Expires: October, 2019

Daryl Klegstad, **Secretary**
4151 210th St,
Halma, MN 56729
(218) 265-2073
Term Expires: October 2019

Gary Johnson
2416 250th Street
Hallock, MN 56728
(218) 843-3528
Term Expires: October 2018

Allen Brazier
20463 230th St
Greenbush, MN 56726
(218) 782-2456
Term Expires: October 2018

Roger Anderson
1561 110th Street
Drayton, ND 58225
(218) 455-6269
Term Expires: October, 2018

2016 Board of Managers
Paul Olsonawski, Darrel Johnson, Allen Brazier, Jim Kukowski, Roger Anderson, Gary Johnson, Daryl Klegstad

Office Staff

Dan Money
District Administrator
daniel.money@mn.nacdnet.net

Matt Thompson
Head Technician
matthew.thompson@mn.nacdnet.net

Office Information:

Two Rivers Watershed District
410 South 5th Street, Suite 112
Hallock, MN 56728

Phone (218) 843-3333

World Wide Web: www.tworiverswd.com

Location: Lower Level, Kittson County Courthouse
Office Hours: 8:00 am – 4:30 pm, M-F

Office Administration

OFFICE STAFF

The District employs 2 full time staff persons. Their titles and duties are listed below.

- *District Administrator:* The Administrator carries out all administrative and technical duties as determined by the Board of Managers. Specific duties include long range plans, coordinating meetings, financial management, project management, processing permit applications, ditch inspections, handling requests from the public, water quality sampling, managing a geographic information system, data analysis, and performing investigations relating to District projects.
- *Head Technician:* The Technician is responsible for field work relative to District programs, ditches, projects, and inventories. This includes ditch survey work, stream flow monitoring, culvert inventory, reporting, permit review, modeling, geographic information systems, data analysis, and all other technical duties.

CONSULTANTS

Engineering services for 2016 were performed on a project specific basis by Widseth, Smith, & Nolting – Crookston, MN, Houston Engineering – Fargo, ND, and HDR Engineering, - Thief River Falls, MN. Consulting engineers are used on an as needed basis at the discretion of the Board of Managers.

Legal services are provided by the law firm of Brink, Sobolik, Severson, Malm, & Albrecht, P.A. of Hallock.

Payroll services are provided by the accounting firm of Dahl, Hatton, Muir, & Reese, Ltd. of Hallock.

Auditing services are provided by the firm of Brady Martz & Associates, P.C., of Crookston.

MEETINGS

The Board of Managers meets the first Wednesday of each month in the District office in Hallock, MN beginning at 8:00 a.m. Special meetings are held from time to time at the discretion of the Board. Citizen's Advisory Committee meetings are held at least once per year as required by law and otherwise as determined by the Board. All meetings are properly posted as required by law.

GOVERNANCE

The TRWD established By-Laws and follows them accordingly for meetings and day to day activities. In addition, the Board prescribed their first 10 year 'Overall Plan' in 1958, which was the first overall plan of any watershed district in the state of

Minnesota. This plan has been updated several times over the years, and was extensively updated in 2004. The TRWD will be doing another update in the next 1-2 years through the new "One Watershed, One Plan" process dictated by the State of Minnesota. The plan breaks down the District into 14 sub-watersheds, and analyzes each one regarding flood damage reduction, drainage, water quality, and natural resources enhancement. Problems and issues have been identified for each, and a set of goals and objectives have been developed to address the various issues.

The District operates under Minnesota Statute, 103D, also known as the 'Watershed Law'. This statute gives watershed districts authority to work on flood control, drainage, water quality, water supply, and other issues that affect water natural resources within rivers, lakes, streams and groundwater. Seven projects have been constructed and two more are in the works to help with drainage and allevieate flooding. In addition, the District utilizes Minnesota Statute 103E (the Drainage Code) to maintain over 60 miles of legal drainage ditches.

Since its inception, the Board of Managers have established numerous policies regarding various management issues. Many of these relate to permits issued under the *Rules of the Two Rivers Watershed District*, and others relate to general activities of the District. The District follows its stated policies whenever possible, and uses discretion when applying these policies.

ADVISORY COMMITTEE

The District Technical and Citizen's Advisory Committees are made up of concerned citizens, appointed officials, and representatives of governmental agencies that in some way work with or affect the water resources of the District. These committees meet at least once per year to provide input and guidance to the Board of Managers regarding District programs and activities. The Advisory Committee members for the year 2016 are listed below.

Citizen's Advisory Committee

Name	Location	Representing		Name	Location	Representing
Keith Cummins	Karlstad	Rural		Luke Novacek	Greenbush	Rural
Sue Dufalt	Karlstad	City		Jim Pederson	Karlstad	Township
Don Craigmile	Hallock	Rural		Bob Boychuck	Hallock	Rural
Rick Sikorski	Lancaster	Rural		Vern Langaas	Karlstad	Rural
Mark Foldesi	Greenbush	Roseau Co		Leon Olson	Lancaster	Kittson County
Todd Truedson	Kennedy	City		Mike Docken	Hallock	City
Heather Peterson	Hallock	Rural/SWCD		Terry Osowski	Hallock	Rural
Harold Moose	Donaldson	Township		Brach Svoboda	Greenbush	Rural
Ed Walsh	Badger	Rural		John Gaukerud	Badger	Rural
Shayne Isane	Greenbush	Rural		Ron Jacobson	Greenbush	Rural
Mayor	Greenbush	City		Mayor	Badger	City

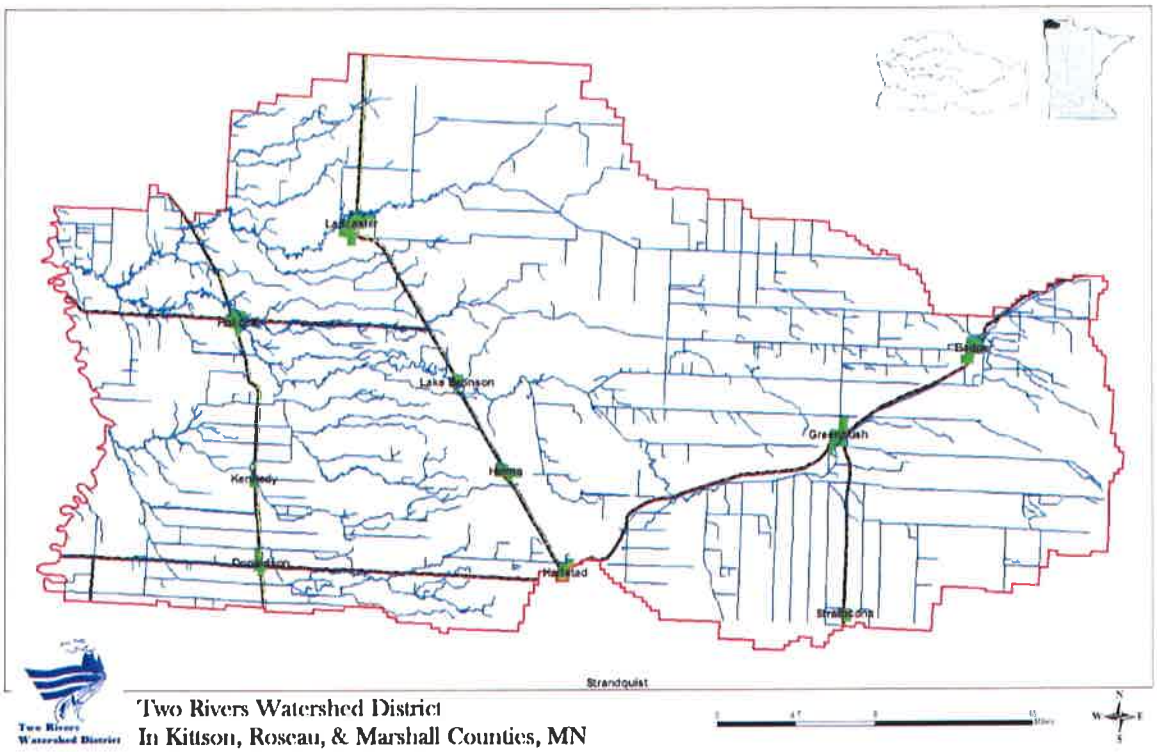
Technical Advisory Committee

Name	Location	Representing		Name	Location	Representing
Kelly Bengtson	Hallock	Kittson Hwy Dept		Brian Kettring	Roseau	Roseau Hwy Dept
Jamie Osowski	Hallock	Kittson SWCD		Jonathon Eerkes	Karlstad	TNC
Laurie Fairchild	Middle River	US Fish & Wildlife Srvc		Jim Schwab	Hallock	NRCS
Tara Mercil	Detroit Lakes	MN Pollution Control Agency		Matt Fischer	Bemidji	BWSR
Dennis Topp	Baudette	DNR Fisheries		Joel Huener	Middle River	DNR Wildlife
Stephanie Klamm	Thief River Falls	DNR Waters		Blake Carlson	Crookston	Widseth, Smith, & Nolting
Janine Lovold	Roseau	Roseau SWCD		Danni Halvorson	Viking	International Water Institute
Barb O'Hara	Hallock	Kittson DEM		Nate Dalager	Thief River Falls	HDR Engineering

BACKGROUND INFORMATION

The Two River Watershed District was established by order of the Minnesota Water Resources Board on October 30, 1957. It was the second watershed district to be organized within the State of Minnesota, and the first to write and approve an overall plan. The District is located in much of Kittson County, the western 1/3 of Roseau County, and extreme northwestern Marshall County, all in northwest Minnesota. The District operates under Minnesota Statutes 103D (the Watershed Law) and 103E (the Drainage Code).

The land area of the District encompasses 1,454 square miles. The District stretches 65 miles from the Red River on the western boundary to the eastern boundary located between the cities of Badger & Roseau. At its widest north-south point, the District stretches 33 miles. It is bordered to the north-west by the Joe River Watershed District; the north by the Province of Manitoba, Canada; the east by the Roseau River Watershed District; the south by the Middle-Snake-Tamarac Rivers Watershed District; and to the west by the Red River of the North, which is also the boundary with North Dakota.



Two Rivers Watershed District
In Kittson, Roseau, & Marshall Counties, MN

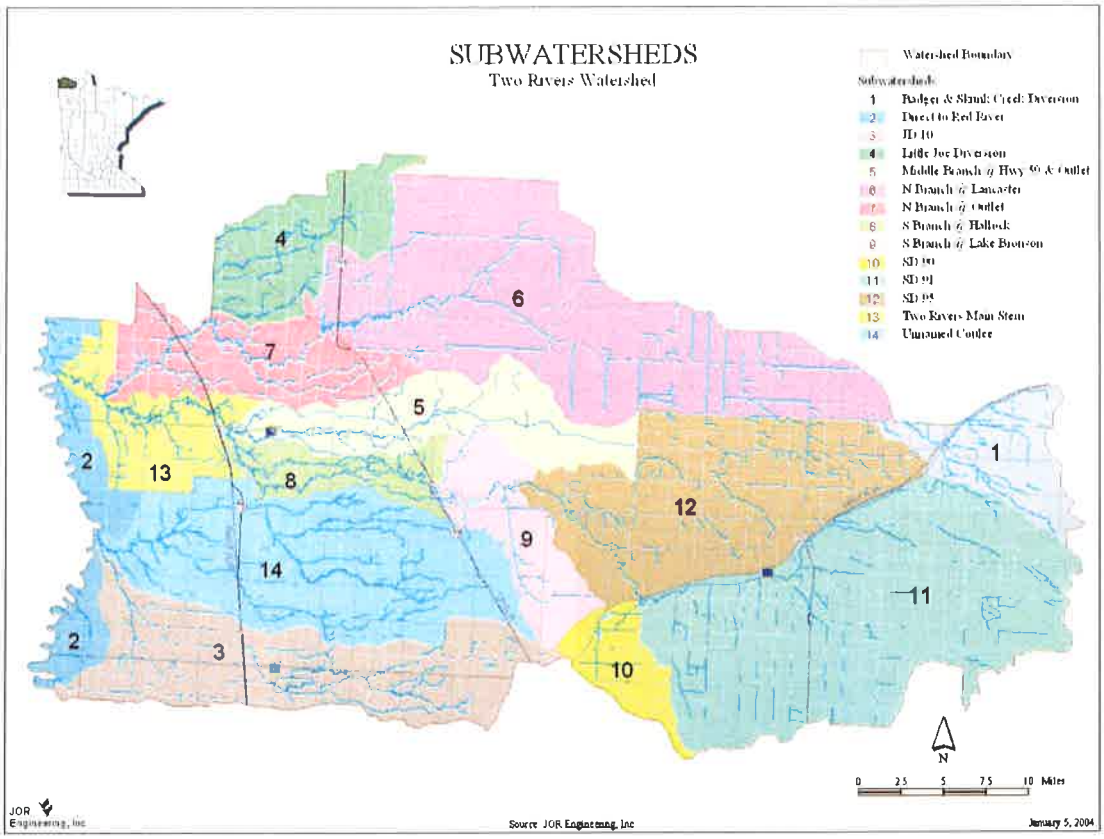
The Two Rivers actually consists of three branches – the North, Middle and South Branch. The South Branch arises southeast of Badger, Minnesota and flows in a westerly direction along the south side of Badger and through the cities of Greenbush, Lake Bronson, and Hallock. The Middle Branch drainage area begins east of the Kittson & Roseau County line and travels through the central portion of Kittson County, outletting into the South Branch just east of the city of Hallock. The North Branch drainage area begins in northwestern Roseau County, travels through Lancaster and Northcote, and joins the South Branch to form the main stem three miles east of where it outlets into the Red River.

