

**BOIS DE SIOUX WATERSHED DISTRICT**  
704 Highway 75 South  
Wheaton, MN 56296-1304  
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# **Calendar Year 2014 Annual Report**



**BOIS DE SIOUX WATERSHED DISTRICT  
ANNUAL REPORT  
CALENDAR YEAR 2014**

**BOARD OF MANAGERS**

<b><u>NAME</u></b>	<b><u>COUNTY</u></b>	<b><u>PHONE</u></b>	<b><u>TERM EXPIRES</u></b>	
<i>Allen Wold</i>	Traverse	320-563-8743	2017	
<i>Doug Dahlen</i>	Grant	320-766-5794	2016	
<i>Jerome Deal</i>	Traverse	320-563-8377	2016	President
<i>Kurt Erlandson</i>	Otter Tail	218-739-4561	2017	
<i>Linda Vavra</i>	Stevens	320-677-2586	2016	Treasurer
<i>Scott Gillespie</i>	Big Stone	320-748-7149	2015	Secretary
<i>John Kappahn</i>	Grant	218-685-4604	2017	Vice President
<i>Jason Beyer</i>	Wilkin	218-651-0135	2015	
<i>Ron Vold</i>	Traverse	320-748-7555	2015	

**CONSULTING STAFF**

**Charles L. Anderson** (thru 9-2014)

Engineer  
WSN Engineering  
610 Filmore  
Alexandria, MN 56308  
320-762-8149 P  
320-762-0263 F

**Thomas C. Athens**

Attorney  
Svingen, Athens & Russell  
125 South Mill Street  
Fergus Falls, MN 56537  
218-998-4088 P  
218-998-4087 F

**Chad L. Engels** (9-2014 thru 12-2014)

Engineer  
Moore Engineering Inc.  
925 10<sup>th</sup> Avenue East  
West Fargo, ND 58078  
701-499-5810

**DISTRICT STAFF**

**Jon Roeschlein**

District Administrator  
1603 1st Avenue North  
Wheaton, MN 56296

**Monica Wilson**

Assistant Administrator  
901 6th Avenue North  
Wheaton, MN 56296



## **OFFICE**

### **Bois de Sioux Watershed District**

704 Highway 75 South  
Wheaton, MN 56296  
320-563-4185 P  
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bdswd@frontiernet.net

## **Project Team Members**

The Bois de Sioux Watershed District is a subwatershed of the Red River of the North basin. In December of 1998, many agencies and organizations signed the Red River Basin Mediation Agreement which outlined how projects will be developed in the Red River Valley in Minnesota. That agreement states that the districts within the basin will attempt to balance each project design with Flood Damage Reduction (FDR) benefits and Natural Resource Enhancements (NRE). Part of that process requires that each district establish a Project Team for each project containing members from local, regional, state and federal agencies along with environmental organizations and local landowners.

The Bois de Sioux Watershed District has appointed these members to eight (8) Project Teams. Current team membership lists are located in the district office.

Project Team meetings were generally held the fourth (4<sup>th</sup>) Tuesday and/or Wednesday of each month with one team meeting in the morning and the other meeting in the afternoon. Teams only met as necessary to discuss items and issues relating to each specific project area.

## **2014 Board Meetings**

*January 9 & 23, 2014*  
*February 20, 2014*  
*March 27, 2014*  
*April 17, 2014*  
*May 15, 2014*  
*June 26, 2014*

*July 17, 2014*  
*August 21, 2014*  
*September 18, 2014*  
*October 16, 2014*  
*November 20, 2014*  
*December 18, 2014*

The Bois de Sioux Watershed District Board of Managers meets regularly on the third Thursday of each month, generally for a half of a day starting at 8:00 a.m. April through October and at 9:00 a.m. November through March.

### **Background**

The Bois de Sioux Watershed District was established on May 11, 1988 by order of the Minnesota Board of Water and Soil Resources (BWSR). The district represents an area of about 1,420 square miles and includes Traverse County (38%), Grant County (27%), Wilkin County (14%), Stevens County (10%), Big Stone County (7%) and Otter Tail County (4%).

The district includes the drainage basins of Lake Traverse and the Bois de Sioux River within the State of Minnesota. The major tributaries are the Mustinka River and numerous creeks in the south and east and the Rabbit River to the north.

### **Board Activity**

The Otter Tail County Board of Commissioners appointed Kurt Erlandson of Fergus Falls, MN as the Otter Tail County board manager to a three year term, set to expire in 2017.

The Traverse County Board of Commissioners appointed Allen Wold of Wheaton, MN as the Traverse County board manager to a three year term, set to expire in 2017.

The Grant County Board of Commissioners re-appointed John Kapphahn of Elbow Lake, MN as the Grant County board manager to a three year term, set to expire in 2017.

The board held twelve (12) regular monthly meetings in 2014. Numerous Staff meetings were also conducted for purposes of reviewing issues identified at the board meetings and to meet with landowner groups in an informal setting to discuss legal ditch repairs, permit activity, and other surface water related problems. Two Special Board Meetings were held on May 27, 2014 and September 9, 2014.

The board continued with their membership to the Red River Watershed Management Board. Jerome Deal was selected as the Bois de Sioux Watershed District representative with Jon Roeschlein serving as the alternate. Jerome also was co-chair of the Flood

Damage Reduction Work Group for the implementation of the Red River Basin Mediation Agreement.

Jerome Deal continued to serve as a member representing Region I for the Minnesota Association of Watershed Districts Board of Directors. Linda Vavra was also selected to serve on the Board of Directors representing Region I.

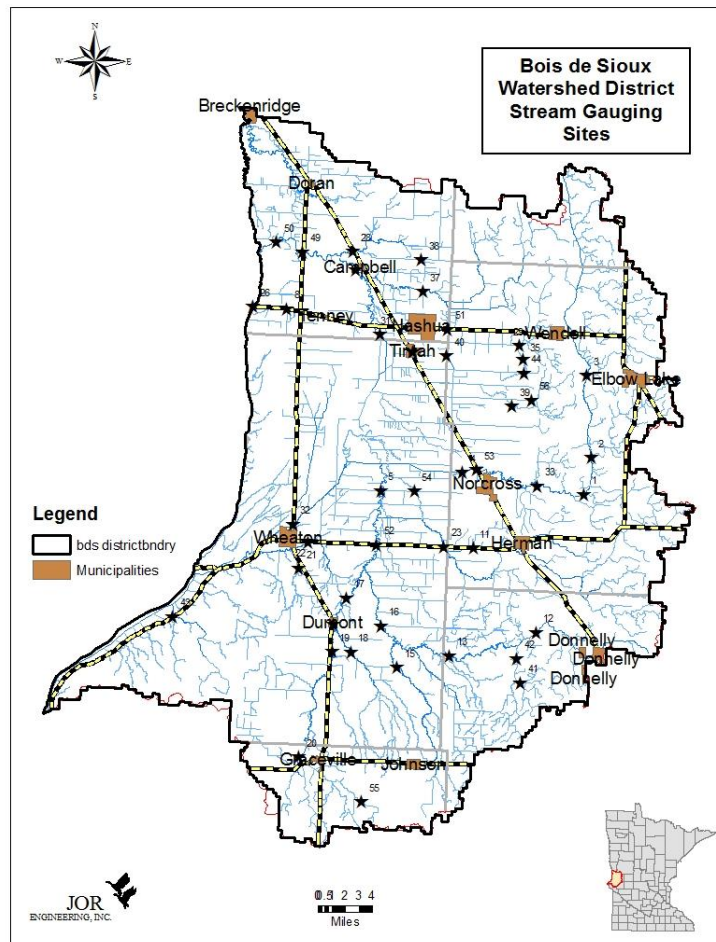
In 2010 the Red River Retention Authority (RRRA) was formed through a joint powers agreement between the Red River Watershed Management Board (RRWMB) in Minnesota and the North Dakota Joint Water Resources Board (NDJWRB). Jerome Deal was appointed as a member to the RRRA representing the RRWMB.

## Stream Gauging

In 2014 we had fifty-four (54) gauging sites in our Stream Gage Monitor Program. Twenty nine (29) of those sites were considered active. Two of our gage sites are in South Dakota, on the outlet of Jim Creek, into Lake Traverse. Volunteers that live within the vicinity of each gage do the actual day-to-day monitoring of the stream gage. The program is coordinated through the administrative office. Volunteer readers are compensated at a rate of Seventy-Five Dollars (\$75.00) per gage, per year, to help offset costs for accessing the gage.

Stream Gage data for 2014 has been entered into the computer data base. Data is transferred to the BdSWD Engineer for his review purposes.

Each year, gage readers are asked about the condition of their gauging site. If the gage needs work or there is a request to modify the gage, it is reviewed by the administration and assigned to an engineering technician to investigate, repair, or modify as the case may require.



## **Rules and Regulations**

The Bois de Sioux Watershed District has adopted rules to control watershed activities as required by M.S. 103D.341. These rules lay out a permit process which land owners must follow. Permits are required for any type of work related to new ditching, improved ditching, drainage from one sub-watershed to the other, construction, alteration or removal of any dike, reservoir work, land forming, wetland drainage, work within natural drainage ways, lakes, wetlands and other abutting land and drainage structures. Land owners should contact the Bois de Sioux Watershed District Office for assistance and direction in filing permits.

**FOR A COPY OF THE RULES & REGULATIONS OF THE BOIS DE SIOUX WATERSHED DISTRICT, PLEASE CONTACT THE BOIS DE SIOUX WATERSHED DISTRICT OFFICE OR GO TO:**

**[HTTP://WWW.BDSWD.COM](http://www.bdswd.com)**

**PERMIT APPLICATIONS CAN ALSO BE FOUND ONLINE AT THIS ADDRESS.**

Any land owner that proceeds to do work without a permit, when the project requires one, is subject to a minimum of \$250 After-The Fact Permit Fee plus any Engineering/Attorney Fees incurred in the processing of said permit.

**There were a total of 202 permits processed in 2014.**

The Drainage Committee of the BdSWD reviewed and revised the BdSWD Permit Policies, including a new permit application form. The policies and application form can be found online or by contacting the District Office. The application form was revised to reduce staff time involving permit reviews, thus reducing permit processing costs.

## **Projects and Programs**

### **Impoundment Inventory**

The Bois de Sioux Watershed is continuing its efforts in developing an Impoundment Inventory for the district. This project originally started out being partially funded by the Minnesota Flood Damage Reduction Program. It is intended that this particular project will continue indefinitely as new impoundment locations are identified.

