PROJECT SUMMARY SHEET

1.0 Project Title: Wild Rice River Restoration and Riparian Project Phase II

Lead Project Sponsor:

Wild Rice Soil Conservation District
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State: North Dakota **Watershed:** Wild Rice River Watershed

Hydrologic Unit Code: 09020105
High Priority Watershed: Yes

PROJECT TYPE	WATERBODY TYPES	NPS CATEGORY
Watershed	Rivers, Streams wetlands	Agriculture

Project Location: The project area lies within the Western Wild Rice Hydrologic Unit, 09020105, located in southeastern North Dakota. The specific focus of this Phase of the project will be on the ½ mile corridor along the Wild Rice River in Sargent County and the subwatersheds for the tributaries named Shortfoot and Crooked Creek.

Summarization of Major Goals: The Wild Rice Soil Conservation District, primary goal, through the course of the project is to promote and implement agricultural Best Management Practices (BMP) to restore and maintain the recreational and aquatic life uses of the targeted areas along the Wild Rice River and within the Shotfoot and crooked Creek subwaterrsheds. Reduction of nutrients (phosphorus & nitrogen), E. coli bacteria and sediment will be accomplished through implementing nutrient management plans, reducing erosion and runoff from cropland, establishing vegetative buffers and addressing degraded riparian areas.

Project Description: This watershed project will implement a comprehensive conservation planning, BMP implementation, monitoring/assessment, and information/demonstration project in the watersheds for the Wild Rice River as well as Crooked and Shortfoot Creeks to reduce NPS pollution impacts to aquatic life and recreational uses. Emphasis will be placed on improving vegetative conditions and management within the riparian corridor and on lands immediately adjacent to the river or creeks.

FY14 319 funds requested - $309,920. Match $206,613.
Other Federal Funds - $0.0 Total project cost $516,533.
§319 Funded Full Time Personnel - 1

The main objectives are:

1. Target areas need improvement in sediment reductions. We can achieve this with BMPs cost share assistance and technical assistance for long term planning. The flat stream channels allow tillage right to the waters edge, so the installation of long term riparian and grass buffers will benefit sediment reduction.

2. Increase the IBI score for the specific reaches being addressed by the project to achieve a fair to good ranking (>70 for good and 59-70 for fair).

3. Document trends in water quality and beneficial use conditions (i.e. nutrient/sediment and E. coli bacteria concentrations, riparian conditions, fish and macro invertebrate diversity, etc.) as BMP are applied to evaluate progress toward established goals.

4. Provide opportunities for producers and the general public to increase their understanding of NPS pollution related to agricultural production and potential cropping options and understanding the importance of slowing water runoff and enhance infiltration using management systems that can be used to reduce the delivery of sediments and nutrients to rivers, lakes and streams in southeastern ND.

2.0 STATEMENT OF NEED:

2.1 Project Reference The Wild Rice Soil Conservation District, for many years, has worked to protect the natural, economic, and reacreational value of the Wild Rice River by providing financial and technical assistance to reduce the effects of non point source pollution. During Phase II, Section 319 funding for the Wild Rice River (Sargent County) Watershed and Riparian Restoration Project will be targeted toward practices that improve management and vegetative conditions in the riparian corridor and lands immediately adjacent to the river and its tributaries. In many areas of the watersheds, excessive soil erosion is associated with intensive agricultural activity and/or frequent over land flooding due to heavy rains and abundant snowfall. These conditions are causing failing streambanks, scalloping, and fluvial erosion. The Wild Rice Soil Conservation District will use funding through Phase II to support the development and implementation of comprehensive conservation plans that will address these erosion issues and restore and protect the Wild Rice River as well as Shortfoot and Crooked Creeks. Subsection 2.5 summarizes the current water quality and beneficial use conditions of the Wild Rice River and Shortfoot and Crooked Creeks.

2.2Watershed Description The Wild Rice River watershed is located in Cass, Dickey, Ransom, Richland and Sargent Counties in southeastern North Dakota and Marshall and Roberts Counties in northeastern South Dakota. The Wild Rice River watershed lies within the Level III Northern Glaciated Plains (46) and Lake Agassiz Plain (48) Ecoregions.

The Wild Rice River (HUC09020105) is identified as a Class II stream. The quality of the waters in this class shall be the same as the quality of class I streams, except that additional treatment may be required to meet the drinking water requirements of the Department. Streams in this classification may be intermittent in nature which would make these waters of limited value for beneficial uses such as municipal water, fish life, and irrigation, bathing, or swimming.

Phase II of the project will not address the entire Wild Rice Watershed in Sargent County, but instead, Phase II will focus on the ½ mile corridor along the river as well as the subwatersheds for Shortfoot Creek and Crooked Creek. Maps of the Phase II project area are provided in Appendix A.