The southwest portion of the District is a 360 square mile stand alone drainage system that was added to the District in the mid 1980's. This drainage system is comprised of a series of coulees which outlet into legal drainage systems. These legal drainage systems in turn outlet into a series of coulee systems, and in turn they outlet into the Red River. This drainage system flows into the Red River at a point 10 miles south of the outlet of the Two Rivers.

The economy of the District is largely driven by agriculture. Of the approximately 931,150 acres of land in the District, 67% is pasture and crop land, 14% forested, 13% grassland, 5% wetland, and 1% roads, ditches, and urban. The primary crops grown are small grains, soy beans, sugar beets, and other crops such as seed potatoes, corn, canola and sunflowers.

Cities within the District include Badger, Greenbush, Strathcona, Karlstad, Halma, Lake Bronson, Lancaster, Donaldson, Kennedy, and Hallock. In addition, the unincorporated villages of Fox, Haug, Leo, Orleans, Pelan, Northcote, and Robbin are within the area of the District. Industry in the area is limited. The mining of gravel is prevalent in the beach ridge areas of glacial Lake Agassiz. A few manufacturing and assembly companies exist in the area, including a wood stove company, metal works, canola processing plant, and a vehicle track company. Also, a bus assembly plant is

located in Pembina, North Dakota, just across the Red River. Area population trends show a steady decline.



PROJECT STATUS

EXISTING AND COMPLETED PROJECTS

The following are established and proposed projects of the Two Rivers Watershed District. They were built under Minnesota Statute 103D for various purposes including flood control, erosion control, water quality benefits, wildlife enhancement, and drainage for cropland. Each is inspected annually and operated and maintained by the District.

Detailed information regarding each project is on file at the TRWD office. Interested individuals can obtain copies of all project information upon request.

Project Name	*Description*	*Location*	*Established*	*Status*
Middle Branch Project #1	9.62 mile channel improvement	Thompson & Hazelton Townships, Kittson Co	1968; PL 566	Yearly Inspection & Maintenance
North Branch Project #2	11.13 mile channel improvement	Richardville, St. Joseph, Granville, & Poppleton Townships, Kittson Co.	1969; PL 566	Yearly Inspection & Maintenance
Soler Project #4	5 mile extension of State Ditch #72	Soler & Moose Townships, Roseau Co.	1979; Petition Project	Yearly Inspection & Maintenance
Dewey Project #5	1.8 mile lateral to State Ditch #91	Sections 26 & 35 Dewey Township, Roseau Co.	1980; Petition Project	Yearly Inspection & Maintenance

Nereson Impound Project	Flood Control Impoundment	Sections 27-28 Nereson Township, Roseau Co	1981; Board Initiated	Yearly Inspection & Maintenance
Nereson Modification Project	Flood Control Impoundment	Sections 33-34 Nereson Township, Roseau Co	2005; Board Initiated	Yearly Inspection & Maintenance
Dewey 5 Improvement Project	Improvement of Dewey #5 Ditch System	Sections 26 & 35 Dewey Township, Roseau Co	2002: Petition Project	Yearly Inspection & Maintenance
Horseshoe Lake Project	Drawdown Structure	Section 14, St. Joseph Township, Kittson Co	2006; Jointly by Kittson Co – DNR- TRWD	Yearly Inspection & Maintenance; Gate Operation
Kennedy Project #6	1.5 mile ditch to connect Kittson CD4 & CD27	City of Kennedy, MN	November 2009; Petition Project	Yearly Inspection & Maintenance
Ross Project #7	Flood Control Impoundment	Sections 26, 27, 28, 32, 33,34, Ross Township, Roseau Co	November 2007; Board Initiated	Yearly Inspection & Maintenance; Gate Operation
Springbrook PL566 Project #10	Set back dikes and Side water inlets along existing waterway	Springbrook Township sections 22,23,28,29,30; Davis Township sections 25,36	December 2013; Petition Project	Yearly Inspection & Maintenance

North Branch drop structure – SD 84

North Branch Drop Structure – JD 31

Outlet Structure – Horseshoe Lake

North Branch Drop Structure

Ross #7 Impoundment

Wildlife Weier at Nereson Impoundment

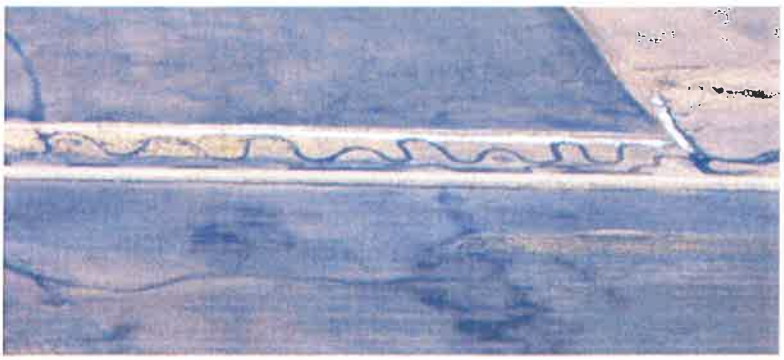
Outlet Structure at Ross #7 Impoundment

Main Outlet Structure at Nereson Impoundment

OTHER PROJECTS

The project listed below was a project that utilized federal, state, and local funding. It was coordinated by the District, but is not an official project of the District and therefore future maintenance is the responsibility of the landowners along its course.

Springbrook / CR 61	3.75 mile meandering channel & set back dikes – flood control	Sections 3,5,6 Springbrook & Sect. 1 Davis Twp, Kittson Co	August, 2008	Maintenance responsibility of landowners



Meandering Channel w/ set back levy – County Road #61, Springbrook Twp, Kittson County

PROJECTS NOT CONSTRUCTED

The following table shows several projects that were initiated but were dropped for various reasons.

Stokes #3	Offtake drainage ditch	Stokes Twp – 4 miles long	Dropped 1970's	Local opposition
Karlstad Project	Impoundment	Deerwood Twp sect. 8,9,16,17	Dropped 1988	Local opposition
Nereson #8	Impoundment	Nereson Twp, sect.2,3,11	Dropped 2007	Local opposition
Svea #9	Drainage Ditch	Svea Twp, sect. 1 - 12	Dropped 2006	High cost, inadequate outlet
Polonia – Barto	Drainage Ditch	12 miles sections 1-12 in 2 townships	Dropped in favor of Ross Impoundment	Inadequate outlet

POTENTIAL PROJECTS / PROJECTS UNDER INVESTIGATION

Klondike Clean Water Retention Project #11:

A "Project Work Team" was assembled in 2008 to discuss potential flood control projects and activities in the vicinity of Juneberry, Polonia & Barto Townships in Roseau County and Peatland and Klondike Townships in Kittson County. The State Ditch 72 and State Ditch 95 systems have become overburdened with high and excessive water flows from upstream areas, and do not seem to have adequate capacity. In addition, the outlet for this water is limited. The PWT was appointed by the Board of Managers to look into the problems and identify a range of alternatives that could be implemented to help alleviate the flooding conditions.

The recommendation of this project team was that impoundments should be investigated in the upstream areas of Badger Creek. A secondary recommendation was that if a satisfactory upstream impoundment could not be located, then a location at a downstream area should be investigated.

In 2012 it became apparent that a feasible upstream impoundment site may not be found, and the Board of Managers began to look at 3 sites in the downstream area that the land is currently owned by the District. These areas are listed below, and studies were undertaken for project design at each site.

Klondike 1	Impoundment	Klondike Twp sect 27	Tabled 1991	
Klondike 2	Impoundment	Klondike Twp sect 1-2-11-12	Tabled 1991	
Quick	Impoundment	Polonia Twp sect 30	Tabled 1991	Activated under WRP 2012

The Quick site has been enrolled in the federal Wetland Reserve Program and is in the 3rd year of a 30 year easement. The Natural Resources Conservation Service is currently working with the TRWD to plan and implement a wetland restoration project which could attain 1,100 acre feet of flood storage.

The TRWD performed engineering, research and analysis regarding the Klondike 1 and 2 sites. It became known that adjacent lands were available, and the potential project footprint was broadened. It was soon apparent that a large scale project could be built within an area 12 square miles in size. The District proceeded with an impoundment project under MN Statute 103D, and the new project was named "Klondike Clean Water Retention Project #11". It is planned to store approximately 37,000 acre feet of water from an upstream drainage area of 143 square miles, and will achieve flood damage reduction goals, water quality improvements, habitat improvements, and numerous natural resources enhancements.

A preliminary hearing was held according to statute and the project was established by the Board of Managers. The project engineer is working on an Engineer's Report which will contain the project details, a cost estimate, and alternatives considered. The following fact sheet shows the project details.

Klondike Clean Water Retention Project #11
Project Proposer: Two Rivers Watershed District

Description/Location: The 7,700 acre project is located in NW Minnesota, 10 miles east of the City of Lake Bronson, and 4 miles north, covering over 12 square miles on the Kittson and Roseau County line. It will control water coming from a 143 square mile upstream contributing drainage area storing 37,000 acre feet of water. Project components include a 6 mile diked inlet channel, 7 miles of diversion channels, and 17 mile long perimeter dike having an average dike height of 7 feet. There are 3 planned outlet structures, one each to the North Branch, Middle Branch, and South Branch Two Rivers.

Project Benefits:

- **Flood Damage Reduction (Primary Objective):** Store 37,000 acre feet of floodwater and reduce downstream duration of flooding and peak flows; Provide an adequate outlet for Lateral 1 of State Ditch #95; Provide for conveyance of and outlet for overflows that come from the Roseau River and impact SD 72; Reduce Two Rivers contribution to the Red River flood by 20%. Improve drainage for farmland along the SD 95 system.
- **Water Quality:** Large algal blooms currently occur on downstream Lake Bronson. This project will be designed to reduce phosphorous and nitrogen loading to the South Branch Two Rivers, thereby reducing the occurrence of algal blooms in the lake. In addition sediment loading to the lake will also be reduced. Water quality impairments on the Two Rivers will also be addressed.
- **Stream Flow Augmentation**: The South, Middle, and North Branches of the Two Rivers typically experience late summer and fall extreme low flows, and sometimes they even go dry. This has a detrimental stressor effect on the fish and other organisms. This project could be implemented to provide a source of stream flow during the times of low flow.
- **Habitat & Ag Enhancement:** The project area encompasses over 7,700 acres, most of which used to be farmland. Normal operation of the impoundment will be to flood the area during spring snowmelt and summer rains and slowly drain it down over a 3-4 week period after the flood peaks have passed. Some areas within the impoundment will be used for agriculture, and some will be used for habitat restoration and enhancement. The site is adjacent to a 'rich fen', and therefore cessation of farming practices will help to protect the integrity of the nearby fen. An environmental assessment is being done to assess current conditions, look at alternatives, and look at future conditions with and without the project. Cropland areas are being rented out to interested individuals for hay, pasture, or possibly cash crops.