In 2012, the BdSWD completed a 20% Flow Reduction Strategy for the watershed. This study focused on placing storage within the Bois de Sioux Watershed District. A total of 26 sites or potential projects were identified within the District. The storage was placed in the Lake Traverse and Rabbit River basins. Site selection was based primarily on the need for local flood control. Flooding problems are widespread in the Bois de Sioux



Watershed District. In 2013, the BdSWD completed an updated version of this study, expanding the Bois de Sioux watershed within North and South Dakota. The Watershed Board looks forward to partnering with regional interests to help solve its local flooding problems in ways that will also benefit the mainstem. This strategy will promote local and regional support for the projects. A copy of the document is available upon request from the district office.

### **North Ottawa Impoundment Project**

The Flood Damage Reduction portion of the North Ottawa Project was completed in 2009 and the impoundment was fully operational for FDR in the Spring of 2010.



A full operations report is included in this annual report, and is available in the BdSWD Office.

The Board custom farmed the land in pools A and B for ag production in 2014. Farming will continue in these two pools until such time that phase 5 construction is complete and operations dictate cessation. Due to heavy June rains, pools A and B were used for flood control and crop production was minimal. The District was able to recover some of the crop losses by planting, harvesting, and marketing hay millet. Thanks to our custom contractor, Matt Green, and farm manager, Randy Larson for making that happen.

January 26, 2015  
David T. Marshall  
Charles L. Anderson

### **North Ottawa Project 2014 Operation – Hydro Review**

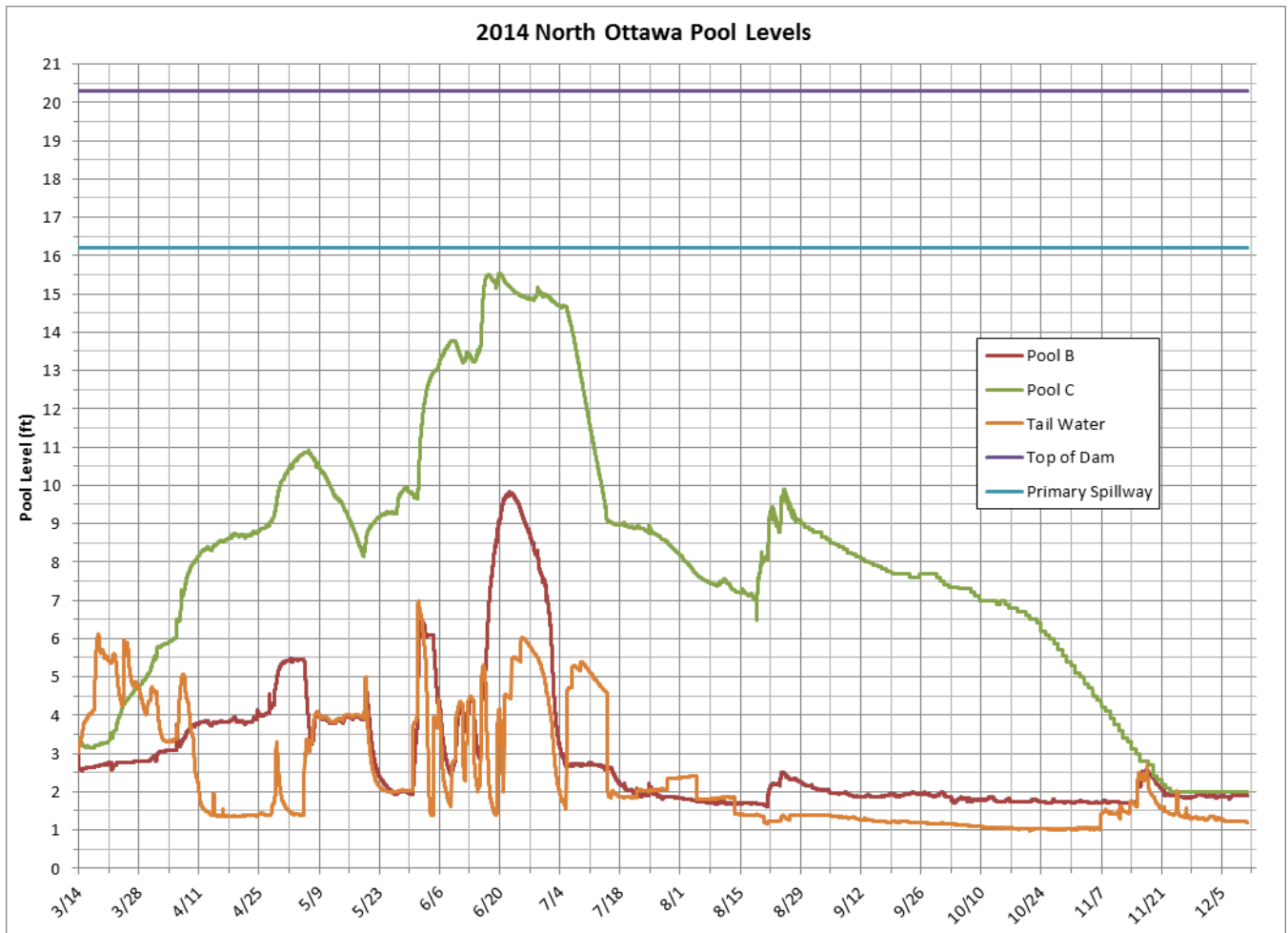
The 2014 operating year at the North Ottawa Project began with all of the gates closed. The runoff began slowly in early March with very little precipitation during the melt. Total inflow to the impoundment during the spring runoff period was about 1700 acre-feet, equivalent to only 0.4 inches of runoff. Release of stored water began from B and C Pools on May 5<sup>th</sup> with the stage in Pool B of 4.8 and Pool C of 10.7. Several rainfall events caused runoff at the end of April, at the beginning of June, throughout the month of June, and again at the end of August. A significant rainfall in late May began on the 31<sup>st</sup> and dumped over 3 inches in 3 hours with 2.7 inches falling in just one hour. Another 1.4 inches fell on June 5<sup>th</sup>, 1.4 inches on June 12<sup>th</sup>, 0.5 inches on June 14<sup>th</sup>, 0.9

inches on June 15<sup>th</sup>, and 1.2 inches on June 19<sup>th</sup>, with a total of 9.87 inches for the month of June. The maximum volume in storage occurred on June 21<sup>st</sup> with about 8100 acre-feet. The total inflow for the year at that point was 13,300 acre-feet which is equivalent to about 3.5 inches of runoff from the watershed. Total inflow for the year was about 17,000 acre-feet or about 4.25 inches of runoff. The historic average annual runoff in this area is about 2.5 inches most of which typically occurs in the spring.

Three level measuring pressure transducers are in place, one each in Pools B and C and the third one at the outlet for tail water levels in JD2. These sensors, along with an automatic rain gauge are attached to a data logger to record the stages and rainfall. The data logger for Pool C was found to be reading incorrectly and was reset on June 22. The data logger is connected to a telemetry device to send the data to a satellite, which allows real time data retrieval from a remote instrument access. Visual readings were taken from staff gages during visits to the site. These readings were compared to the automatic logger to make sure the automatic levels were reading correctly. The pool levels are shown in the graph below. The run out level of Pool B & C outlets are 1.0 foot. The maximum gated pool level is 16.2 feet. The top of dam is at 20.3 feet.

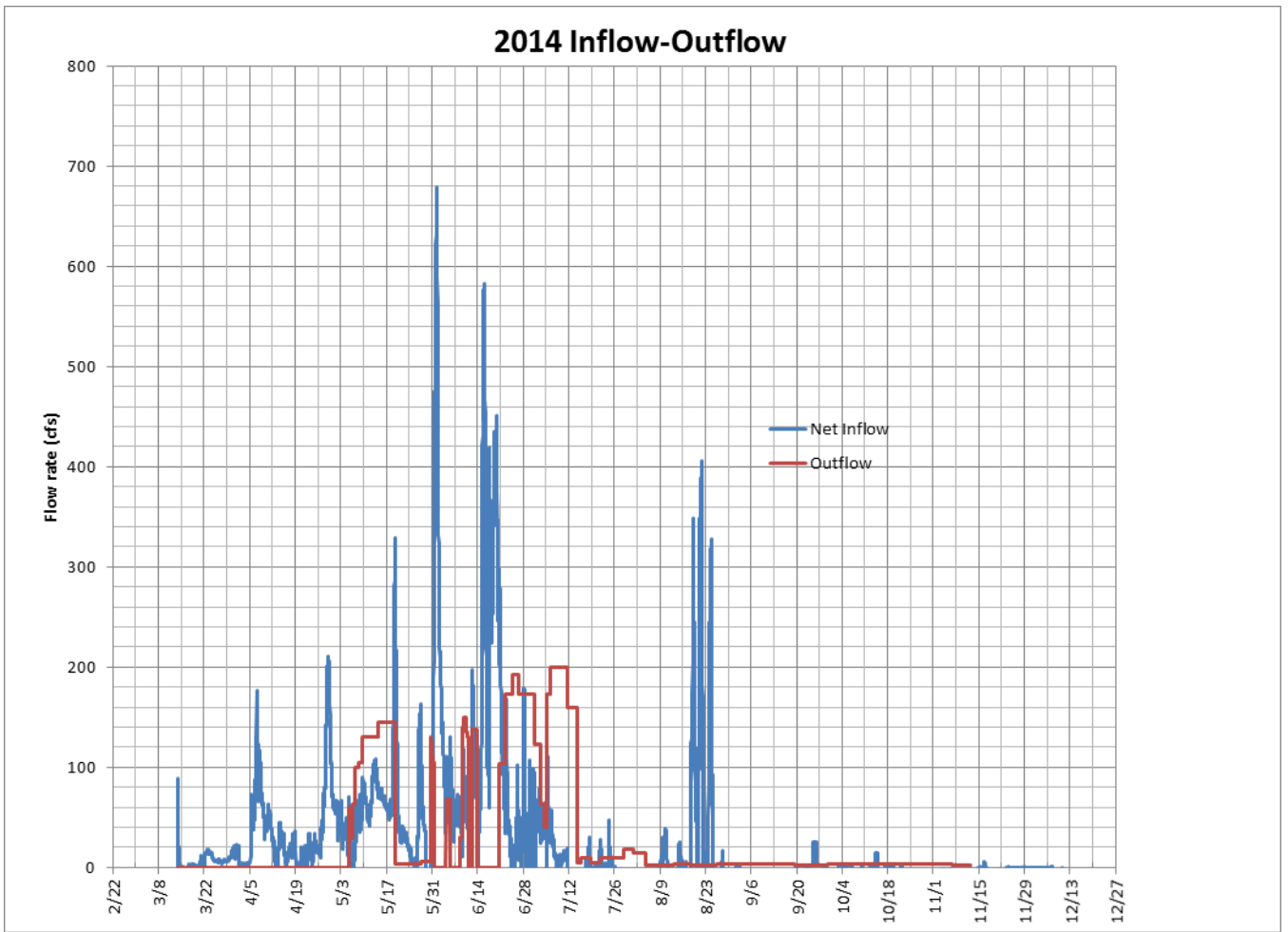
The automatic rain gauge had a total of 23.87 inches of precipitation from the beginning of March to December.