2.3Maps An Annualized Agricultural NonPoint Source Pollution (AnnAGNPS) model was developed for the Shortfoot and Crooked Creek subwatersheds (Appendix A). The AnnAGNPS model uses soils, fertilization rates, cropping systems, elevation, landuse, precipitation data, etc. to 1) characterize the size and shape of the watershed and 2) identify "high priority areas" that are potentially the most significant sources of nutrients (N & P) and sediment in the Wild Rice River watershed. The results of the AnnAGNPS model will be used to target technical and financial assistance for the implementation of BMPs in the watershed.

2.4 General Watershed Information The western Wild Rice River watershed is 580,914 acres in size and originates in Sargent County and encompasses a majority of the county. The climate is subhumid characterized by warm summers with frequent hot days and occasional cool days. Average temperatures range from 12º F in winter to 60º F in summer. Precipitation occurs primarily during the warm period and is normally heavy in later spring and early summer. Total annual precipitation is about 20 inches.

The western Wild Rice River is characterized by highly fertile upland, primarily used for row-crop, small grain, and livestock production. According to the Sargent County Soil Survey, the predominant soils in the watershed are Forman - Aastad loam. These soils are formed on slopes of 3 to 6 percent and are deep, medium textured, well to moderately well drained, very fertile, and possess high moisture holding capabilities. Typically Forman - Aastad loams are resistant to wind erosion but moderately susceptible to water erosion. Land use within the tributaries is approximately 95 percent agriculture with 55 percent actively cultivated.

The river and it's tributaries as well as the lakes connected to the river are classified as a warm water fishery, "waters capable of supporting growth and propagation of non salmonid fishes and associated aquatic biota (NDDH). Approximately 24 fish species are found in the Wild Rice River Watershed, offering a fishery for local fisherman, particularly in the lower reaches of the river. Documented species include; Northern Pike, Walleye, White Sucker, Shorthead, Redhorse, Quillback, Black Bullhead, Tadpole Madtom, Carp, Fathead Minnow, Spotfin Shiner, Common Shiner, and Iowa Darter (NDDH 1994-1995 test netting).

The dominant land use in the western Wild Rice River watershed is row crop agriculture with 59 percent of the land in cropland, 16 percent in grassland, and 11 percent is in wetlands, the remaining 14 percent is in other land uses. The majority of the crops grown consist of corn, soybeans, spring wheat, alfalfa, winter wheat, sunflowers, and dry beans

2.5 Watershed Water Quality Daily stream discharge values were collected at one stream location within the Wild Rice River watershed. This location was at the United States Geological Survey (USGS) gauging station 05052000 (Wild Rice River near Mantador, ND). The USGS station has operated continuously from 1945 to 1950 and then was reestablished in 2010. For the purposes of this report, the last three years (2010-(July) 2013) of historical discharge records will be used to describe the hydrology of the Wild Rice River watershed. Figure 1 shows the mean annual discharge record from 1945 through 1950 and 2010 to present.

It is interesting to note that during the early operation of the gauge station discharge is relatively normal to very low, this is most likely due to the weather patterns during those years of normal to below normal precipitation. Likewise, when the gauge station is reestablished in 2011 the flows have increase exponentially, again weather was a driving factor since the state has been in a “wet cycle” since the 1990’s also land management is playing a role in these exceptionally high flows. The mean annual discharge for 2011 indicated a period of extremely high flows, while 2012 indicated a rather normal to low annual mean flow.