Problem Description:

- **Flooding:** *Local* – 1) Flood flows originating in the Roseau River cross over into the Two Rivers Watershed, causing severe flooding. 2) Lat 1SD95 has limited channel capacity and experiences break out flows that leave the ditch and flood overland, causing road and infrastructure damage, erosion and sedimentation, and extended duration of overland flooding. 3) Downstream flood flows have threatened the dam and campgrounds at Lake Bronson State Park, and flood damages occur further downstream near the City of Hallock.

Regional – Red River of the North flooding is a known problem, and this project will help to accomplish the regional goal of reducing flood flows by 20%.

- **Other:** Nutrient loads cause algal blooms at Lake Bronson reducing water quality; The Two Rivers is listed for several water quality impairments; Regional habitat losses impact wildlife, native prairie and wetlands.

Estimated Cost: $35 million
Potential Funding Sources
Federal – committed $500,000 State: 75% ($26,250,000) RRWMB – committed $5 million TRWD – up to $3.25 million

DITCH SYSTEMS

In addition to the above projects, the District operates and maintains several legal ditch systems (See map & table below), which have either been turned over by the County Boards of the County in which each ditch is located or they have been petitioned to the Watershed District by landowners under Minnesota Statute 103E.

The table below lists both the ditch systems and the drainage projects that the District administers.

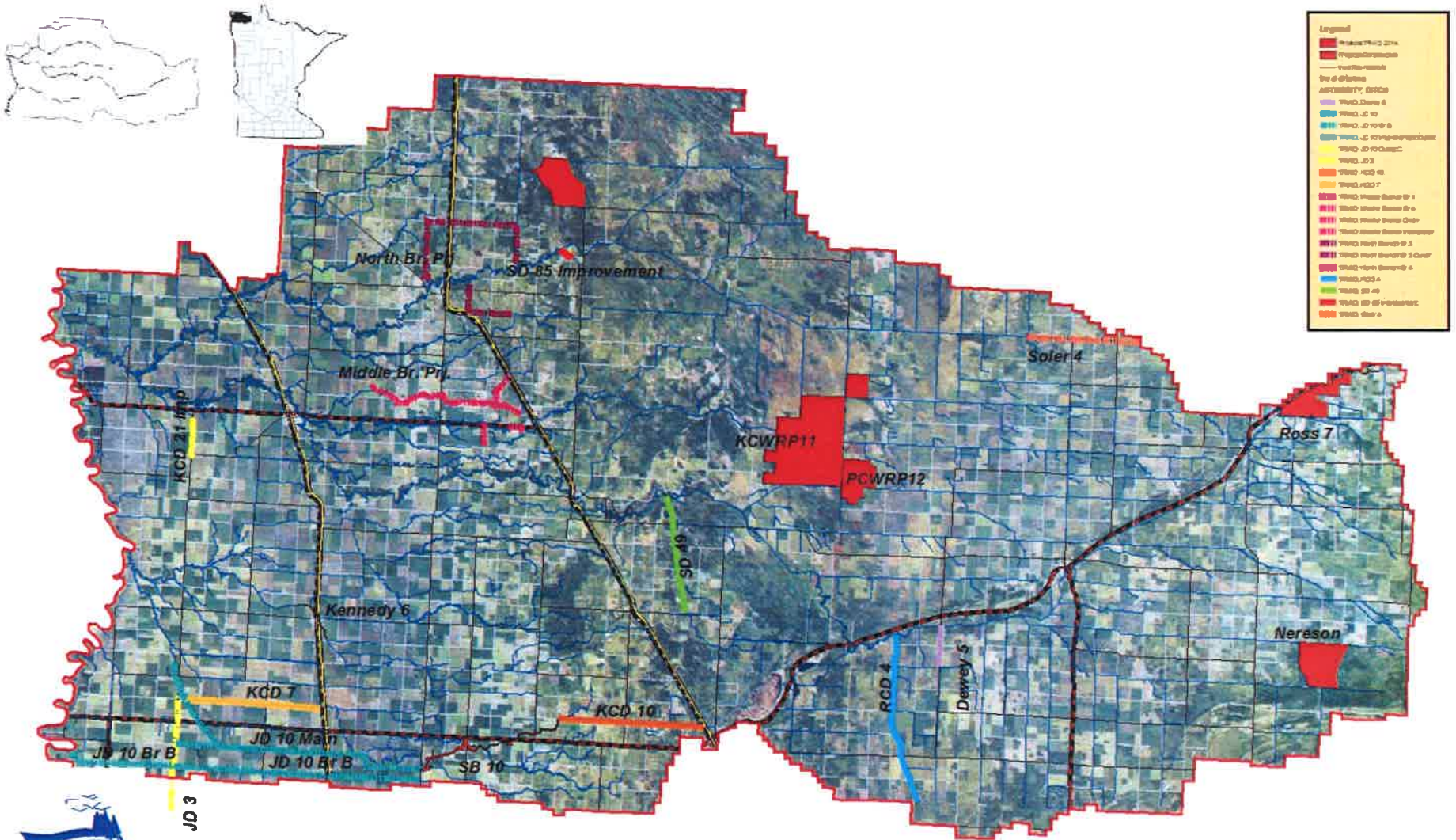
Ditches Statute 103E	**Length (Miles)**	**Township(s); County**	**Fund Balance 12-31-16**	**2017 Levy**
State Ditch #49	5.25	Norway; Kittson Co	$ 15,230	$ 10,000
State Ditch #85 Improvement	0.75	Poppleton; Kittson Co	$ 21,866	$ 5,000
Judicial Ditch #3	5.5	Teien; Kittson Co	$ 25,964	$ 4,000
Judicial Ditch #10	31	Davis, Svea, Teien, Kittson Co	$ (25,873)	$ 42,000
Kittson CD #7	6.5	Svea; Kittson Co	$ 26,726	$ 18,000
Kittson CD #10	7.0	Deerwood; Kittson Co	$ 17,685	$ 2,500
Roseau CD #4	7.5	Lind, Dewey; Roseau Co	$(5,871)	$ 15,000
Projects Statute 103D				
Middle Branch 1	9.6	Hazelton, Thompson; Kittson Co.	$ 27,105	$ 10,000

North Branch 2	11.1	Granville, Hampden; Kittson Co.	$ 12,354	$ 10,000
Soler 4	5.0	Soler; Roseau Co	$ 14,921	$ 5,000
Dewey 5	1.8	Dewey; Roseau Co	$ (1,501)	$ 10,000
Kennedy 6	1.5	Tegner, Skane; Kittson Co.	$ (78,102)	drainage lien
Ross 7	impoundment	Ross; Roseau Co	$ 35,477	N/A
Springbrook 10 / PL566	9.0	Springbrook & Davis Townships, Kittson Co	$ (248,019)	Drainage lien + $10,000

These systems are inspected annually and maintenance activities are undertaken if deemed necessary. These activities range from beaver dam removal and beaver trapping to spraying of cattail and other nuisance vegetation to removal of silt and sediment to repair of sloughed side slopes or eroded culverts. Detailed maintenance reports are kept and filed each year in the ditch file.

The District as the ditch authority for these ditches is also responsible for maintaining a ditch fund to pay for maintenance expenses. Each year the District assesses the needs of each ditch and a tax is levied against the "benefited area" of each ditch, if necessary and if the funding is needed. Each year the District certifies this levy to the County Auditor of the County where the ditch is located.

A map showing the locations of each ditch system and each project of the Two Rivers Watershed District is shown on the following page.



Two Rivers Watershed District

Two Rivers Watershed District
Projects and Ditches

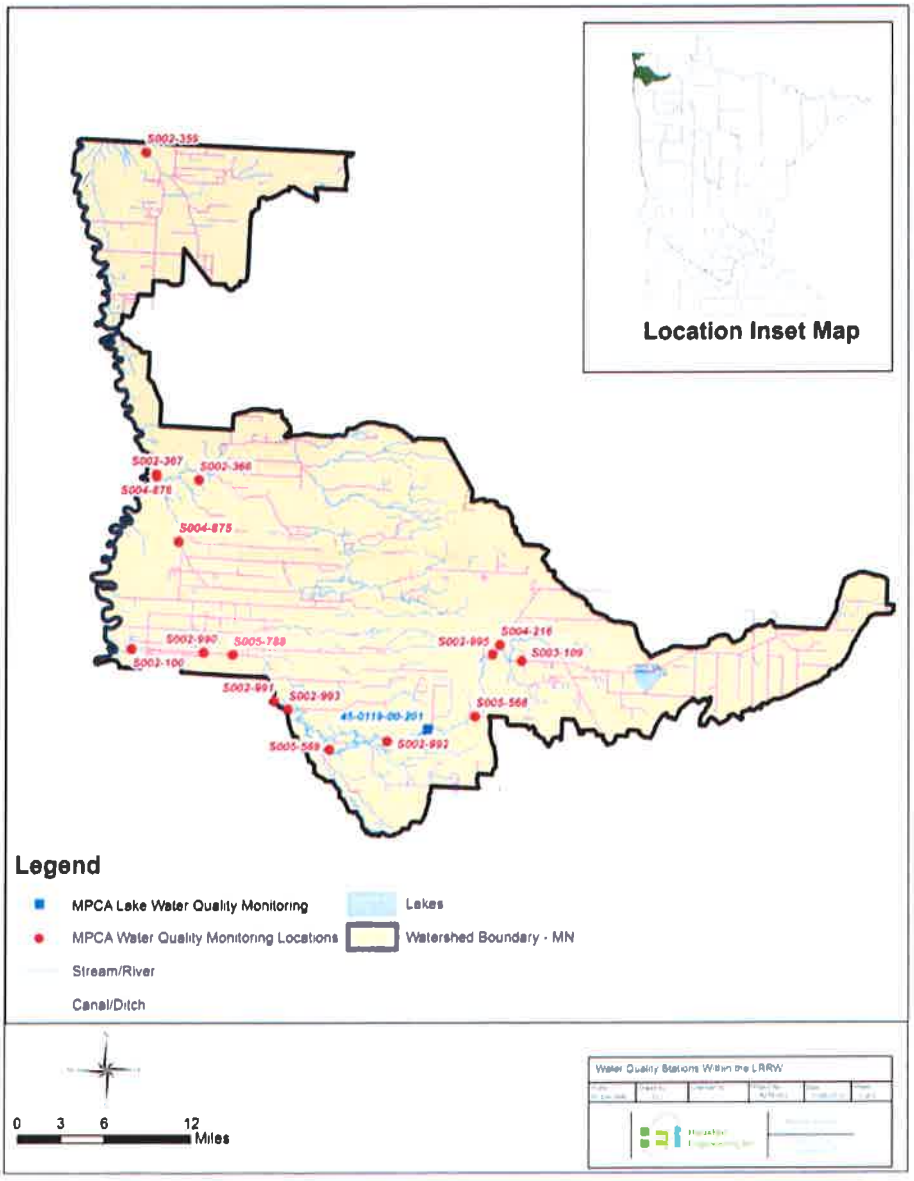
PROGRAM STATUS

WATER QUALITY – "WRAPS"

Lower Red River WRAP

The District partnered with the Joe River Watershed District, the Middle Snake Tamarac Watershed District, and the MN Pollution Control Agency to undertake the "Lower Red River Watershed Restoration and Protection Project". This encompasses all of the Joe River, the Tamarac River watershed, and an unnamed coulee within the Two Rivers Watershed District (see map below).