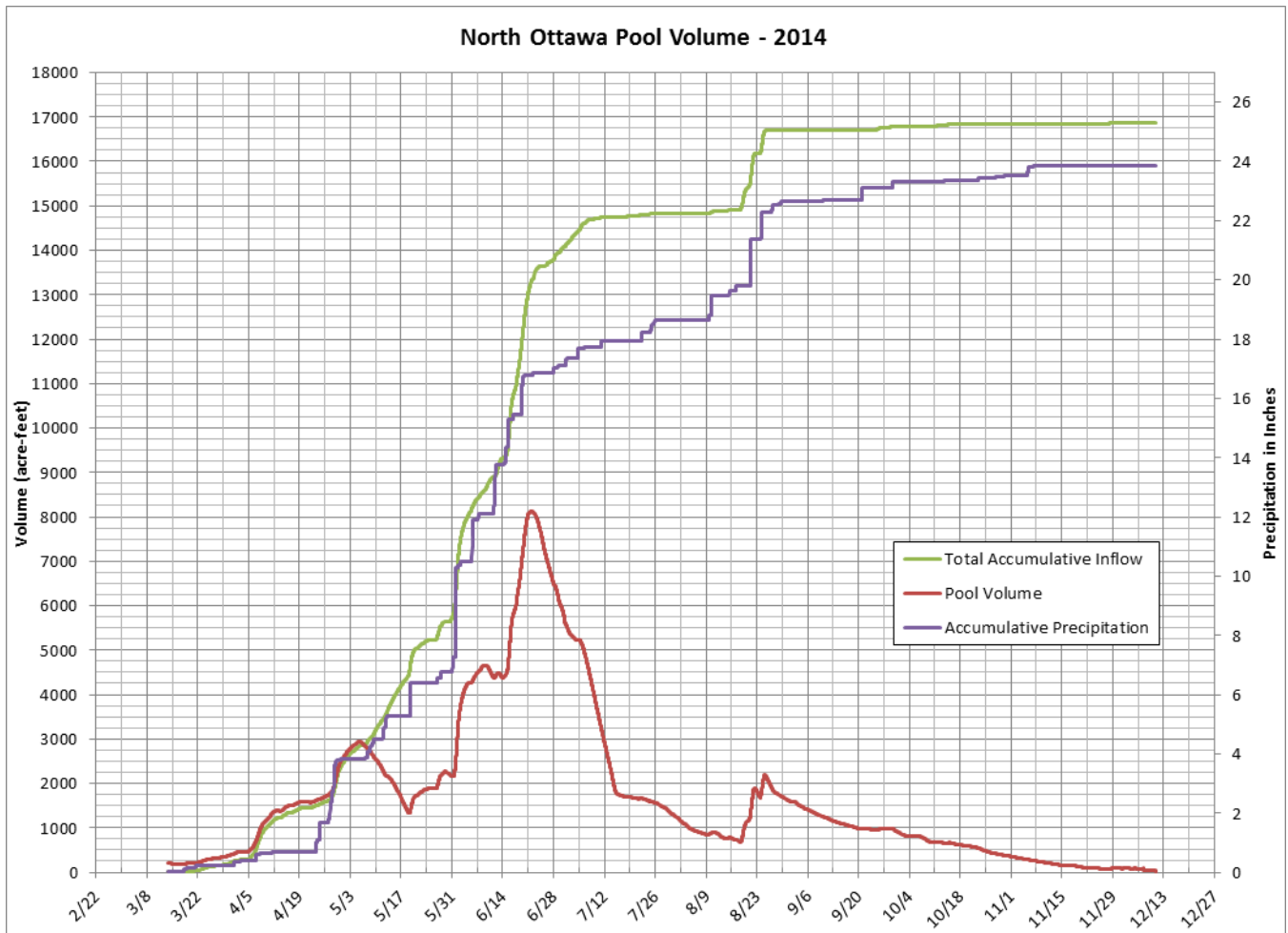
Phase 5B construction which started in the fall of 2012 was completed making the interior structures ready to connect during the next phase of construction. Phase 5C, which will construct the remaining NRE elements of the original impoundment design, began in August. Embankment construction began and WD#3 excavation was completed. Completion is scheduled for September 2015.



Beginning on May 5<sup>th</sup>, Pool C was drawn down with an initial target level of 9 ft. Due to the error on the data logger, the corrected stage when drawdown stopped was about 8.2 on May 19<sup>th</sup>. After the rains in June the A and B Pools were targeted to be drawn down, as quickly as possible without causing downstream flooding, to minimize crop damage in the pools and allow replanting. The drawdown began on June 20<sup>th</sup> and by July 5<sup>th</sup> drawdown on Pools A and B were completed and drawdown was switched to Pool C. It was drawn down to the target stage of 9 at which point releases were slowed. A subsequent runoff event in August increased the stage in Pool C. Stream flow maintenance releases continued throughout the remainder of the open water season. The stage logger in Pool C malfunctioned in August and the stages shown were determined from stage readings taken manually. In mid-November, water in the inlet channel was released thru Pool A to JD2. Pool C released continued to drawdown the pool for the winter.

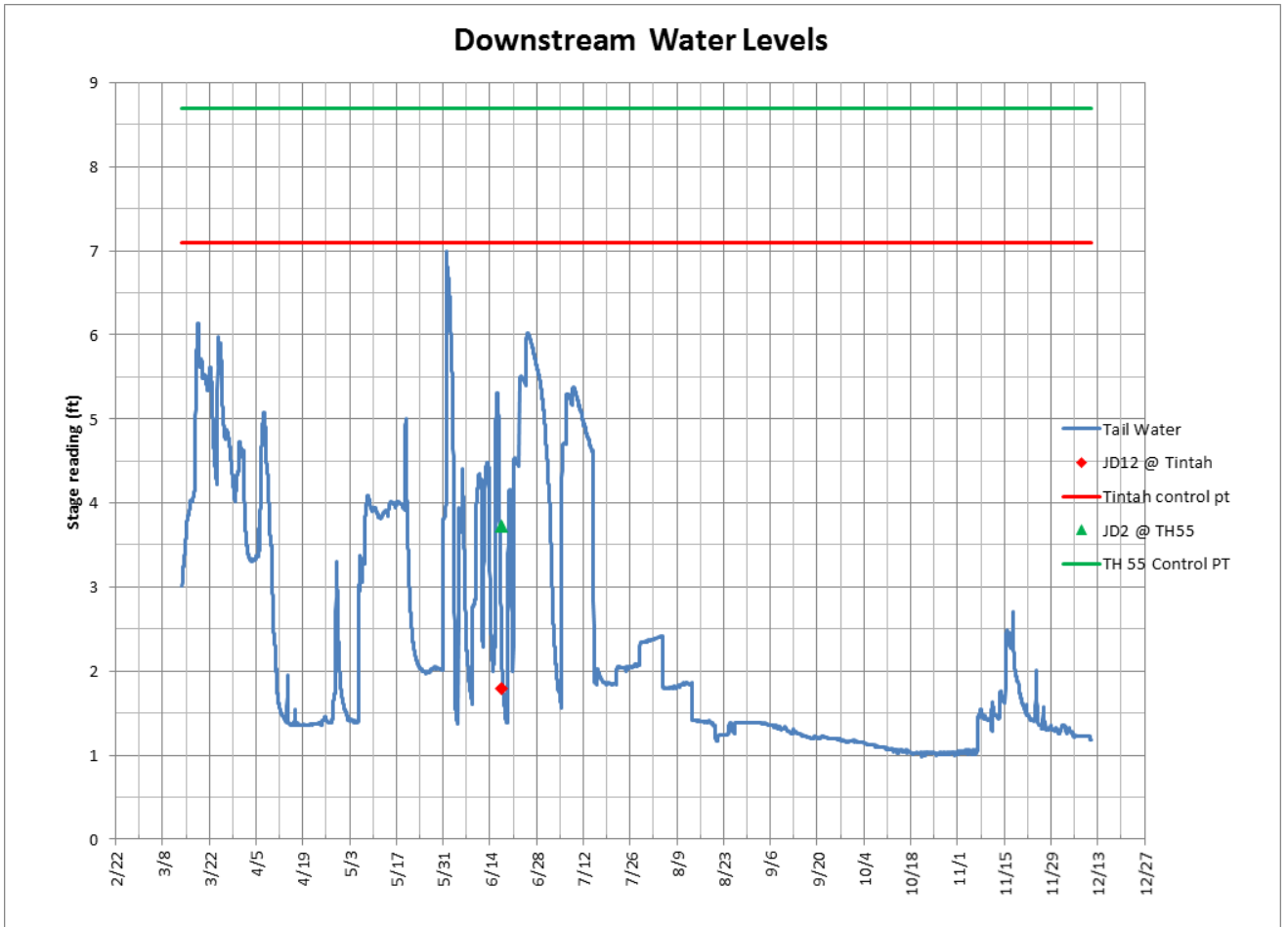
Inflow and outflows hydrographs are shown in the chart below: Outflows are calculated based on gate openings and water level elevations. Inflows are estimated based on change in pool levels. Fluctuation in inflow rates shown may be caused by imprecise pool level measurements and wind effects. Evaporation also lowers pool levels. This results in periods of negative net inflows (not shown on the graph below).





Maximum inflow rates of about 680 cfs occurred on June 1st and about 580 cfs occurred in June 16th following the significant rainfall events discussed earlier. The outlet gates remained closed until May 5<sup>th</sup>. The maximum discharge rate of about 200 cfs occurred in early July.

The chart below shows the tail water stage in JD2. The target level is 5.0 during the growing season and 6.0 during other times. Managing releases with all of the runoff from the June rains was difficult to limit to a stage of 5.0. These operations required multiple gate adjustments based on rain and forecasted events. During the growing season the stage exceeded the target four times, the one occurrence on June 1<sup>st</sup> was due to local runoff from a heavy downpour.



**Moonshine Lakebed Restoration Project**

The BdSWD continues to work to acquire necessary lands for this project area from willing sellers. Until such time that the necessary land rights are obtained for this project, no construction will take place. The Wetland Banking program was discussed in regard to this lakebed restoration project but decided to not utilize this system because of the way the project is being pursued.

In 2014, the land owned by the BdSWD in Moonshine Twp. was re-bid for lease for the crop year 2015.

**Moonshine 24/13**

Land owned by the BdSWD was leased for farming again in 2013. No progress has been made to date with establishing an impoundment in this area. It is the board’s intention to continue to work to establish a small impoundment on this land and land adjacent once land rights issues are worked out with the neighboring landowners. Neighboring landowners have been contacted and talks continue.