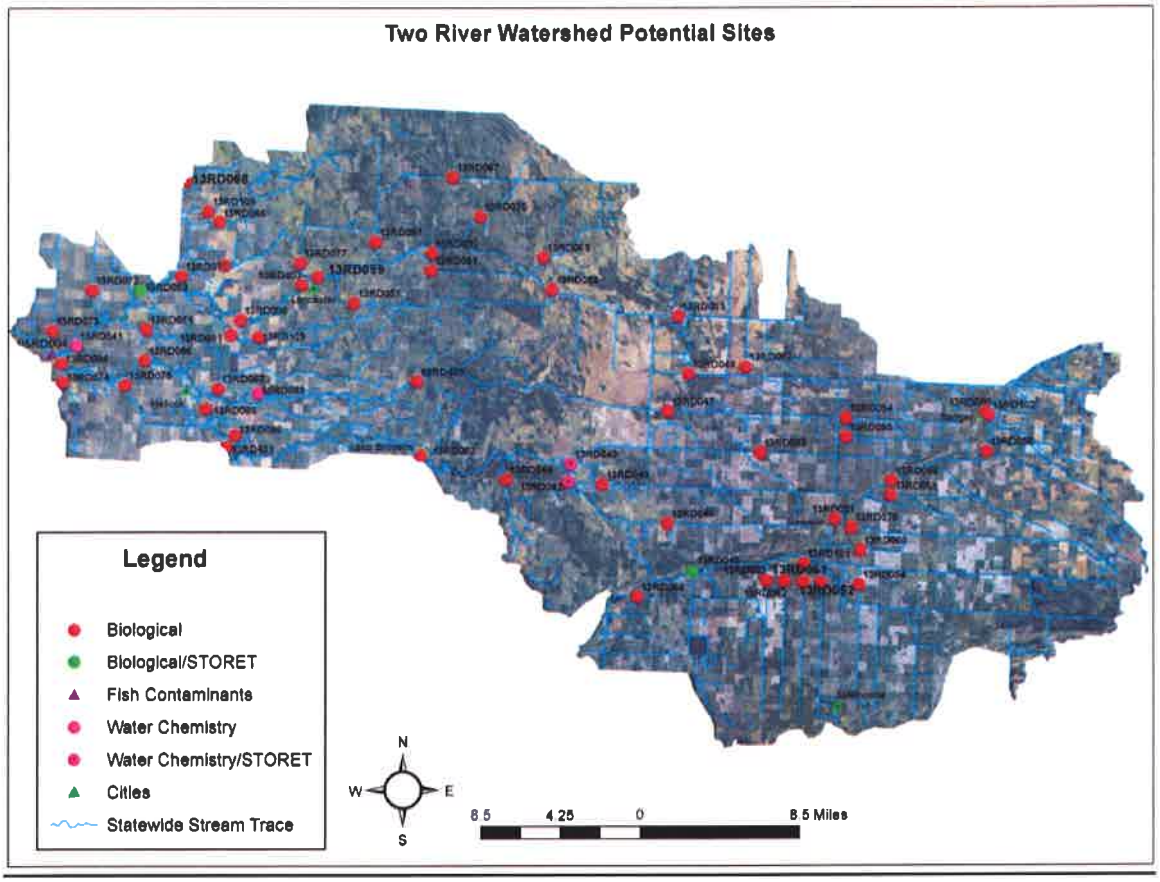
Together the 3 watershed districts received 100% grant funding from the MN Pollution Control Agency. The project is aimed first at researching all of the water quality data available for a given watercourse, then if necessary additional water quality and stream flow data is collected to produce a 'conditions 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. Then, if there are impairments, the project will do further investigation and research to determine the source of impairment and how best to address the problems, if possible.



The WRAP will enter it's sixth year in 2017. Several reports have been completed and are in draft form, including a conditions report, a stressor ID report, a watershed restoration and protection strategy, and a total maximum daily load report. All documents have been submitted to the US EPA for review and comment.

Two Rivers WRAP

This WRAP was in its fourth year in 2016, and as such all reports have been completed. The MPCA and the US EPA are reviewing all documents and will review and comment.



Two Rivers WRAPS monitoring sites

PERMITS

The Rules of the Two Rivers Watershed District were enacted in 1981, and under these Rules, a permit from the District is required for the following activities:

- Any sanitary sewer system which discharges to surface water, storm sewer, or other major utility project which affects surface water within the district.
- Any street, road, or highway construction project which by means of its construction has any effect on the quality or quantity of water runoff.
- Any construction or alteration of any drain tile or drainage ditch that drains an area in excess of 20 acres.

- Any works which include draining, filling, excavating, or dredging of any type 3, 4, 5, or 8 wetland as defined by the U.S. Fish & Wildlife Service Circular 39.
- Any construction or alteration of any bridge, dike, culvert, or drain across any drainageway, lake, wetland, or other water body.
- Any artificial or mechanical transfer of water from a water source including but not limited to gravel pits, ponds, rivers, wetlands, and other reservoirs consistent with the general purposes of the District.
- Any artificial drainageway cut across a subwatershed to thereby deliver water into another subwatershed.
- Any drainage of water by any artificial means into any legal drainage system from any land not assessed to that drainage system.
- Construction, alteration, or removal of any dike or reservoir.

Eighty-seven permit applications were processed during 2016.

2016 DISTRICT ACTIVITIES

BOARD MEETINGS

Twelve regular monthly board meetings were held during the course of 2016, each on the first Wednesday of each month. The Annual Meeting was held on January 11, 2016. One special meeting and one budget hearing of the Board were held during the year.

NON-DISTRICT MEETINGS

The District Managers and District staff attended several non-District meetings during the course of 2016 that were related to information and ongoing education. Twelve meetings of the Red River Watershed Management Board were attended regularly, various committees of the RRWMB, the Minnesota Association of Watershed District's Annual Meeting, NRCS – MN State Technical Committee meetings, and other meetings as needed.

TRAINING

Managers and staff attended, as necessary, various training sessions and meetings that were pertinent to the operation of the District.

ADMINISTRATIVE ACTIONS

The District employed a full time District Administrator and a full time Technician during 2016.

Excerpts From 2016 District Newsletter

June 16, 2016

TRWD Receives Grant to Study the Klondike Clean Water Retention Project

- Public Meeting Scheduled for June 30, 2016

The Two Rivers Watershed District has received grant funding from the USDA - Natural Resources Conservation Service in the amount of $500,000. The grant is a Federal 70% to local 30% cost share and will be matched from local funding in the amount of $214,286. The funding will be used to do planning, preliminary engineering, permitting, economic review, and to prepare an Environmental Assessment for the District's proposed "Klondike Clean Water Retention Project" (KCWRP). This will specifically include an alternatives analysis, cost – benefit analysis, review of permits needed, analysis of environmental effects and consequences, and identification of a preferred alternative for this flood control project.

The KCWRP is a floodwater impoundment and its purpose is to prevent flooding to ag lands and public infrastructure, provide an adequate outlet for various laterals of State Ditch 95, provide an outlet for water that overflows from State Ditch 72 and from the Roseau River, and provide water quality and environmental benefits. This will specifically reduce flooding on lateral 1 of State Ditch 95, reduce flooding on Red River, and reduce flooding on the North Branch, Middle Branch, and South Branches of the Two Rivers. Environmental benefits will be to protect and enhance a naturally occurring rich fen, provide feeding and resting areas for migratory waterfowl, and provide water quality benefits by reducing sediment and nutrients that enter Lake Bronson and the three branches of the Two Rivers.

The project will consist of impounding floodwater within a 12 square mile area. This will be accomplished by constructing a perimeter dike, inlet ditches and diversions, three gated outlet structures, emergency spillways, and various other associated structures. The project will be located in Klondike Township in Kittson County and Polonia and Juneberry Townships in Roseau County. It is projected to store up to 37,000 acre feet (1 acre foot = 1 acre of land covered by water 1 foot deep = 325,829 gallons) of water and will cost approximately $35 million to build. The Two Rivers Watershed District has acquired most of the land within the footprint of the project, and will be working on the rest of the needed right of way. Project design is being done by HDR Engineering.

The grant from NRCS will go a long way in doing the preliminary work that is needed to be able to make educated decisions in order to proceed with a project that will address the flooding that comes from a 143 square mile upstream drainage area. The project will help solve flooding and drainage problems that have persisted in that area since the mid 1940's, and will provide natural resources enhancements. By completing this study, the TRWD will have collected the engineering, environmental, cultural, and economic information that is necessary to begin acquiring permits and designing the various project features. The planning phase should hopefully be completed within the next 2 years and after that project design will be finalized.

A Public Meeting has been scheduled regarding this project beginning at 1:30 p.m. on Thursday June 30th, 2016 at the Badger Community Hall, 205 N Main, Badger, MN (located between the grocery store and Farmer's Union). Anyone from the public is welcome to attend, hear about the project, and ask questions. For more information, contact the Two Rivers Watershed District at 218-843-3333.

Water Quality Investigations Nearing Completion

Over the past five years, the Two Rivers Watershed District has been working with the MN Pollution Control Agency as well as other state and local agencies to complete two separate water quality studies. These studies, otherwise known as "Watershed Restoration and Protection Strategies" (WRAPS), have been undertaken for 1) the area drained by the Two Rivers, and 2) an area known as the "Lower Red" watershed, consisting of a) the Joe River, b) the Tamarac River, and c) the 'Kennedy Coulee' and Judicial Ditch #10.

These studies are a requirement of the Federal Clean Water Act, and are designed to first perform monitoring to collect water quality information, second use the data to help determine if any of the waters are impaired, and third to develop strategies to improve water quality if need be and to protect waters that are not impaired.

Detailed analysis of potential impairments, including excessive sediment, nutrients like phosphorous and nitrogen, and areas of severe erosion is done by utilizing on the ground monitoring, desktop computer modelling, and best professional judgement of water resource professionals.

The ultimate goal of these studies is to protect water resources. This includes rivers, streams, creaks, and coulees, as well as other resources like drinking water. The State of Minnesota has categorized these various water resources into water for consumption, swimmable waters, fishable waters, and various other parameters. Each category has water quality thresholds that need to be met. If these thresholds are not met, then the water is considered impaired and the WRAPS will address how to best address the impairment.

The **Lower Red River WRAPS** process was started back in 2012, and is scheduled to be completed by July, 2016. The map shown depicts the area being studied and sampling locations. The MPCA, Watershed Districts, and Soil and Water Conservation Districts in Kittson and Marshall Counties have been involved with water chemistry sampling, fish surveys, and invertebrate sampling.
All of this sampling that was performed was analyzed and several reports were written to help determine the health of the stream systems.

Houston Engineering was hired to help with the technical review and report writing. They will complete their reports and provide suggestions to address the water quality strategies. A public information meeting will be scheduled sometime in the month of June 2016. The process that was followed will be summarized, the findings of the studies will be presented, and proposed strategies to address the water quality will be discussed. The public is invited and encouraged to attend and provide input.

The **Two Rivers WRAPS** was started in 2013, and is scheduled to be completed sometime in 2017. To date water quality monitoring and data review has been completed. The MPCA has done fish sampling and population assessments, and they have also looked at the invertebrate insects living in the various watercourses. Water quality samples have been taken as well, and analyzed for various nutrients, sediment, and bacteria. The MN DNR has made many site visits, and is characterizing the channel stability and stream health of various river reaches to help assess the river system. The map shown indicates sites where most of the monitoring has been done.

The next steps for this project will be to produce a 'stressor identification' report, and computer modelling is being done to help prioritize areas that are contributing to stream impairments, target areas that can be treated with best management practices to reduce pollutants and excessive nutrients from entering the streams and rivers, and measure both how much they are contributing and how much pollution reduction can be achieved.

Once these WRAPS are completed, all or parts of them will be incorporated into the Two Rivers Watershed District Overall Plan. The initiatives will be used to help procure funding from the state clean water fund and the federal clean water act. These funds will be utilized to construct various projects and install structures mainly to improve

water quality but will also provide benefits to local citizens for flood control, drainage, recreation, and fish and wildlife.

TRWD Ditch Survey, Inspection, and Maintenance Plans Underway for 2016

The Two Rivers Watershed District was established in October, 1958 for the purposes of flood control, drainage, water quality, and conservation and wise use of our water natural resources. Since its establishment, the District has assumed maintenance and caretaking duties for over 92 miles of public ditch systems. The District has constructed 10 major projects ranging from flood control water impoundments to drainage improvements to stream restorations. Project numbers 11 and 12 are in the planning and development stages. These projects have provided public benefits by reducing flood damages, providing water quality benefits, providing habitat for wildlife, and providing recreational opportunities for hunting, bird watching, hiking, and other activities.

As a part of its operation and maintenance activities for these various projects and ditch systems, the District uses survey grade global positioning systems to inspect the grades, cross sections, and other project features. These surveys are compared to the original construction plans of each project to determine if any changes have occurred. For instance, over time, ditch systems become filled in with sediment from wind or water erosion. In some cases side slopes will slough or other types of erosion can occur. Culverts and bridges can become damaged over time. These surveys provide a means to check the condition of the project and determine if any maintenance needs to be done. Each ditch system under the District's jurisdiction is surveyed at least once every 5 years.

In addition to surveys, ditches and projects are visually inspected for any evidence of blockages, excessive vegetation, rodents, or any other potential problems. The District also relies on reports from landowners to keep informed about problems that may exist. Once the surveys have been completed, a detailed analysis is done on what types of maintenance, if any, is needed. A maintenance schedule is set up for each project that includes vegetation spraying, beaver and beaver dam removal, repairs of culverts and other structures, or removing sediment using backhoes or other mechanical devices. Each ditch has a ditch fund, paid for by the landowners who are benefitted by the ditch system.