**Elbow Lake Project**

This project is driven mainly by local landowners to try to stabilize the water level on Elbow Lake and Samantha Slough. There is consensus that an outlet can be constructed, however some of the details are to be worked out yet like size of tile, where to stop with tile, open ditch alternative, outlet elevation, automatic, manual gate, pump, etc. Discussions continue in an effort to sort out the best alternative. The Elbow Lake Association was formalized in 2010 and is operational.

A concept paper was drafted describing a potential project and the benefits it would provide. The paper is on file in the district office. Discussions revolved around an operating plan that would be agreeable to all parties involved. The group was also working on determining the best location for installing the outlet and gaining landowner permission for placement.

## **Bois de Sioux Watershed District River Watch Program and Activities (2014-2015)**

### **Introduction**

The River Watch (RW) program provides hands-on watershed science education, promotes water resources stewardship, and introduces high school participants to career opportunities in watershed science. The program focuses on education through water quality monitoring, macroinvertebrate and mussel sampling, snow and frost depth studies, and river geomorphology. Campbell-Tintah (C-T), Wheaton, Herman-Norcross, and Clinton-Graceville-Beardsley High Schools have participated in the program. In 2014 Campbell-Tintah and Wheaton high schools were the most active. The other schools were not as active due to teacher availability (turnover and maternity leave).

### **Water Quality Training and Monitoring**

The MPCA, in collaboration with the IWI and the Red River Basin Monitoring Advisory Committee, provide an annual training and certification for all monitoring partners in the Red River Basin, including RW teams. Participants learn field sampling procedures and equipment calibration and maintenance to ensure the scientific integrity of data collected. Campbell-Tintah RW advisor Roy Mayeda and C-T students attended and received certification at this training at U of MN, Crookston in March. For schools unable to attend, IWI staff, Evelyn Ashiamah provides individualized field training until teams are proficient with equipment and methods.

The schools conduct monthly water quality sampling to check the condition of ditches and streams using a multi-parameter sonde to measure water temperature, conductivity, dissolved oxygen and pH. A turbidimeter and a secchi tube are used to determine turbidity and transparency respectively. The students also take site photos and document water quality related observations. Their data are reviewed for quality assurance and then uploaded to the IWI data site ([riverwatch.wq.io](http://riverwatch.wq.io)) and the MN water quality database known as the Environmental Quality Information System (EQuIS).

The overall condition of the water quality at the sites monitored by schools in the BDSWD showed no significant change from last year. It must be noted that the designated uses for the streams and rivers monitored by the River Watch teams are for recreation and aquatic life.

- **Transparency**

Transparency data for the Mustinka River demonstrated partial support of the designated use at the upstream sites (Appendix C), but the downstream sites, from east to west, did not meet the MN state standard ( $\geq 20$  cm). The Rabbit River (both the South Branch and mainstem) failed to meet the standard. Five Mile Creek and its tributary fully supported the designated use. Twelve Mile Creek met the standard at the headwaters but failed to meet the standard at the downstream monitoring sites.

- **Dissolved Oxygen**

Dissolved Oxygen (DO) is an important indicator of water quality. Aquatic organisms depend on oxygen available in the water for survival. The Minnesota DO standard is a minimum of five milligrams per liter (mg/L). Dissolved oxygen levels at most of the sites in the Mustinka River, Five Mile Creek, and Twelve Mile Creek subwatersheds were sufficient to provide fully supporting or partially



supporting designated use ratings (Appendix D). Sites on the Rabbit River mainstem and South Branch were only partially supportive of their designated use with the BdS31 site not meeting the state standard.

- **Hydrogen ion concentration (pH)**

All the sites currently monitored by the RW schools met the MN pH standard of between 6.5 and 8.5 pH for their designated use (Appendix E).

### **River Watch Fall Kick-off and Annual Forum**

River Watch teams from Campbell-Tintah and Wheaton attended a Fall Kick-off training session in Barnesville in November in preparation for the March 2015 RW Forum. The Forum poster theme of “Watershed Stories” was presented along with a working demo of how to make river story maps using ESRI GIS. Teachers were introduced to the use of stream tables and groundwater models that are available through IWI for classroom demonstrations. Teams also learned about mussel monitoring and why they are indicators of river health.

The Campbell-Tintah and Wheaton RW teams attended the 20<sup>th</sup> Annual River Watch Forum held at the U of MN Crookston on March 17, 2015. Twenty RW teams with over 200 students and teachers from throughout the Red River Basin attended concurrent sessions on a variety of current watershed science topics presented by professionals in the field plus keynote and other presentations. BDSWD RW teams presented posters about their local watershed and monitoring, with Campbell-Tintah receiving 3<sup>rd</sup> place honors in the Judges Choice contest and Wheaton taking 3<sup>rd</sup> place for the People’s Choice Award. The posters can be viewed on the IWI website, <http://www.iwinst.org/education/river-watch-forum/school-water-quality-posters>.

### **River Explorers**

Both Campbell-Tintah and Wheaton RW teams participated in a new River Explorers program offered by the IWI that provides opportunity for RW teams to explore the local rivers that they monitor via kayak to get a better perspective on conditions affecting water quality at the sites they monitor.

The C-T team paddled in the vicinity of the Red River headwaters at Breckenridge and managed to paddle a bit on all three rivers, the Bois de Sioux, Otter Tail and Red River of the North in one day. While on the rivers, they learned about contributing factors to turbidity and management practices to minimize river bank erosion. They also stopped at docks along the way to check for any occurrence of zebra mussels. The lower Otter Tail is listed as infested with zebra mussels, but the adult form is not established in the Red River. Students learned that high turbidity levels tend to be unsuitable for zebra mussel larvae to mature in the Red R. Hydrology, dam retrofits, river geomorphology and “tree strainers” were also part of the day’s discussions.

The Wheaton RW team paddled on the Mustinka River from Traverse CoRd 76 to MN Hwy 117. The team also paddled upstream into 18 Mile Creek at its confluence with the Mustinka River. On the day of their paddle, they found that 18 MC was much clearer than the Mustinka. Using a 40cm secchi tube, the Mustinka had a transparency of 10cm, vs >40 cm for the 18 MC. Turtles and birds were some of the variety of wildlife observed along the river. The team had not paddled the Mustinka River before and realized what a fun experience that kayaking on a river in their own “backyard” can be.

### **Testifying at the State Capitol, St Paul**

One of the highlights of 2014 for Campbell-Tintah was when seniors Skylar Niesche and

Brandon Meyer and advisor Roy Mayeada went to the Minnesota State Capitol to testify at a Senate hearing about the value of the RW program to students, schools, communities, and the watersheds where monitoring and awareness activities are made available through the program. They did an excellent job in their testimony and answering many questions the Senators had both in the hearing and afterwards in the corridor where several legislators commended them for their efforts.

### **Snow Study**

The Campbell-Tintah RW team continued to monitor and report on snow depth and snow water equivalency over the winter of 2014-15. They also recorded frost depth and water infiltration, with all data reported on the Community Collaborative Rain, Hail and Snow (CoCoRaHS) network for use by the National Weather Service for critical spring flood forecasting in the Red River Basin.

### **Future Plans**

The River Watch teams in the BDSWD will continue to conduct monthly water quality sampling during open water season, mussel and macroinvertebrate sampling, and snow study over the winter months. The teams are also looking forward to additional kayak trips on reaches of the local rivers that they monitor. They will also continue to provide annual presentations about their activities to the BDSWD board at one of their regular board meetings.

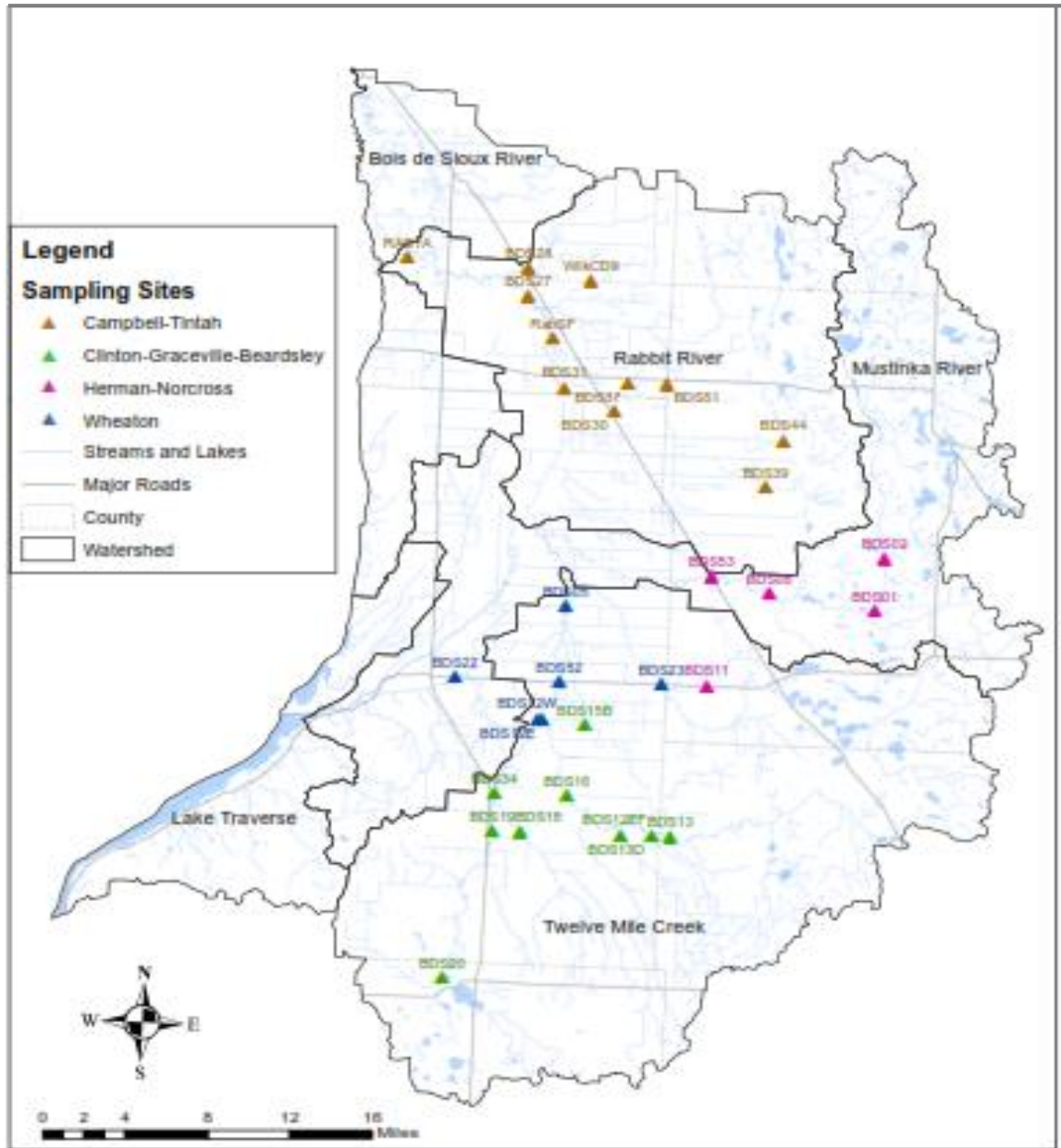
### **Credits**

The BDSWD provides support for the RW program by covering costs of substitute teachers, transportation, and students' lunches on sampling days and when students attend the RW Forum and the water quality training/certification session. Laboratory analyses of water samples have also been covered if a special research project is undertaken by a RW team or student. Financial support is also provided by the Red River Watershed Management Board (RRWMB) and the Minnesota Clean Water Legacy Fund. Coordination and implementation support is provided by the International Water Institute.

This partnership with the watershed district and area schools contributes to the education of the students, promotes good stewardship of our water resources and provides valuable data to area water resource managers and agencies.

Appendix A: Bois de Sioux WD River Watch Water Quality Monitoring Sites.

## River Watch Schools Water Quality Sampling Sites

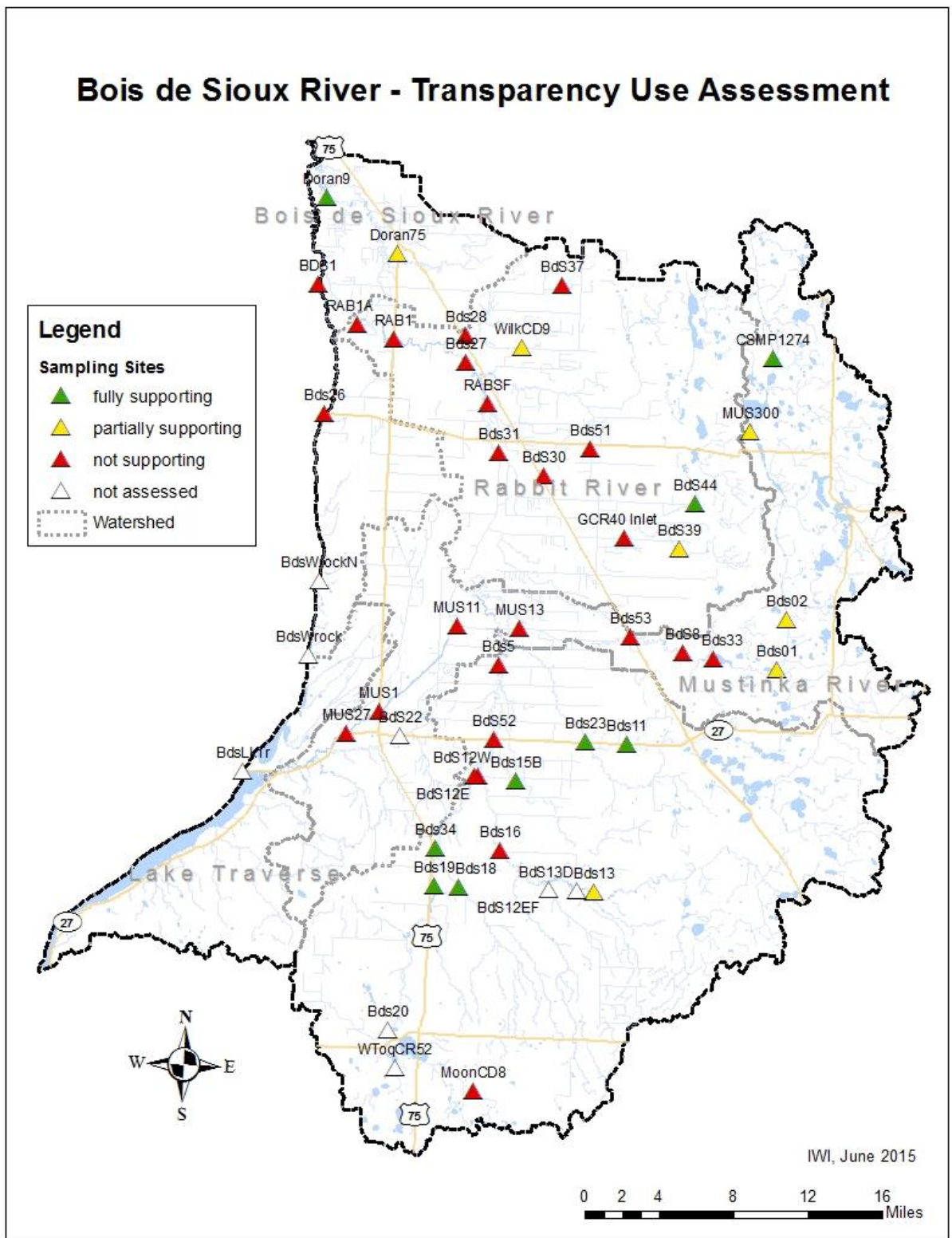


## Appendix B: Bois de Sioux Watershed District River Watch Water Quality Monitoring Sites

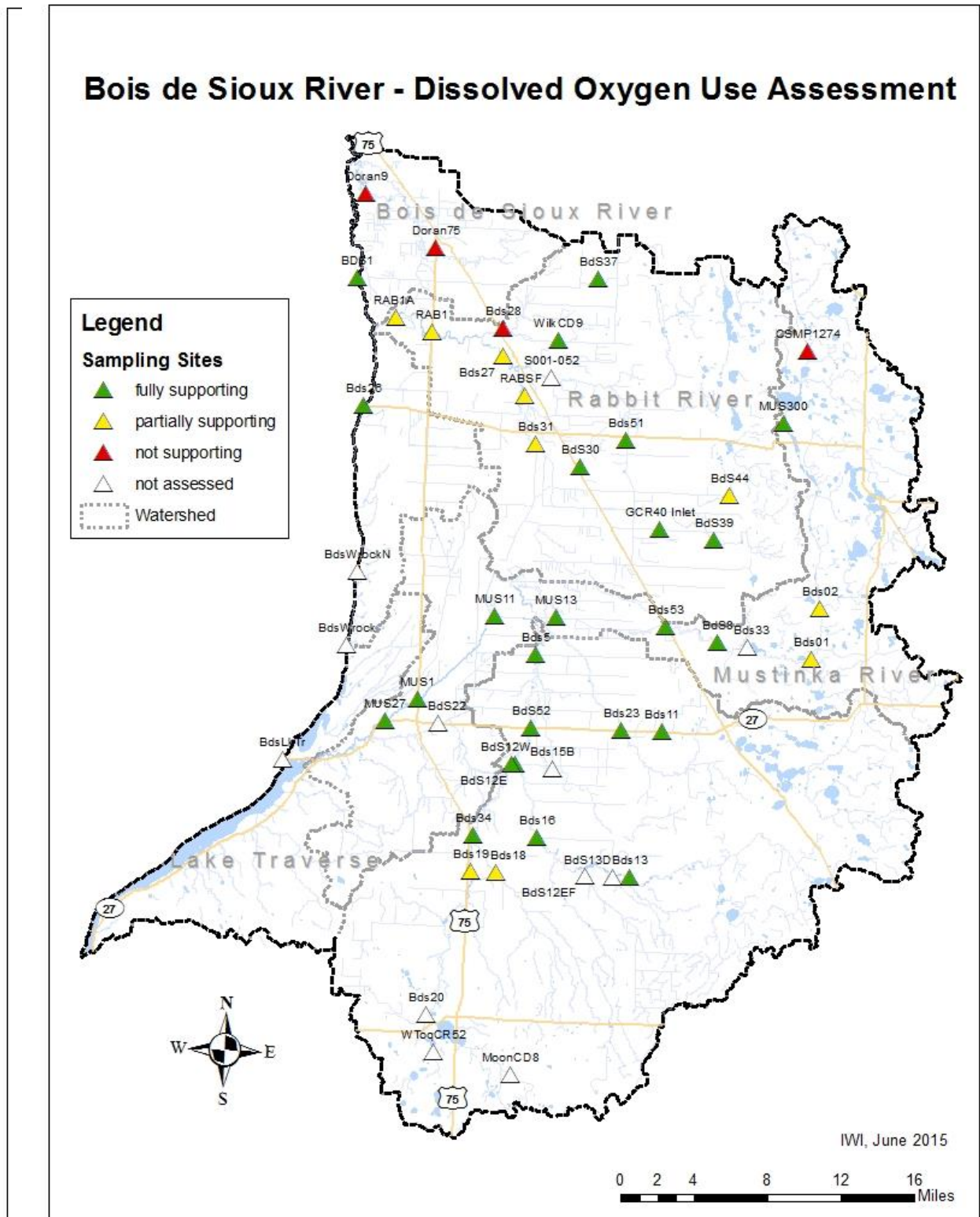
<u>RW School</u>	<u>Site ID</u>	<u>S Code</u>	<u>Water Body</u>	<u>Station Description</u>
Campbell-Tintah	Bds28	S003-120	Rabbit R	UNN TRIB TO THE RABBIT R AT MN-9, 1.5 MI NO. OF CAMPBELL
Campbell-Tintah	Bds27	S002-002	Rabbit R.	RABBIT R, AT CSAH-4 RT BANK OF BRG, .1 MI SW OF CAMPBELL
Campbell-Tintah	RabSF	S004-176	Rabbit R S Fk	RABBIT R AT CR-152, 3.1 MI SE OF CAMPBELL
Campbell-Tintah	BdS30	S003-275	JD 12	JD #12 AT 2ND STREET BRIDGE ON EAST EDGE OF TINTAH
Campbell-Tintah	BdS39	S003-272	JD 12	NORTH LATERAL ONE OF JD #12 AT CR-41, 9.8 MI SE OF TINTAH
Campbell-Tintah	BdS44	S003-273	JD 2	LATERAL THREE OF JD #2 AT CR-42, 9.1 MI ESE OF TINTAH
Campbell-Tintah	Bds51	S003-274	JD 2	JD #2 ON MN-55, 2 MI E OF NASHUA
Campbell-Tintah	BdS37	S001-053	Rabbit R	Rabbit R at Wilkin CSAH-19, 5.9 mi ESE of Campbell
Campbell-Tintah	WilKCD9	S004-177	WilkinCD9	CD-9 AT UNN RD, 3 MI NE OF CAMPBELL
Campbell-Tintah	RAB1A	S001-051	Rabbit R	Rabbit R at Campbell, W. 4miles on CR 4; CR 154; N. 1.9 miles to crossing
Campbell-Tintah	BDS31	S006-853	Rabbit R	RABBIT R, SF AT 290TH AVE (T156), 2 ½ MI NW OF TINTAH, MN
Clinton-Graceville-Beardsley	Bds16	S003-114	12 Mile Cr-EBr	TWELVE MILE CREEK E BR ON CSAH-6, 3.4 MI E OF DUMONT
Clinton-Graceville-Beardsley	Bds13	S003-112	12 Mile Cr-EFk	TWELVE MILE CREEK E BR AT CSAH-18, 9 MI SE OF DUMONT
Clinton-Graceville-Beardsley	Bds18	S003-115	12 Mile Cr-W.BrEFk	UNN TRIB (E BR 12 MILE CK TO W BR) AT CR-62, 3 MI SE DUMONT
Clinton-Graceville-Beardsley	Bds19	S003-116	12 Mile Cr-WBr	TWELVE MILE CREEK W BR AT CR-62, 2 MI SE OF DUMONT
Clinton-Graceville-Beardsley	Bds20	S003-117	12 Mile Cr-WBr	TWELVE MILE CREEK W BR AT KING AVE, 1.7 MI W OF GRACEVILLE
Clinton-Graceville-Beardsley	Bds34	S003-123	12 Mile Cr-WBr	TWELVE MILE CK W BR ON CSAH-6, .25 MI E OF DUMONT
Clinton-Graceville-Beardsley	Bds15B	S003-113	12 Mile Cr-WFk	TWELVE MILE CREEK W FK AT CR-62, 5 MI SE OF DUMONT
Clinton-Graceville-Beardsley	BdS12EF	S004-189	12 Mile CkEFk	TWELVE MILE CK E FK ON CR-62/CSAH-8, 8.2 MI SE OF DUMONT
Clinton-Graceville-Beardsley	BdS13D	S004-190	12 Mile Ck	TWELVE MILE CK ON CR-62/CSAH-8, 9.7 MI SE OF DUMONT
Herman-Norcross	Bds11	S003-106	Grant CD 8	CD #8 ON MN-27, 3.4 MI W OF HERMAN
Herman-Norcross	Bds01	S003-104	Mustinka R	MUSTINKA R AT CSAH-13, 6 MI NE OF HERMAN
Herman-Norcross	Bds02	S003-105	Mustinka R	MUSTINKA R AT CSAH-8, 8 MI NE OF HERMAN
Herman-Norcross	BDS08	S004-144	Mustinka R	MUSTINKA R AT CSAH-8, 1.75 MI E OF NORCROSS
Wheaton	Bds5	S003-124	12 Mile Cr-MS	TWELVE MILE CK ON CSAH-14, 7.5 MI NE OF WHEATON
Wheaton	Bds23	S003-118	5 Mile Cr	FIVE MILE CK ON MN-27, 5.7 MI W OF HERMAN
Wheaton	BDS12E	S004-194	12 Mile Ck	TWELVE MI CK ON CR-72, 7.1 MI ESE OF WHEATON
Wheaton	BDS12W	S004-195	12 Mile CkWBr	TWELVE MILE CK W BR ON CR-72, 6.8 MI ESE OF WHEATON
Wheaton	BDS22	S004-196	18 Mile Ck	EIGHTEEN MILE CK AT MN-27, 1.2 MI E OF WHEATON
Herman-Norcr				MUSTINKA R AT CSAH-9 BRIDGE, 1.3 MI NW OF