Ditch systems that will be surveyed in 2016 will be Roseau County Ditch #4, Soler #4, and Kittson County Ditch #10. All other ditches will be visually inspected. If any blockages are found or excessive sediment exists, a backhoe will be hired to do a cleanout of the sediment to restore the ditch to its original grade and cross section. Spraying for cattails and woody vegetation will also be done on an as needed basis. These maintenance activities are required and are performed according to Minnesota Statutes either 103D or 103E.

In 2015 the District increased its beaver bounty to $75 per beaver. This bounty is for the removal of beavers on ditch systems and projects under the jurisdiction of the District. There must be a known beaver problem, and prior authorization by the District is preferred. One bounty will be paid per beaver tail that is turned in.

Another common maintenance activity that is done regularly is mowing. This is a good way to control noxious weeds on dikes and on right of way. It also is beneficial in keeping woody vegetation from establishing in these areas.

Any questions on any of the District's maintenance activities can be directed to the District office in the Kittson County Courthouse or by phone at 218-843-3333.

TRWD Launches New Website

Please visit WWW.TwoRiversWD.com for all of the latest news regarding the District! The new site has information on all of our projects, programs, contact info as well as permit applications. Information can be found on water quality and flooding issues as well. All of our board meeting minutes, annual reports, and newsletters can be perused!

TRWD Permit Requirements / Rules Updated

The Two Rivers Watershed District adopted *Rules* in 1981, amended them in 1997, and recently made further amendments in 2015. These *Rules* govern projects which have a potential effect on the water resources of the District and specifically relate to drainage, flood control, water use, and water quality. Projects of this type require a permit from the Two Rivers Watershed District before any work is done. There is no charge for the permit, however projects which are commenced or completed without a permit will require a $500 fee, plus field inspection fees. Some specific works that require permits are culvert installation or alteration, ditching, diking, water appropriation, tile drainage, diversions, and certain types of work in wetlands. A complete set of *Rules* and a permit application form can be obtained at the District office or on the District's new website at www.TwoRiversWD.com.

Gary Johnson Appointed to TRWD Board

Gary Johnson of rural Hallock, MN was recently appointed by the Kittson County Commission to serve a 3 year term on the Board of Managers of the Two Rivers Watershed District, beginning November 1, 2015. He has been a lifelong resident of the area. He and his family operate their farm located south of Hallock near the South Branch Two Rivers. Gary replaces Jon Vold, who had served on the Board for the previous 9 years. The Two Rivers Watershed District thanks former Manager Vold for his years of dedicated service in water management, and extends a warm welcome to new Manager Johnson!

Governor Dayton Visits Kittson County to Talk Water Quality

TRWD President Darrel Johnson & Governor Mark Dayton listen to water quality discussions

Governor Mark Dayton made an appearance at Lake Bronson State Park this summer as part of his 87 counties in 86 days tour. Staff and Board members of the Kittson SWCD and the Two Rivers Watershed District were invited to meet with him and discuss water quality initiatives.

Topics discussed included a grant from the Minnesota Clean Water Fund that was awarded to the Kittson SWCD to implement buffer strips upstream of Lake Bronson to reduce erosion along ditches tributary to the lake, and to also reduce sediment and nutrient loading that enters the lake. The program pays landowners to install grass buffer strips along ditches that are known to be eroding, and is aimed at reducing the annual algae blooms that plague the lake.

Another project that was discussed was the Klondike Clean Water Retention Project, a multipurpose flood control and natural resources enhancement project being

contemplated by the Two Rivers Watershed District. This project will store approximately 37,000 acre feet of water during flood events (1 acre foot covers 1 acre of land at a depth of 1 foot and equals 325,829 gallons). It will be built on over 12 square miles of land along the Kittson and Roseau County border. The project will not only provide flood damage reduction, but will improve drainage for farmers in the State Ditch 95 system. It will also provide benefits for natural resources by improving water quality, protecting a naturally occurring 'rich fen', providing habitat for migratory waterfowl, upland birds, fisheries, and other wildlife, and providing low flow augmentation for the North, Middle, and South Branches of the Two Rivers.

Darrel Johnson (TRWD), Dan Money (TRWD), Governor Mark Dayton, Jamie Osowski (KSWCD), Justin Muller (KSWCD), C.J. Peterson (KSWCD) , Matt Fischer (BWSR), Jim Schwab (NRCS)

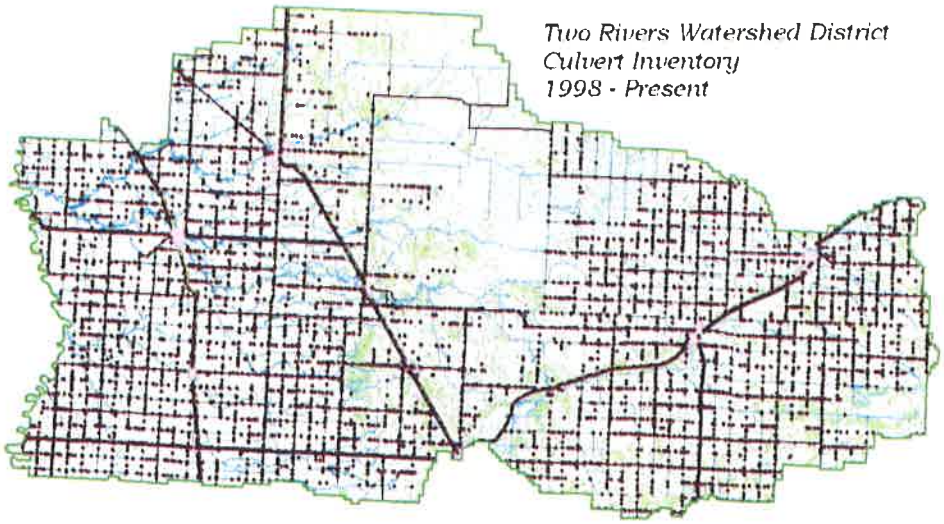
Dayton took notes on the details of these programs and complemented the KSWCD and the TRWD for their efforts in helping solve agricultural and conservation issues. He indicated that these two projects are good examples of how clean water funds can help solve local problems by improving water quality, provide conservation benefits, and help the economy.

Sizing Culverts to Provide Both Drainage & Flood Control

Flooding in the Red River Valley is a well-known and well documented phenomenon from the south end of the valley to the north. Spring floods as well as summer floods, like the summer rains experienced each of the last two years, can cause serious damages to roads, ag land, culverts, farmsteads, cities, and other properties. Annual damages to public infrastructure and private lands can be large. The economic impacts of these floods can include reduced income from crop losses, increased taxes to pay for public damages, relocation of homes due to repeated and excessive flooding, and continual maintenance costs for debris cleanup, repairs, and structure replacement.

The Two Rivers Watershed District and the Red River Watershed Management Board are continually looking for ways help reduce flood damages. Technical papers have been developed in which scientists, engineers, economists and others analyze the various ways to best reduce flooding. Some of the tools used include construction of projects that 1) reduce flood volumes (projects to slow or hold runoff), 2) increase conveyance (ditching or diversions to get water away ahead of Red River flooding), 3) increase temporary flood storage (impoundments), and 4) provide protection or avoidance (ring dikes, floodproofing, buyouts, etc.).

Locally the Two Rivers Watershed District has applied these tools in various ways. The 'Nereson' and 'Ross' projects are large scale impoundments that have been constructed totaling over 9,000 acre feet of storage, and the 'Klondike Clean Water Retention Project' is being planned to provide another 37,000 acre feet. The 'Springbrook' project constructed set back levees along an existing waterway to prevent water from breaking out. Others like our 'Soler 4', 'Dewey 5', 'Kennedy 6', 'Middle Branch', and 'North Branch' projects provide drainage and ditch capacities designed to



Locations of culverts within the Two Rivers Watershed District. Culvert sizing can be an important tool in reducing flooding and erosion.

remove the water from the landscape in order to prevent crop damages. Over the years, the District has been involved with the design, funding, and construction of 22 farmstead ring dikes.

In many cases management of the floodwaters becomes a balancing act to try and provide protection for cropland and infrastructure, but at the same time to regulate flows so that downstream areas do not become overly inundated. Extreme care must be taken in doing a project that a flooding problem is reduced, but does not just move it from one spot and put it on other lands. During times of flooding and excessive runoff, tempers can flare and projects can be hastily implemented that may benefit some but at the same time increase flooding for others. One philosophy that has been used is the "adequate and equitable" idea. Adequate refers to providing enough drainage to prevent a majority of crop losses, and equitable refers to equal distribution of positive and negative effects of drainage in all areas of a watershed from the upstream end of a drainage system to the downstream end.

One of the methods of providing adequate and equitable benefits is culvert sizing. This flood reduction tool uses the idea of better utilizing distributed temporary storage and metering runoff without causing a significant increase in the risk of flood damage where runoff is temporarily stored. It not only can reduce downstream flood peaks, it also can provide a more uniform level of flood protection within a drainage system. It may not work in every situation, but if implemented systematically it can have significant positive impacts in most areas.

The guiding principles for culvert sizing are as follows:

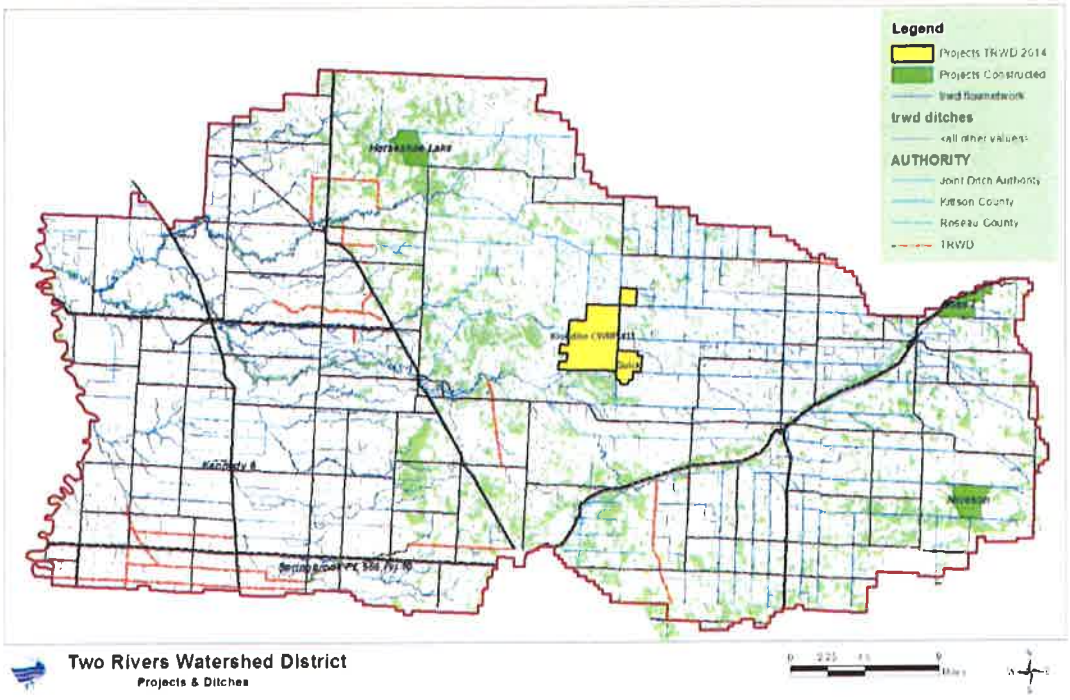
- Risk to highways should not exceed current standards for safety and maintenance
- Risk to developed properties upstream of road crossings should not exceed accepted standards
- Benefits of drainage should be equitable throughout the drainage system
- The drainage system should detain water in excess of downstream channel capacity, to the extent practical
- Temporary storage of water on cropland should be uniformly distributed throughout the drainage system, to the extent practical
- Detention of water on cropland for most rainfall events should be no longer than 24 to 48 hours to avoid crop damages
- The recommended design methodology should be easy to apply, yet comprehensive enough to provide safe roads and an adequate and equitable drainage system
- Culvert sizing can be implemented either one site at a time, or over an entire sub-watershed area all at once. Benefits will be realized quicker by doing an entire sub-watershed.

When considering culvert sizing, permitting agencies and drainage authorities need to consider the effects on crops, erosion and sedimentation concerns, damage to roads, and damage to buildings. These considerations relate to duration of flooding, high flows (out of bank), peak flows (road overtopping), and peak stages. The Two Rivers Watershed District has been using culvert sizing when issuing permits for culverts since 1996. Culverts are sized according to the number of acres that drain through them. For small drainage areas smaller culverts are used, and as drainage areas increase the recommended culvert size incrementally increases. In an ideal situation of adequate and equitable drainage, all of the culverts in a watershed area would be sized accordingly, and they all would then be working together to meter flows, reduce flood damages, provide 24-48 hour drainage for crops, and spread out both the benefits and damages throughout the entire watershed.

The District has found that this strategy tends to work the best when implemented in smaller watersheds. It is important to note that in order to maximize the benefits of culvert sizing, the culverts located the furthest upstream are the most important ones to get the right size. Culvert sizing by itself most likely will not eliminate flooding, but it is a way to drastically reduce flooding. The TRWD will continue to utilize this tool in order to help with flooding issues. Further information regarding culvert sizing can be obtained by contacting the District office in the Kittson County Courthouse, Hallock, MN.

Ditch & Maintenance Report

The Two Rivers Watershed District is the drainage authority for 13 drainage systems, covering over 92 linear miles, all located in Kittson, Roseau, and Marshall Counties. The District takes ditch maintenance very seriously, as blockages, vegetation, beaver dams, and sedimentation can all have detrimental effects on drainage.



The District maintains an aggressive ditch maintenance schedule. Because extreme water flowages during spring runoff and summer rains can cause erosion, sedimentation, sloughing, culvert damage, or other problems, every mile of ditch is visually inspected at least once per year and more frequently if major runoff occurs.

Each ditch is surveyed at a minimum once every 5 years. Minnesota statute 103E, otherwise known as the "ditch law" is followed to perform repairs and maintenance of ditches. If sediment, blockages, or damage is found, steps are taken to fix the problems within a timely manner. Local contractors are hired to excavate sediment. If excessive cattails or brush is found, spraying is done to help control the vegetation. When beavers become prevalent, a $75 per beaver bounty is offered to trappers, and excavation of beaver dams is performed.

Funding to do maintenance activities is provided through a ditch tax that is levied against property that is benefitted by the ditch. Under law, when the ditch was constructed, the tax base was set up by a panel of "viewers" who determined what land would be benefitted, and at what rate it would be taxed. The TRWD sets tax levies for each ditch annually at a budget hearing.

The table below lists each system the District is in charge of, the ditch fund balance as of August 31, 2016, and maintenance activity slated or performed on the ditch:

Ditch System	Fund Balance	Beaver Removal	Spray Vegetation	Survey	Excavation Repair
RCD 4	$(8,796)	As needed	Yes	2016	As needed
Soler 4	$ 18,282	As needed	Yes	2016	As needed
Dewey 5	$(4,594)	As needed	Yes	2018	As needed
Kennedy 6	$(80,764)	As needed	Na	2018	As needed
KCD 7	$ 22,529	As needed	Yes	2019	As needed
KCD 10	$19,980	As needed	Yes	2016	As needed
JD 3	$ 22,840	As needed	Yes	2020	As needed
JD 10	$(47,252)	2016	Yes	2019	As needed
SD 49	$ 12,395	2016	Yes	2018	As needed
SD 85 imp	$ 21,745	As needed	Na	2017	As needed
Middle Branch	$ 24,269	As needed	Yes	2017	As needed
North Branch	$ 10,926	2016	Yes	2017	As needed
SB #10 PL566	$(258,377)	2016	Yes	2019	As needed

The TRWD will continue to strive to inspect and maintain drainage ditches to the grade and cross section as determined under law. Questions or comments regarding ditch maintenance should be directed to the District office.

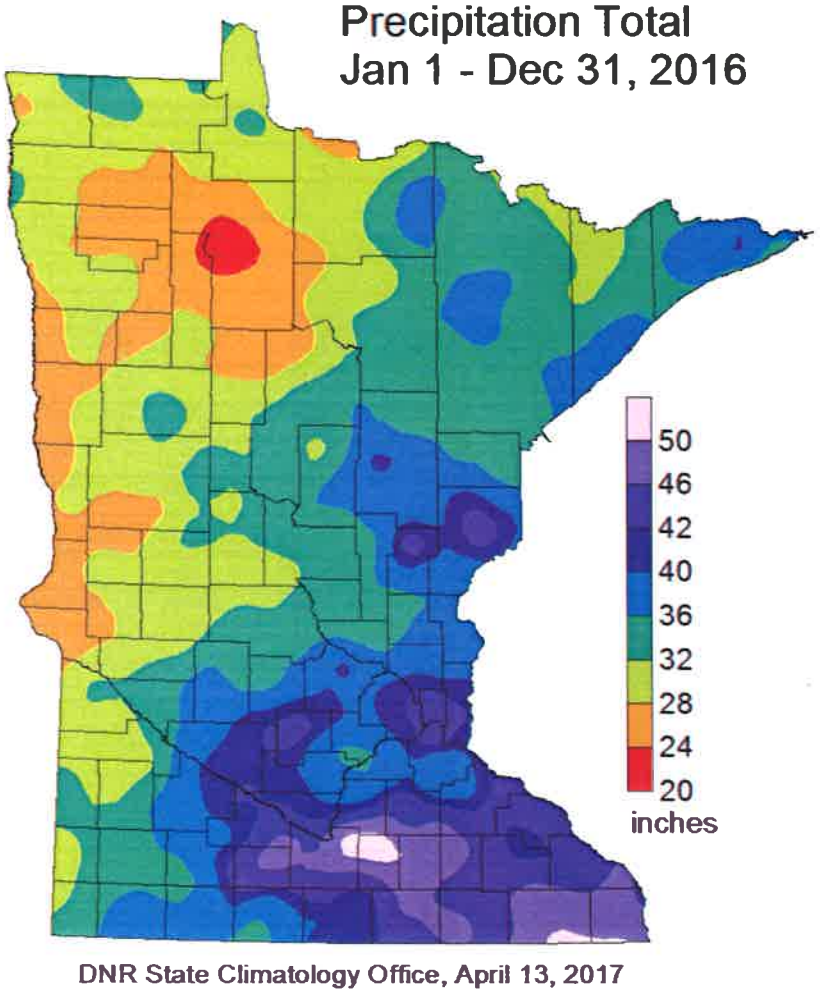
2016 Water Year Summary

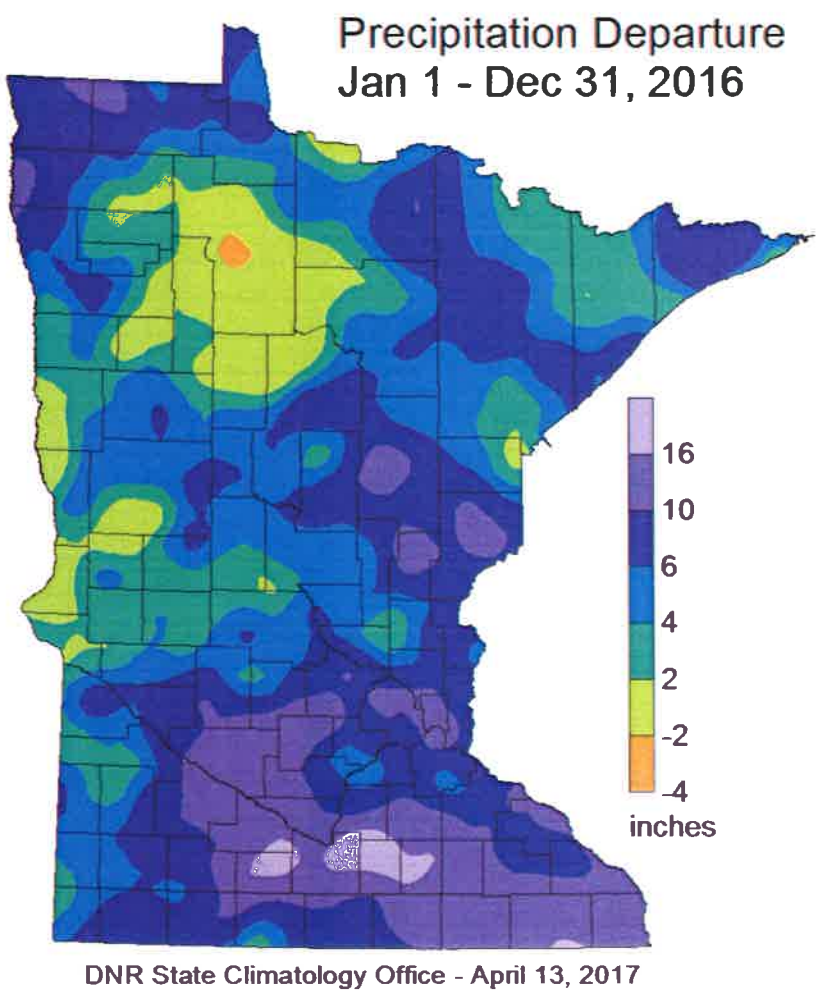
2016 PRECIPITATION

The year was characterized as having above average moisture. Yearly average precipitation was between 6 and 16 inches above normal in various portions of the Two Rivers Watershed District. The following maps, tables, and associated graphics show the rainfall, stream flows, and departures from normal.

Township & Section	January	February	March	April	May	June	July	August	September	October	November	December	Total
Davis 3- J. Dz.	NR	NR	0.71	1.74	3.60	6.58	5.23	2.38	4.37	1.38	0.30	0.27	26.56
Spring Brook 25 - J.D.	NR	NR	NR	1.41	4.00	7.58	5.34	2.98	5.13	NR	NR	NR	26.44
Norway 21- D. Olson	NR	NR	NR	1.15	4.15	5.28	4.97	2.61	4.21	1.83	NR	NR	24.20
Teien 12 - C. M.	NR	NR	1.6	2.10	3.63	6.61	5.86	3.27	NR	NR	NR	NR	23.07
Teien 28 - T. D.	0.16	0.23	NR	1.66	4.57	6.39	5.72	2.10	2.19	1.26	0.78	NR	25.06
Teaner 31- M.C.	NR	NR	NR	1.62	3.01	6.74	4.57	1.76	4.01	1.49	NR	NR	23.20
Juoiter 18 - R. P.	NR	NR	NR	1.25	4.15	5.95	6.36	2.41	4.81	1.52	NR	NR	26.45
Skane 5 - M. S.	NR	NR	1.48	NR	2.06	5.26	4.74	2.65	4.23	1.06	0.88	1.87	24.23
Svea 23- K.K	0.34	0.15	0.97	1.69	3.88	6.26	5.27	3.52	4.27	1.64	0.79	1.28	30.06
Percv 14 -A. J.	NR	NR	NR	NR	3.47	6.28	6.33	2.81	4.59	1.84	NR	NR	25.32
Thomoson 12 - Markit	NR	NR	NR	1.88	2.39	5.42	5.91	2.65	4.19	1.39	1.09	NR	24.92
Hallock 13 - TRW	0.22	0.22	1.08	1.52	2.39	4.62	5.10	3.05	4.21	1.20	NR	NR	23.61
North Red River 9 - B. Li.	0.18	0.19	1.12	2.19	2.72	5.08	5.18	3.02	4.38	1.35	0.96	1.95	28.32
Caribou 30- B. Weleski	0.14	0.28	1.04	1.90	2.96	6.07	6.94	3.67	3.69	1.73	1.04	1.53	30.99
Granville 13 - B. L.	0.25	0.33	1.06	2.33	2.54	6.05	8.09	3.36	5.86	1.46	1.06	2.03	34.42
Hampden 24- CW. N.	0.41	0.21	0.93	0.40	2.20	3.92	4.50	2.54	4.15	1.48	NR	NR	20.74
Hill 5- B. D.	0.15	0.26	0.87	2.27	2.77	6.30	4.92	2.85	3.92	1.52	1.03	1.50	28.36
St. Joseoh 4 - J. W.	NR	NR	NR	2.67	3.27	5.15	5.92	2.87	7.40	1.75	1.03	NR	30.06
Richardville 10 - J.P.	0.20	0.33	0.86	2.26	2.54	4.26	6.65	2.42	6.44	1.49	0.90	1.85	30.20
St. Vincent 24 - K.W.	NR	NR	NR	2.12	2.08	6.10	5.77	2.18	3.42	1.21	NR	NR	22.88
St Vincent 2 - A. H.	NR	NR	0.88	2.55	2.47	5.50	5.28	2.21	3.46	1.55	0.85	NR	24.75
South Red River - N. P.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.00
AVQ Kamra111Vlonnors	U.LJ	U.£4	l.U::>	U:lJ	J.£4	t:5.U/	b.l:M	J.J/	4.otj	1.00	U.t1	1.75	31.Uo
NR = No Report Submitted for													