## Appendix C: Designated Use Support Assessment for Transparency

# Bois de Sioux River - Transparency Use Assessment



**Appendix D: Designated Use Support Assessment for Dissolved Oxygen**  
**Appendix E: Designated Use Support Assessment for pH**



## **Buffer Strip and Wetland Restoration Program**

The Bois de Sioux Watershed District Overall Plan identifies wetland restoration and buffer strip/ permanent grass installation as an action item identified to reduce runoff, increase infiltration, and improve habitat. The district provided financial assistance in the amount of \$10,000 each to Wilkin, Ottertail, Grant, Traverse, Big Stone, and Stevens SWCDs to help fund a position to market the CRP and WRP programs in their portion of the district. This restoration work was identified by the East Branch 12 Mile Creek Project Team as an item needed to reduce flows in the area and provide for Natural Resource Enhancements. For each acre of permanent easement that is enrolled and approved, the district would compensate \$10 to the SWCD. In 2014 there were 966.6 acres enrolled in permanent vegetation easements in the Bois de Sioux Watershed District. The breakdown is as follows:

<b>SWCD</b>	<b>Acres</b>	<b>Payment</b>
<b>Traverse</b>	<b>805.2</b>	<b>\$8,052.00</b>
<b>Grant</b>	<b>161.4</b>	<b>\$1,614.00</b>
<b>Ottertail</b>	<b>0.0</b>	<b>\$0.00</b>
<b>Stevens</b>	<b>0.0</b>	<b>\$0.00</b>
<b>Big Stone</b>	<b>0.0</b>	<b>\$0.00</b>
<b>Wilkin</b>	<b>0.0</b>	<b>\$0.00</b>
<b>TOTAL</b>	<b>966.6</b>	<b>\$9,666.00</b>

Because of the assistance from the local SWCD offices, we were able to work together to accomplish goals for both entities. A special thanks goes out to the staff and boards of these six organizations for their assistance.

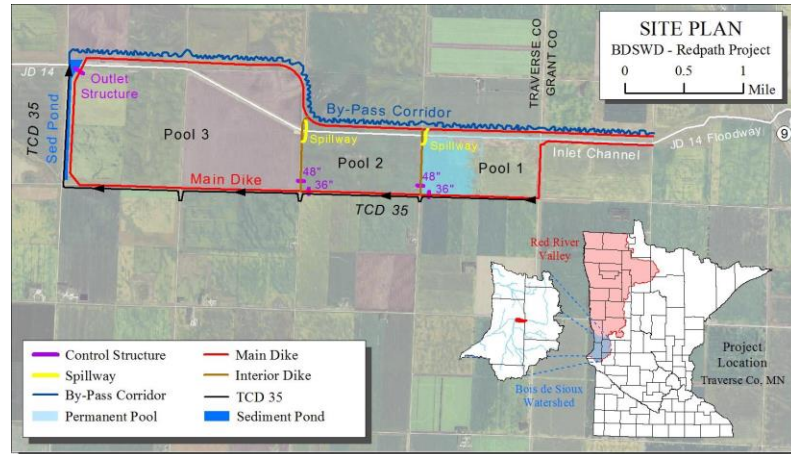
It is anticipated that this program will continue in 2015.

## Land Acquisition

No new parcels were acquired in 2014.

## Redpath Project

In 2008, the Board of Managers established the Redpath Project Team and charged them with the task of identifying the problems in the area and reviewing alternative solutions. The team did their work in the first 8 months of the year and recommended a project solution to the Board in August 2008.



The impoundment dike on the south side will be constructed on the section lines. Traverse County Ditch 35 (TCD35) will be relocated south of its current location to facilitate construction of the dike. The west dike will be constructed approximately 350' east of CSAH13 to allow room for TCD35 and a sedimentation pond between the dike and road. The north dike of the impoundment will be built north of JD14 and a new By-pass Corridor will be constructed north of this dike. From the county line east one mile, dikes will be built on either side of JD14 to form a diked inlet from the inlet structure to the impoundment. A floodway will be constructed along the existing JD14 channel to provide improved conveyance from the inlet structure to the impoundment pool areas.

The impoundment is divided into 3 pools as shown in Figure 6. The inlet structure will allow Pool 1 to fluctuate at river level. As the pool rises, some of the JD14 flow will bypass the impoundment using the new channel within the By-pass Corridor. Increased flows from the upstream drainage area will be split between the By-pass Corridor floodway and the impoundment. A culvert at the entrance to the By-pass Corridor will restrict the amount of flow that takes that route. The By-pass Corridor will extend from the inlet structure, follow along the north dike and outlet back into JD14 at the northwest 10 corner of the impoundment. Flows into the impoundment will be from Pool 1 to Pool 2 to Pool 3 via overflow spillways and ultimately through the outlet structure to JD14.

Support for this project appears to be very widespread, from local landowners to the federal agency level.

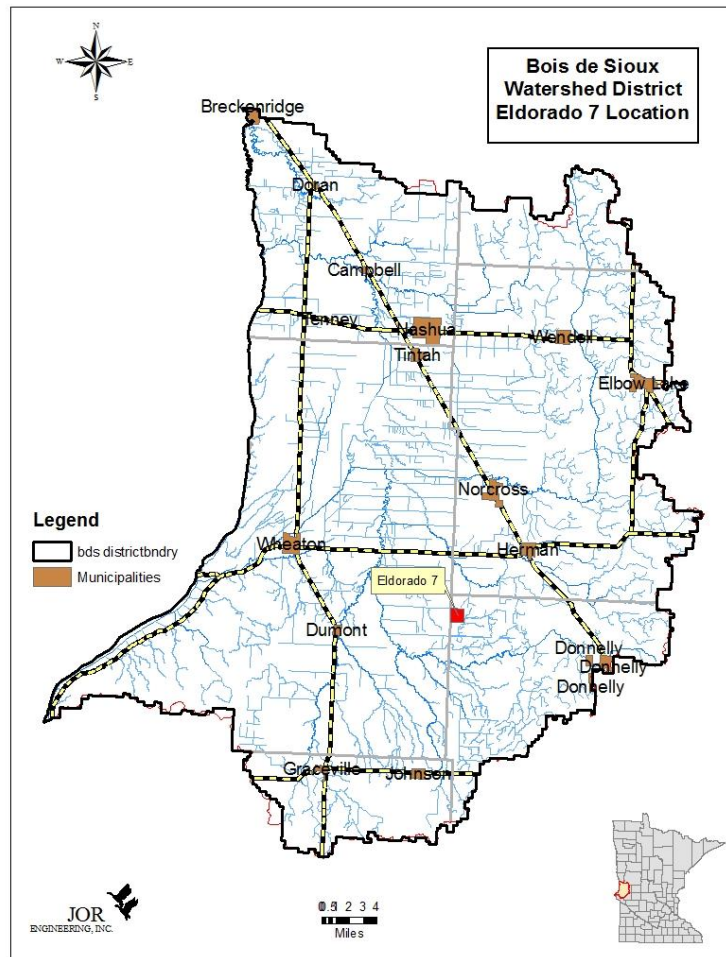
The NW corner of Section 21 is the only parcel remaining to be acquired for the impoundment footprint with additional ROW needed for the TCD #35 area and along the north side to accommodate the by-pass corridor.



In 2014, the Environmental Assessment Worksheet (EAW) was completed. Staff have continued to work through the necessary steps to obtain a USCOE 404 and 408 permit along with the State WCA permit.