2016 Kittson County Rainfall
Source: Kittson Soil & Water Conservation District

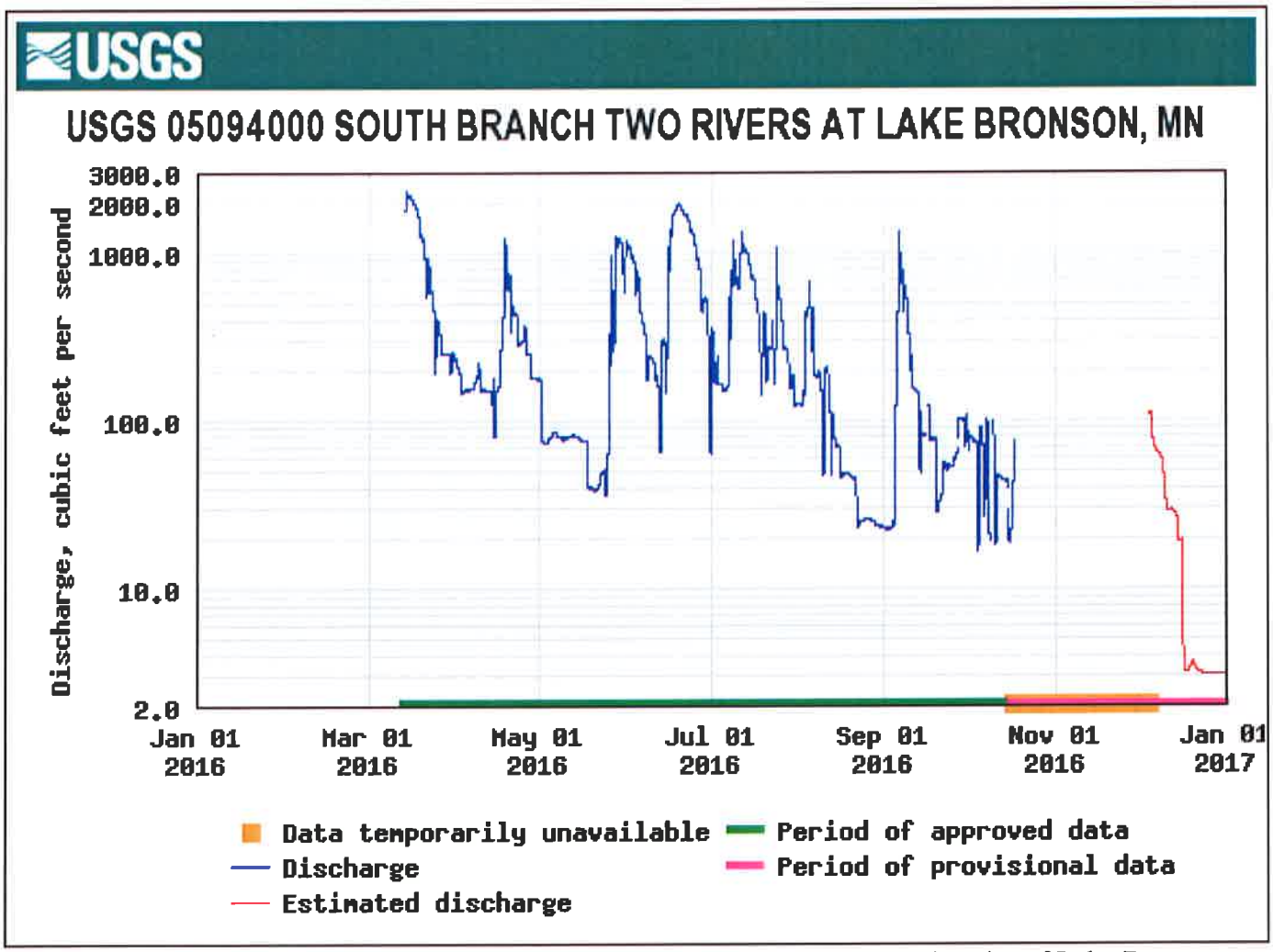




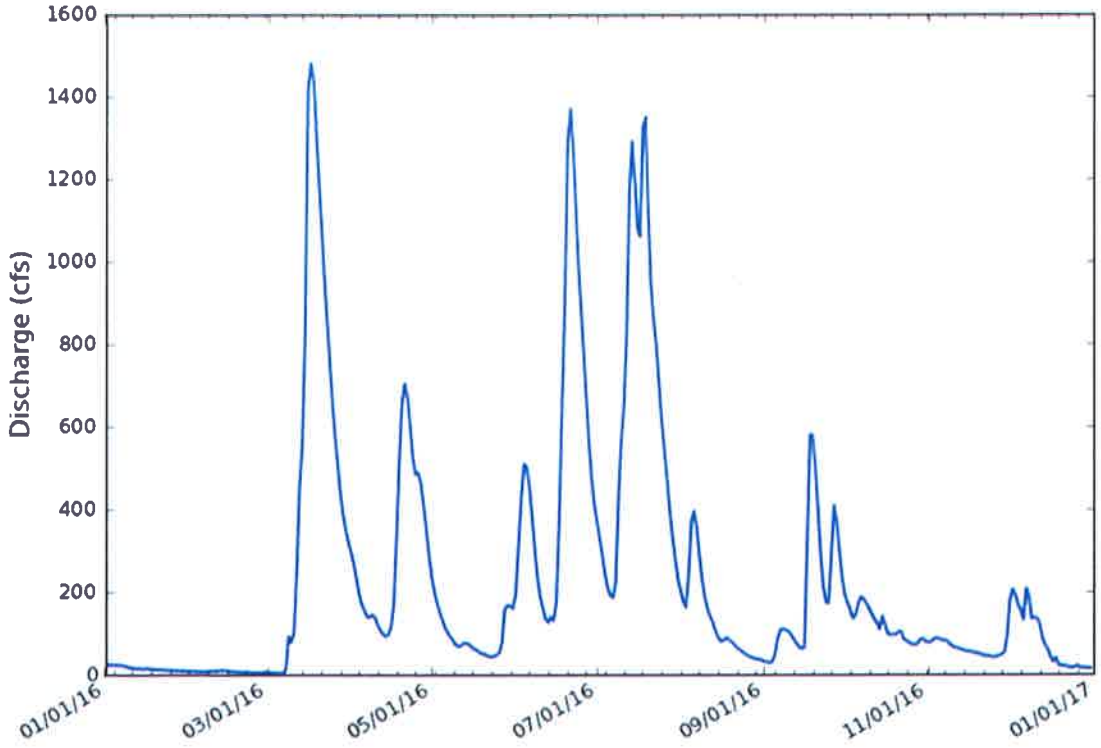
Source - Minnesota Climatology Working Group: http://climate.umn.edu/

2016 STREAM FLOW

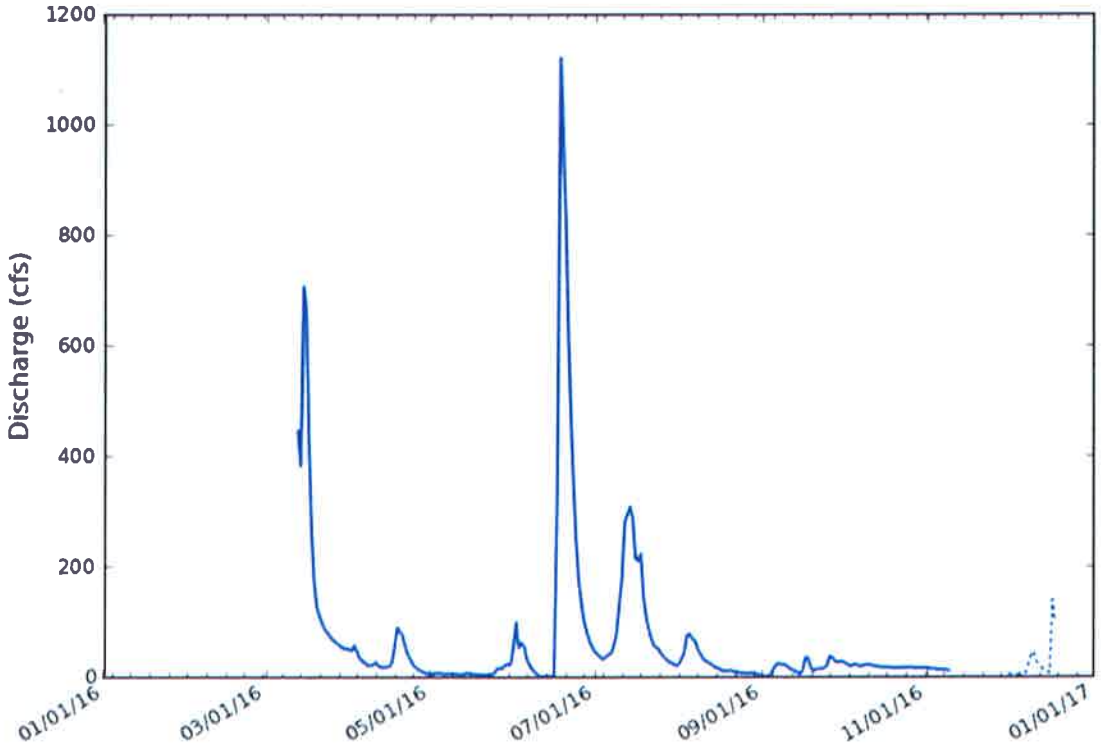
Stream flow and water levels throughout the year were varied by location. The following hydrographs depict streamflows within the Watershed District during 2016. A wet spring led to sustained flows up until July and August, followed by a drier period.



2016 Stream Flows in Cubic Feet Per Second for South Branch Two Rivers at the City of Lake Bronson
Source: US Geological Survey



2016 Stream flow discharge for the North Branch Two Rivers at Kittson County Road #4, downstream of Northcote
Source: MN DNR http://www.dnr.state.mn.us/waters/csg/site_report.html?mode=get_site_report&site=70020002



2016 Stream flow discharge for the Unnamed Coulee at Kittson CSAH #1, Section 19, Skane Township, Kittson County, MN
Source: MN DNR - http://www.dnr.state.mn.us/waters/csg/site_report.html?mode=get_site_report&site=69014001

OBJECTIVES FOR 2017

PROJECT ACTIVITY

Inspection and maintenance will be done on all existing projects. Normal maintenance activities include mowing of right of way, removal of brush, spraying vegetation, beaver removal and other obstructions, and repair of any sloughing or erosion and damage to any structures.

Kittson County Ditch #21 Diversion Improvement - A project petition was received in 2016 to improve an existing ditch. Following ditch law, MN Statute 103E, an engineer was appointed, a public hearing was held, and viewers were appointed. This project will continue through the process in 2017.

IMPOUNDMENTS

Klondike Clean Water Retention Project #11 – The District in 2017 will be working on a federal environmental analysis through the PL 566 program, completing a fen management plan, permitting and environmental concerns, and funding issues. Tentatively it is hoped that this phase will be completed in one to two years and phase one construction could be undertaken in 3 to 4 years.

Polonia Clean Water Retention Project #12 (Quick) – The 'Quick' project will continue to be jointly developed with the Natural Resources Conservation Service. This is a wetland restoration and flood control project on over 1,500 acres located in Polonia Township, Roseau County. The purpose of the project is to restore wetlands, habitat, and provide flood control. Plans and specifications for the site will be developed, permits will be applied for, and construction will hopefully be underway by 2018.

PROGRAM ACTIVITY

Stream Flow Monitoring: Stream flow and velocities will continue to be monitored and recorded for selected sites on the rivers, coulees, and ditches. The District will continue to recruit volunteers to read and record staff gage information for each site. Stream flows and velocities will be measured by District staff at each site during runoff events and data will be reported to interested agencies and persons, including the National Weather Service, DNR, and various other state and local agencies. The long-range goal is to record data not only for the high flow events but for summer low flows as well.

Water Quality Monitoring:

The Lower Red Watershed Restoration and Protection Plan – watershed study will proceed to year 7 in 2017. This is a study of the unnamed coulee system and series of legal ditches that include the Kennedy coulee and the JD 10 systems. It is funded by the MN Pollution Control Agency, and is a collaborative effort between the Joe River, Two Rivers, and Middle-Snake-Tamarac Rivers Watershed Districts. The process will involve analysis of existing data, collection of additional data, public information

meetings, identification of sources of impairments, and implementation of correction strategies.

Two Rivers Watershed Restoration and Protection Plan – This study, similar to the Lower Red WRAP, will proceed with year 6 in 2017. Water quality data will be analyzed, potential impairments will be identified, and further monitoring of geomorphology and streamflow will be done.

Other Grants: Work will continue with the 'Lake Bronson Upstream' grants.

Geographic Information Systems: Data will continue to be collected and input into the District's Geographic Information System. Data sets will continue to be developed, including culvert inventory, LiDar, drainage areas, water quality, stream flow, and information regarding the ditch systems administered by the District. This is an ongoing project that will be continued from year to year.

Permits: The District will continue to review permit applications for projects that affect the water resources of the District and permits will be approved accordingly.

Newsletters: The District newsletter will continue to be published quarterly in cooperation with the Kittson Soil & Water Conservation District. This is an excellent way to communicate to the public the various programs, projects, and water management initiatives being contemplated by the District.

Education: The District will continue to support and participate in activities for students, specifically the Envirothon and River Watch. These are outdoor, hands on, real world water quality and environmental experiences for high school students.

ADMINISTRATIVE ACTIVITIES

The District will continue to employ a full time District Administrator, who will be responsible to keep the meeting minutes, financial reports, ditch inspection reports, and all other paperwork of the District. In addition, the administrator will be required to organize and file all information regarding any programs, projects, or activities of the District. The Administrator will also perform field investigations, data collection, and other technical duties as determined by the Board of Managers, and will represent the District at local, regional and state meetings with government agencies, legislators, and the public.

The District will also continue employing a permanent, full time Technician. The position performs surveying, monitoring and inventory, operation of impoundments, data management, reporting, permit review, and other duties as dictated by the Administrator and the Board of Managers.

DITCHES

All District ditches will be inspected in 2017. The Middle Branch Project, North Branch Project, and State Ditch $85 Improvement will be surveyed. A maintenance schedule will be followed for each ditch, which will include cattail and brush spraying, beaver and beaver dam eradication, sediment removal, repair of any damages, and other activities as necessary.

BUDGET

The District held a budget hearing in September 2016 to review, adopt, and approve an administrative budget for 2017. The approved budget is listed below. The TRWD levied taxes in the amount of $250,000 for payable 2016.

Administrative Budget	2017 Adopted
Administrative	95,700
Auto Expense	3,000
Capital Outlay	5,000
Conferences & Meetings	12,000
Dues & Subscriptions	2,500
Engineering	15,000
Information & Education	1,500
Insurance	4,500
Manager's Per Diem & Expense	16,000
Office Supplies & Miscellaneous	2,000
Payroll Expense	34,210
Postage & Delivery	1,000
Printing & Advertising	1,000
Professional & Legal	15,000
Rent	11,500
Stream Gage	3,000
Telephone	1,400
Water Quality	1,000
Totals	225,310

FINANCIAL SUMMARY

The following pages contain selected information from the annual audit for the Two Rivers Watershed District as supplied in accordance to state law by the certified public accounting firm of Brady Martz & Associates, P.C. This audit covers the period of January 1, 2016 to December 31, 2016. A complete version of the audit is available upon request.

TWO RIVERS WATERSHED DISTRICT
STATEMENT OF CASH RECEIPTS, DISBURSEMENTS AND CHANGES IN FUND BALANCE
GOVERNMENTAL FUNDS
FOR THE YEAR ENDED DECEMBER 31, 2016

	General	Capital Projects Fund	Total
RECEIPTS			
Taxes	$ 204,966	$ 228,108	$ 433,074
Special assessments	-	161,014	161,014
Intergovernmental:			
State	8,168	192,599	200,767
Federal	-	14,706	14,706
Local	2,141	-	2,141
Rents	-	136,006	136,006
Interest	3,243	-	3,243
Other	7,054	-	7,054
TOTAL RECEIPTS	225,572	732,433	958,005
DISBURSEMENTS			
General and administrative	213,540	22,572	236,112
Maintenance projects	-	269,078	269,078
Flood control projects	-	886,645	886,645
Drainage projects	-	36,118	36,118
TOTAL DISBURSEMENTS	213,540	1,214,413	1,427,953
Excess Revenue and Other Sources Over (Under) Expenditures and Other Uses	12,032	(481,980)	(469,948)
Fund Balance - January 1	251,472	717,229	968,701
Fund Balance - December 31	$ 263,504	$ 235,249	$ 498,753

See Notes to the Financial Statements

TWO RIVERS WATERSHED DISTRICT
BUDGETARY COMPARISON SCHEDULE – CASH BASIS
GENERAL FUND
FOR THE YEAR ENDED DECEMBER 31, 2016

	Budget Amounts		Actual	Final Budget to Actual
	Original	Final	Amounts	Variance
RECEIPTS				
Property taxes:				
Roseau County	$ 41,230	$ 41,230	$ 38,562	$ (2,668)
Kittson County	165,336	165,336	160,510	(4,826)
Marshall County	5,934	5,934	5,894	(40)
Total property taxes	212,500	212,500	204,966	(7,534)
Intergovernmental:				
State:				
MV and other credits	-	-	8,168	8,168
Local	-	-	2,141	2,141
Total Intergovernmental	-	-	10,309	10,309
Other:				
Interest	-	-	3,243	3,243
Other	-	-	7,054	7,054
Total Other	-	-	10,297	10,297
TOTAL RECEIPTS	212,500	212,500	225,572	13,072
DISBURSEMENTS				
Administrative:				
Salaries and benefits	107,000	107,000	116,612	(9,612)
Conference and meetings	12,000	12,000	11,473	527
Manager's per diem and expenses	16,000	16,000	13,388	2,612
Dues and subscriptions	2,500	2,500	2,009	491
Information and education	1,100	1,100	4,803	(3,703)
Engineering	20,000	20,000	16,601	3,399
Legal and accounting	15,000	15,000	16,170	(1,170)
Rent	11,500	11,500	11,478	22
Insurance	4,500	4,500	4,886	(386)
Telephone	1,400	1,400	1,153	247
Office supplies and miscellaneous	3,000	3,000	8,555	(5,555)
Postage and delivery	1,000	1,000	309	691
Printing and advertising	1,000	1,000	534	466
Vehicle expense	3,000	3,000	2,902	98
Capital outlay and projects	8,000	8,000	2,667	5,333
Total Administrative	207,000	207,000	213,540	(6,540)

TWO RIVERS WATERSHED DISTRICT
BUDGETARY COMPARISON SCHEDULE – CASH BASIS
GENERAL FUND – CONTINUED
FOR THE YEAR ENDED DECEMBER 31, 2016

	Budget Amounts		Actual	Final Budget to Actual
	Original	Final	Amounts	Variance
Projects:				
Stream gauging	$ 3,000	$ 3,000	$ -	$ 3,000
Water quality	3,000	3,000	-	3,000
Total Projects	6,000	6,000	-	6,000
TOTAL DISBURSEMENTS	213,000	213,000	213,540	(540)
Excess Revenue and Other Sources Over (Under) Expenditures and Other Uses	(500)	(500)	12,032	12,532
Fund Balance, January 1	251,472	251,472	251,472	-
Fund Balance, December 31	$ 250,972	$ 250,972	$ 263,504	$ 12,532

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BUDGET NOTES

Budgets are prepared by the District on the same basis of accounting used in the preparation of its financial statements. The budget presented in this report is presented in accordance with the cash basis of accounting. All appropriations lapse at year-end.

The budget is adopted through passage of a resolution by the board. Administration can authorize the transfer of budgeted amounts with the general fund. The State imposed an administrative budget limit on watershed districts of $250,000 for the year ended December 31, 2016.

TWO RIVERS WATERSHED DISTRICT
SCHEDULE OF FUND BALANCES BY PROJECT – CASH BASIS
DECEMBER 31, 2016

		Receipts and Other Sources					Disbursements			
	Fund Balance 1/1/2016	Taxes and Special Assessments	MV Credit	Capital & Operating Grants	Other Receipts	Total	Administrative	Direct	Total	Fund Balance 12/31/2016
GENERAL FUND:										
Administrative	$ 251,472	$ 204,966	$ 8,168	$ 2,141	$ 10,297	$ 225,572	$ 213,540	$ -	$ 213,540	$ 263,504
CAPITAL PROJECTS FUND:										
Administrative Construction	1,991,732	228,108	9,090	-	-	237,198	20,460	2,112	22,572	2,206,358
Project Development	(5,109)	-	-	-	-	-	-	-	-	(5,109)
Maintenance:										
Middle Branch	29,972	10,311	-	-	-	10,311	720	12,458	13,178	27,105
North Branch	30,866	7,465	-	-	-	7,465	1,320	24,657	25,977	12,354
Nereson	(640)	-	-	-	-	-	360	-	360	(1,000)
Ross	27,762	-	-	-	29,925	29,925	5,100	17,110	22,210	35,477
TRWDRPP TMDL	(10,819)	-	-	84,746	-	84,746	3,075	69,531	72,606	1,321
LRRWRPP	(918)	-	-	98,763	-	98,763	1,950	102,790	104,740	(6,895)
KCWRP	-	-	-	-	106,081	106,081	-	30,007	30,007	76,074
Flood Control:										
Nereson	-	-	-	-	-	-	720	-	720	(720)
Ross #7 Impoundment	(1,476)	-	-	-	-	-	-	-	-	(1,476)
Polonia	-	-	-	-	-	-	-	10,898	10,898	(10,898)
Kennedy #6	(86,653)	8,551	-	-	-	8,551	-	-	-	(78,102)
Springbrook	(269,281)	24,358	-	-	-	24,358	720	2,376	3,096	(248,019)
Springbrook PL 566	(38,725)	-	-	-	-	-	-	-	-	(38,725)
Polonia-Quick	(287,953)	-	-	-	-	-	160	10,701	10,861	(298,814)
Quick	(63,068)	-	-	-	-	-	-	70	70	(63,138)
Klondike	(8,803)	-	-	-	-	-	-	-	-	(8,803)
Project Devel KCPRP 11	(585,935)	-	-	-	-	-	-	824,466	824,466	(1,410,401)
KCWRP 11	(846)	-	-	14,088	-	14,088	-	36,534	36,534	(23,292)
Drainage:										
Roseau County Ditch #4	(17,090)	16,139	-	-	-	16,139	4,920	-	4,920	(5,871)
Kittson County Ditch #10	21,726	8,154	-	-	-	8,154	10,200	1,995	12,195	17,685
Dewey #5	(6,260)	9,701	-	-	-	9,701	160	-	160	3,281
Judicial Ditch #3	17,951	9,773	-	-	-	9,773	240	1,520	1,760	25,964
State Ditch #85 Improvement	17,865	4,001	-	-	-	4,001	-	-	-	21,866
Dewey #5 Improvement	(4,782)	-	-	-	-	-	-	-	-	(4,782)
Soler #4	20,048	-	-	-	-	-	3,440	1,687	5,127	14,921
Judicial Ditch #10	(64,623)	38,716	-	618	-	39,334	(4,360)	4,944	584	(25,873)
State Ditch #49	7,167	9,670	-	-	-	9,670	240	1,367	1,607	15,230
Drainage water manage grant	(10,000)	-	-	-	-	-	-	-	-	(10,000)
Redetermination Kittson CD #7	(880)	-	-	-	-	-	-	-	-	(880)
Kittson County Ditch #7	16,001	14,175	-	-	-	14,175	480	2,090	2,570	27,606
Kittson CD 21 Improvement	-	-	-	-	-	-	-	7,195	7,195	(7,195)
Total Capital Project Fund	717,229	389,122	9,090	198,215	136,006	732,433	49,905	1,164,508	1,214,413	235,249
TOTAL	$ 968,701	$ 594,088	$ 17,258	$ 200,356	$ 146,303	$ 958,005	$ 263,445	$ 1,164,508	$ 1,427,953	$ 498,753