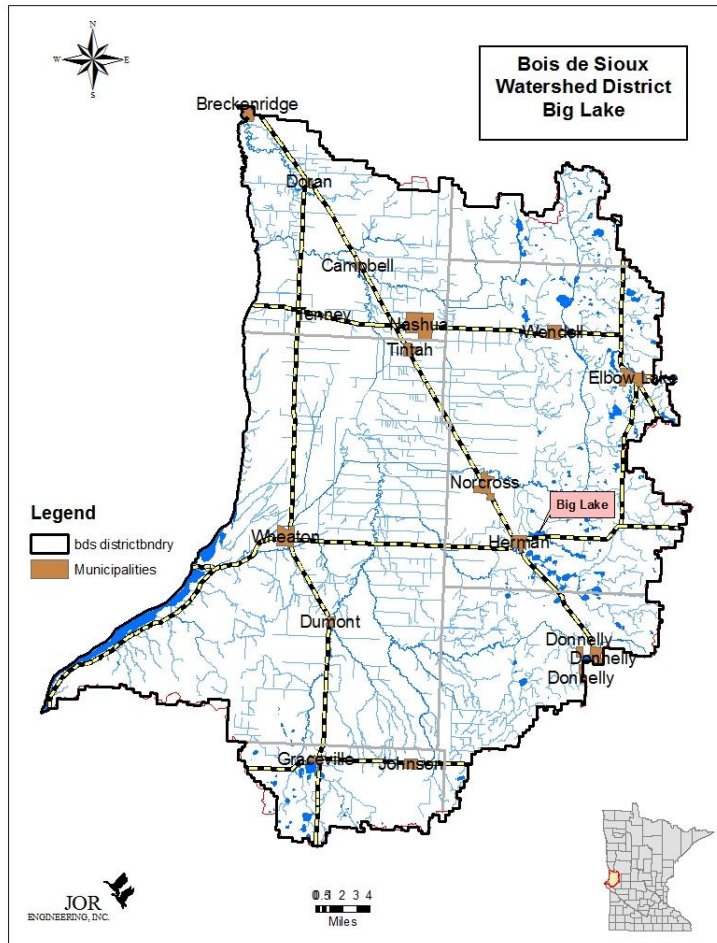
### East Branch Twelve Mile Creek Project/Eldorado 7

The East Branch Twelve Mile Creek Project Team did not meet in 2014. In December 2005, the team made a recommendation to the BdSWD Board that there needed to be about 3,300 acre feet of storage implemented in this sub-watershed. There were a few suggested locations for impoundments to provide a part of that storage.



## Big Lake

The Bois de Sioux Watershed District received a copy of a letter from the MnDNR regarding their ability to secure necessary land rights to implement water level management on Big Lake located just east of Herman, MN. Outflow from Big Lake flows through the City of Herman. This project would complete the third of three phases identified for flood damage reduction within the City of Herman. The first two phases included a re-design of the city stormwater conveyance system and the outlet channel to Pullman Slough west of the city. Water level control on Big Lake would provide additional protection to the city where flows could be metered through the system in an attempt to prevent exceeding the conveyance system's design capacity.



The City of Herman Council petitioned the BdSWD in early 2008 to establish the Big Lake Project along with two individual landowners. After careful consideration, the BdSWD suggested that they recall the petition and pass a resolution asking the BdSWD to establish the project. This was done to allow the project to fit the statutory requirements and put the City of Herman in a better position to proceed. The BdSWD did establish the Big Lake Project and has initiated contact with the landowners of the land where the outlet work would be done.

Engineer Anderson was instructed to complete the engineer report for this project so that a hearing could be held to move the project forward. Priorities for other projects put those ahead of this project but work does continue to bring this project to fruition.

In fall of 2011, a preliminary engineer report was presented to the board for their review. Staff met with MnDNR representatives to discuss the proposed operating plan. There was some concern for the draw down levels proposed as they would exceed the MnDNR

regular allowances. Staff were advised by MNDNR to apply for a permit to get their official position on the draw down proposal. In 2014, it was determined that the BdSWD would develop the EAW for this project but not until the Project Team finished it's work and made a positive recommendation for the project to be developed.

### **Other activities 2014**

- MPCA continued to provide funding for the Bois de Sioux Watershed Restoration and Protection project. The project is on track for completion June 2016. Total budget for this work is \$250,000, fully funded by MPCA.
- MPCA continued to provide funding for the Mustinka Watershed Restoration and Protection project. The project is on track for completion June 2015. Total budget for this work is \$250,000, fully funded by MPCA.
- The Bois de Sioux Direct, Five Mile Creek, and the Rabbit River Project Teams met periodically throughout the year to continue their work on addressing the problems identified in their respective subwatersheds.
- The District, in partnership with the SWCD offices of West Otter Tail, Grant, Stevens, Big Stone, and Traverse, were successful in 2012 (for the third time) in securing a Clean Water Fund Grant from the Board of Water and Soil Resources Clean Water Legacy Fund in the amount of \$330,000. These funds are being used for implementation of Best Management Practices to improve water quality in the Mustinka River system. This brings the total grant awards to \$708,000 to be used in the Mustinka Watershed. Work continued in 2014 to establish projects that will improve our local water quality.
- The BdSWD Policy Handbook was adopted in 2014. A copy is available upon request from the District Office and on the website at [www.bdswd.com](http://www.bdswd.com).
- The BdSWD has continued the culvert inventory in the district, completing the inventory on the northern boundary and continued data collection in other priority areas of the district. The Buffalo-Red River Watershed District has annexed the lower Ottertail River watershed to their district. Thus the reason to use the LiDAR and the detailed culvert inventory to properly identify the boundary between the two districts.
- The Northern boundary investigation is nearing a close. Public meetings were held where landowners of land that would be affected by a boundary re-alignment were invited to discuss the proposal. All areas of question will be reviewed (note: these reviews were complete in early 2014). A joint petition will be signed by Otter Tail County, the Bois de Sioux Watershed District and the Buffalo-Red River Watershed District and submitted to the Minnesota Board of Water and Soil Resources for their approval of the changes. It is hoped this would go into effect for tax year 2016.
- The BdSWD was granted an extension for the update of their overall plan to April of 2017. This was done to accommodate the WRAP work that is going on now and to incorporate the implementation plans from those two projects into the revised overall plan.
- The BdSWD Advisory Committee was re-appointed in 2014. The membership list is shown in the Appendix to this report. The Advisory committee met 1 time

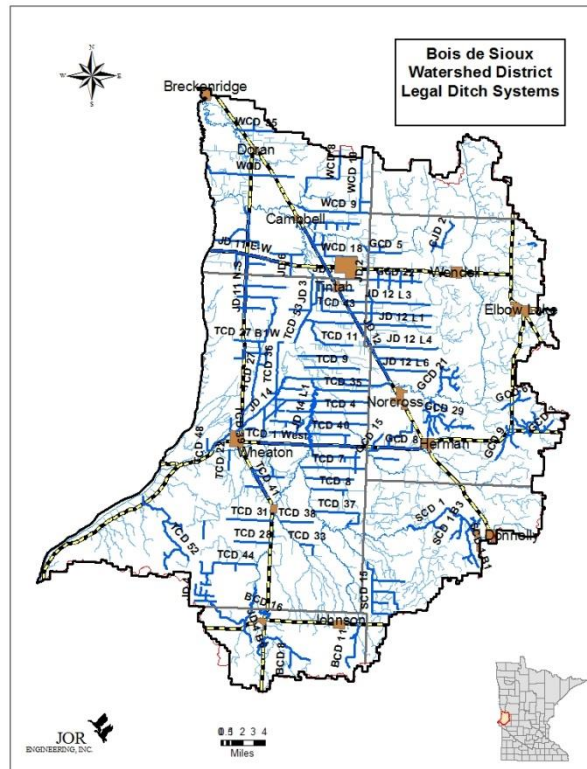
throughout the year to stay informed of the BdSWD activities and meet the statutory requirements. It was decided that the Advisory Committee will meet annually unless directed to meet for specific purpose by the board. Members were encouraged to attend the monthly board meetings and review the meeting minutes as they become available. Each member receives the minutes upon approval by the full board.

- The TCD #52 Project Team was appointed in September of 2013 to identify the problems in this specific subwatershed and begin to identify alternative solutions to those problems. Work continued into 2014 in which a final summary report was developed and presented to the BdSWD board. A copy is on file in the district office.
- The BdSWD held a hearing on the preliminary engineer's report for the Brandrup 9 Impoundment and established it as a project following that hearing. Work continues through the Project Team to develop a comprehensive plan of action to resolve issues in this subwatershed.
- The BdSWD awarded the bid for construction of WD #3 to States Borders Construction of Graceville in Fall 2014. The excavation work was substantially completed by December 2014. Final construction and seeding will be done Spring 2015. This ditch system is 1.25 miles in length located on the south side of Sections 13 and 14 in Tintah Township, Traverse County.
- The BdSWD updated their permit application form in 2014. The new form is available on the district website or at the district office.
- The BdSWD Administrator, Jon Roeschlein, was elected at the Red River Basin Commission Annual Meeting to serve on their board as an alternate to Jon Everett, the Mn at Large representative.
- The BdSWD received the completed educational video, a work in progress for 3 years. It will be used as part of their public outreach program. Video is viewable on the district website at [www.bdswd.com](http://www.bdswd.com). A copy is available by request at the District Office.
- The BdSWD worked on an amendment to their overall plan, specifically outlining the process in which they would acquire land. A land acquisition policy was also adopted by the board. The policy and the amendment work hand in hand. The amendment was submitted to the State Board of Water and Soil Resources in early 2014 and was approved.
- As part of the BdSWD Overall Plan Amendment, the board held the biannual Project Informational Hearings to provide the public with the opportunity to be informed of all projects that the BdSWD is considering, or the status of those which are moving forward. These hearings were well received.
- The BdSWD also purchased a Public Use Defibrillator to be placed in the lobby of the office. It was purchased at a discount by partnering with the RRWMB on a group purchase.

- **Ditches**

Since 1992 sixty (60) ditch systems have been under the jurisdiction of the Bois de Sioux Watershed District, with JD#3 added in 1995. This includes approximately four hundred (400) lineal miles of ditch. Ditch funds are managed by the district office. Annual ditch inspections are completed each year and a copy of reports are kept on file.

In 2014 there were 10 requests for maintenance submitted to the BdSWD Board of Managers for work. The following table describes these requests. The process that the board has adopted includes research of the ditch records and surveying of the system as necessary.



Ditch	RFM #	Problem
TCD #17	001-14	Sediment
TCD #16	002-14	Sediment
TCD #31	003-14	Sediment
JCD #11	004-14	Sediment
TCD #7	005-14	Sediment
JCD #12 Lat 4	006-14	Sediment
TCD #17	007-14	Sediment
TCD #41	008-14	Sediment
TCD #43	009-14	Sediment
TCD #11	010-14	Sediment

An annual spray program for heavy vegetation and trees in legal ditch systems is also administered by the BdSWD. After the late summer inspections are complete, the areas in need of vegetation control are identified and a contractor is hired to spray for cattails and trees within the ditch banks. See reports on file in the district office.

**Legal Drainage Ditch Work 2014**  
Contributed by Gene Berger, WSN Engineering

No spring runoff preparations were needed due to the lack of snow cover. The 2013 maintenance that was shut down due to freezing conditions was completed in the spring.

The 2014 brush control was completed in a timely manner with all areas identified in the inspections treated. The ground applicator that gave assurances of working in the district in 2014 failed to show up due to a “blowup” in North Dakota. This is the second consecutive year no cattail herbicide application has been done in the district.

Ditch reports were completed and presented to the board for JD12 L1, JD12 L4, JD12 L5, and TCD22.

Ditch maintenance activities for 2014 included the following:

**TCD22**

Cleanout was completed in the spring with a weir installed at the upstream end of the culvert at Station 101+40.

**JD12 L4**

Culvert at the outlet into the North Ottawa Diversion channel was reset and a sediment filter was included.

**WCD18**

Maintenance was completed in the spring and summer with spoil spread in the prevented plant areas in the summer and the remaining spoil spread in the fall.

**JD12 L5**

Maintenance was initiated in the fall using the “hopscotch” method from Station 126 to 230. Once the vegetation reestablishes the undisturbed areas will be maintained.

**JD12 L4**

Maintenance was initiated in the fall using the “hopscotch” method from Station 255+50 to 314+50. Once the vegetation reestablishes the undisturbed areas will be maintained. Areas above the original constructed grade from Station 255+50 downstream to the North Ottawa Impoundment Project Diversion channel were removed.

**TCD16**

Maintenance survey completed.

**TCD17**

Profile of the ditch bottom from Station 80 to 163.

**TCD 31**

Maintenance survey completed.

**(continued)**

**TCD 4**

Maintenance survey initiated.

**TCD 37**

Maintenance survey initiated.

## **Projections for 2015**

- The contract for Phase V was awarded to States Borders Construction of Graceville, MN. This contract is scheduled to be complete in September 2015.
- The Bois de Sioux Watershed District will conduct the necessary procedures to maintain the 400 lineal miles of legal ditch systems under their jurisdiction. This includes inspections, vegetation control, repairs, accounting, reports, etc.
- The Bois de Sioux Watershed District will continue to work towards acquisition of lands for the purpose of developing projects as these lands come available on the market from willing sellers. These lands will be added to the land account as an investment until such time the projects are developed and these lands are used for said project development.
- The Bois de Sioux Watershed District Board and staff will continue to serve on the many boards, committees, and commissions that they are currently a part of. They will also consider serving any new capacities they are asked to participate in to further the goals of the district and Red River Basin.
- The Bois de Sioux Watershed District will continue to meet with the Rabbit River, Bois de Sioux Direct, Five Mile Creek, and TCD #52 Project Teams as necessary to continue development of the necessary Summary Reports and Recommendations for the full board to pursue.
- The BdSWD will continue the support for the River Watch Program and encourage new schools to participate.
- The BdSWD will continue to promote education through the distribution of the educational video and periodic public informational meetings.
- The BdSWD will continue the Buffer Strip/Restoration incentive program with the local SWCD offices.
- The BdSWD will continue to facilitate additional project teams, as needed, to work towards resolving water problems in the watershed.
- Work on the Mustinka and Bois de Sioux WRAP projects will continue in the 2015 calendar year with the Mustinka WRAPS scheduled to be complete by the end of June.
- The BdSWD will continue to partner with local SWCDs to administer the CWF grants received from the State of MN.



**BOIS DE SIOUX WATERSHED  
DISTRICT**

**ANNUAL REPORT**

**CALENDAR YEAR 2014**

**Appendix**

**Bois de Sioux Watershed District  
Stream Gage Network 2013  
Gage Readers**

Kevin	Pattison	27757 Oak Pt. Road	Elbow Lake	MN	56531	1
James	Biss	23429 County Road 8	Elbow Lake	MN	56531-9233	2
Jim	Haugen	26498 - 240th Avenue	Elbow Lake	MN	56531	3
Chadd	Berger	7382 County Road 14	Wheaton	MN	56296	5
Doug	Engelby	29348 - 340th Ave.	Nashua	MN	56565-9220	8
Tim	Backman	31499 State Hwy 27	Herman	MN	56248	11
Rollie & Jacob	Sperr	56202 130 <sup>th</sup> Street	Donnelly	MN	56235	12
Orville	Brunkow	63338 - 150th Street	Chokio	MN	56221	13
Brian	Rinke	7350 County Road 6	Wheaton	MN	56296	16
Don	Montonye	Box 1A	Dumont	MN	56236	17
John	Tritz	7159 - 570th Street	Dumont	MN	56236	18
John	Tritz	7159 - 570th Street	Dumont	MN	56236	19
Scott	Bauer	1024 Lake Avenue	Graceville	MN	56240	20
Lon	Tekrony	6744 - 630th Street	Wheaton	MN	56296	21
Lori	Doll	6807 State Hwy 27	Wheaton	MN	56296	22
Lyndon	Bruns	Box 142	Herman	MN	56248	23
Dan	Wilke	RR1, Box 326	Fairmount	ND	58030	26
DNR	Automatic	Gage Site				
						28
						29
Audrey	Johnson	101 - 4th Street West	Tintah	MN	56583	30
Videll	Ahrens	15158 290 <sup>th</sup> Ave	Tintah	MN	56583-9600	31
						32
Dale	Blume	17668 County Road #11	Norcross	MN	56274-3050	33
Don	Montonye	Box 1A	Dumont	MN	56236	34
						35
Frank	Davison	Box 157	Tintah	MN	56583	37
Larry	Schneeberger	25651 290th Avenue	Wendell	MN	56590	39
Duane	Porter	7749 CR 19	Tintah	MN	56583	40
Paul	Daly	16408 - 580th Avenue	Donnelly	MN	56235	41
Paul	Daly	16408 - 580th Avenue	Donnelly	MN	56235	42
						44
U.S.Army Corps	of Engineers	6338 County Road 10	Wheaton	MN	56296-5469	45
Douglas	Christenson	2239 - 450th Street	Campbell	MN	56522	49
Douglas	Christenson	2239 - 450th Street	Campbell	MN	56522	50
Doug	Engelby	29348 - 340th Avenue	Nashua	MN	56565-9220	51
Chadd & Paul	Berger	7382 County Road 14	Wheaton	MN	56296	54
Vicky Radel &	Steve Berger		Wheaton	MN	56296	

## **Bois de Sioux Watershed District**

### **Policies and Procedures for Public Access to Documents**

Public access to the data of public bodies is governed by the Data Practices Act (DPA), Minnesota Statutes, Chapter 13. The DPA states that data of public bodies are to be available to the public unless specifically exempted under the law in cases where individual privacy would be violated or where other valid concerns outweigh the interest in public availability. The Bois de Sioux Watershed District (BdSWD) recognizes the public interest in open access to its data as well as the public interest that requires that certain types of data not be publicly available. It is the intent of the BdSWD to comply fully with the DPA and, where the DPA allows for the exercise of judgment, to exercise that judgment consistent with the public interests underlying the law.

This policy is adopted pursuant to Section 13.03, Subdivision 2 of the DPA, which states that every public body shall establish procedures to implement the DPA.

#### **Procedure for Review of BdSWD Documents**

All requests to inspect or receive copies of BdSWD data, and all other inquiries regarding the DPA, must be in writing, signed by the requestor, and delivered by U.S. Mail, facsimile, scanned and emailed, or hand delivered during business hours, addressed to the “Data Practices Compliance Official,” at the following address:

Bois de Sioux Watershed District  
704 Highway 75 South  
Wheaton, MN 56296  
Fax #: 320-563-4987  
Email: [bdswd@frontiernet.net](mailto:bdswd@frontiernet.net)

The BdSWD Administrator is designated as the Data Practices Compliance Official.

Requests to inspect or obtain copies of BdSWD data are to be in writing. In the event an individual wishes to inspect BdSWD data, the Data Practices Compliance Official will gather the documents of interest, separate any documents to be withheld from inspection, and see to it that someone is available to assist with the inspection. BdSWD files may not be removed from its office.

The BdSWD will follow the DPA Policy of scheduling inspections within a reasonable time of the request. The response time will vary depending on the complexity of the request and the press of other BdSWD business.

If the BdSWD determines that certain data will not be made available for inspection or copying, it will inform the individual of the basis for denial of access. If requested, the BdSWD will certify in writing that the request has been denied and state the specific basis for denial.

## Costs

There is no cost to inspect documents. If document copies are requested, the requesting individual will be charged twenty five cents (\$0.25) per page for letter and legal sized black and white documents.

With respect to oversize copies, color copies, tapes, electronic data, photographs, slides and other unusual formats, the requesting individual will be responsible for the actual cost incurred by the BdSWD to make the copy itself or to use a vendor.

An individual requesting copies or the electronic transmittal of data consisting of more than 100 black and white copies of letter or legal sized paper, is responsible to pay the BdSWD the actual cost, including the cost of staff time, to search for and retrieve data and to make, certify, compile and transmit copies. Staff costs will be assessed based upon established hourly rates.

If requested, the BdSWD will advise approximate cost before making said copies. Payment may be made by cash or check. The BdSWD may require payment in advance.

The BdSWD may charge a fee for data that has commercial value and was developed with a significant expenditure by the BdSWD. The BdSWD may also require a license agreement limiting the use of said data.

**Board Approved 3-27-2014**

### BdSWD Advisory Committee

First Name	Last Name	Affiliation
Ron	Staples	Stevens County Commissioner
Drew	Mosberg	Grant County SWCD
John	Walkup	West Ottertail County SWCD
Jack	Lampert	Stevens County Citizen
Doug	Jahnke	Big Stone County Citizen
Steven	Schmidt	Ag Business
Terry	Amundson	Ag Business
Jerry	Deal	Traverse County Commissioner
Bob	Perry	Wilkin County Commissioner
Blayne	Johnson	Big Stone County SWCD
Vernyl	Fronning	Ottertail County Citizen
Robert	Marts	Traverse County Citizen
Duane	Duin	Ag Business
Scott	Bauer	Toqua Sportsman's Club



## BdSWD Project Teams

The Bois de Sioux Watershed District administers seven (8) Project Teams as follows:

1. North Ottawa
2. Redpath
3. East Branch Twelve Mile Creek
4. West Branch Twelve Mile Creek
5. Moonshine
6. Rabbit River
7. Bois de Sioux Direct
8. TCD #52

With the exception of the Moonshine PT and the TCD #52 PT, they are organized on a sub-watershed alignment as shown on the following map.