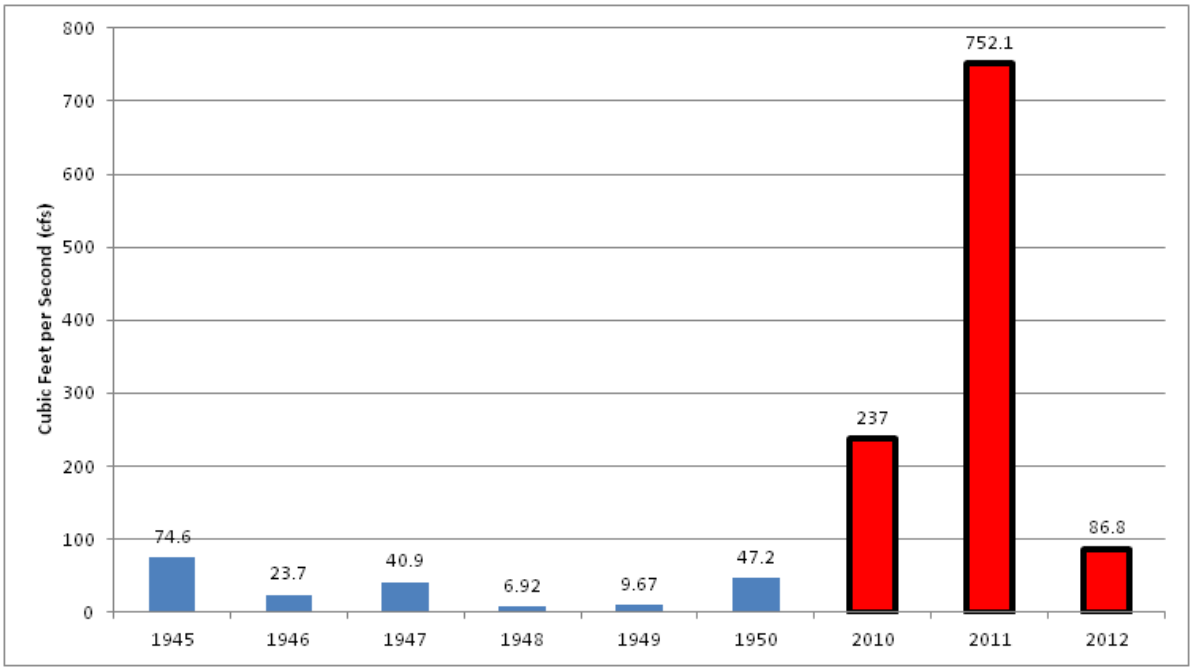

Figure 1. Mean Annual Discharge at the USGS Gauging Station (05052000) on the Wild Rice River near Mantador, ND (1945-1950 and 2010-2012).

Discharge for the watershed is used to determine the flow duration curve that will be used in the load duration curve analysis. Therefore, shown in Figure 2 the flow duration curve for site 380006, with a flow duration interval of 50 percent, is related to a stream flow of 42 cubic feet per second (cfs) and in Figure 3, representing site 385234 a flow duration interval of 50 percent, is associated with the stream flow of 77 cfs, implying that 50 percent of all observed mean daily discharge values from these two sites are less than, equal to, or exceed 42 or 77 cfs, respectively.

As mentioned earlier, this is a complement to the concentration data (measured in mg/L) and will help to depict how often large amounts of water are flowing through the watershed.

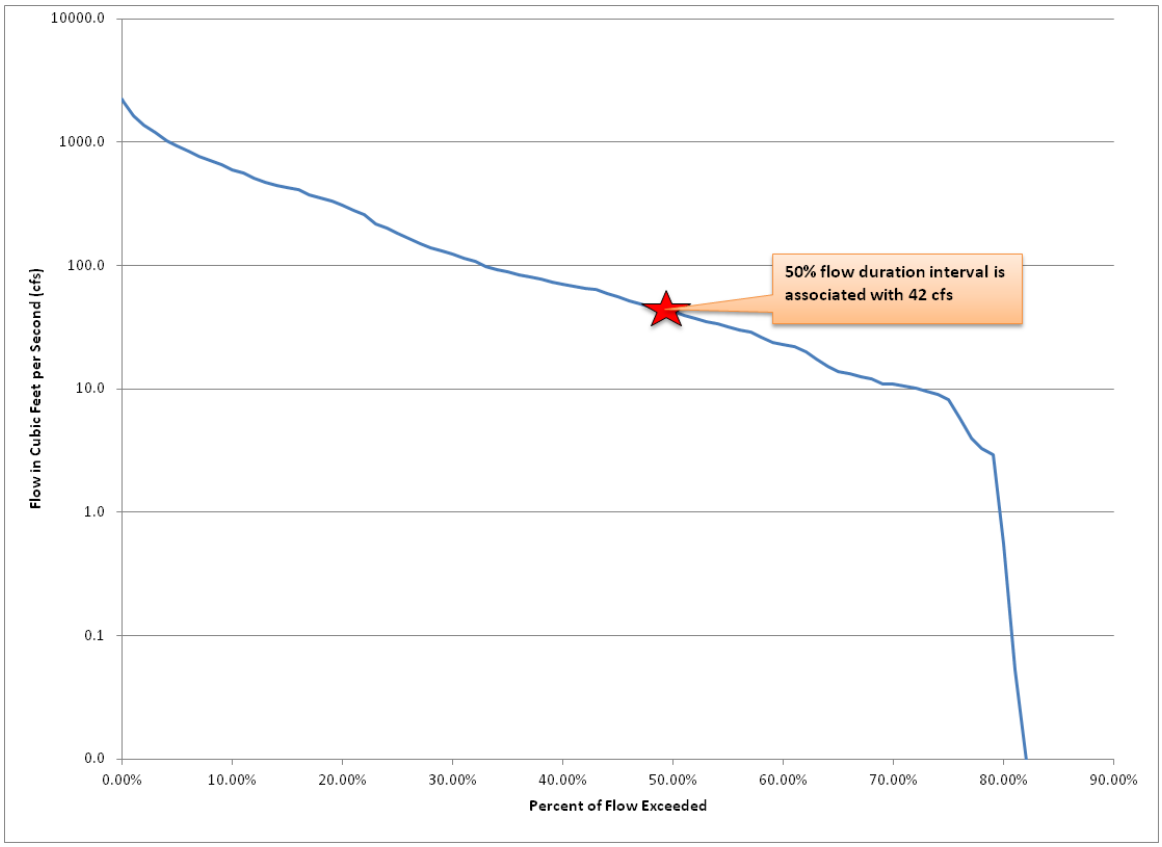

Figure 2. Flow Duration Curve for Monitoring Station 380006.

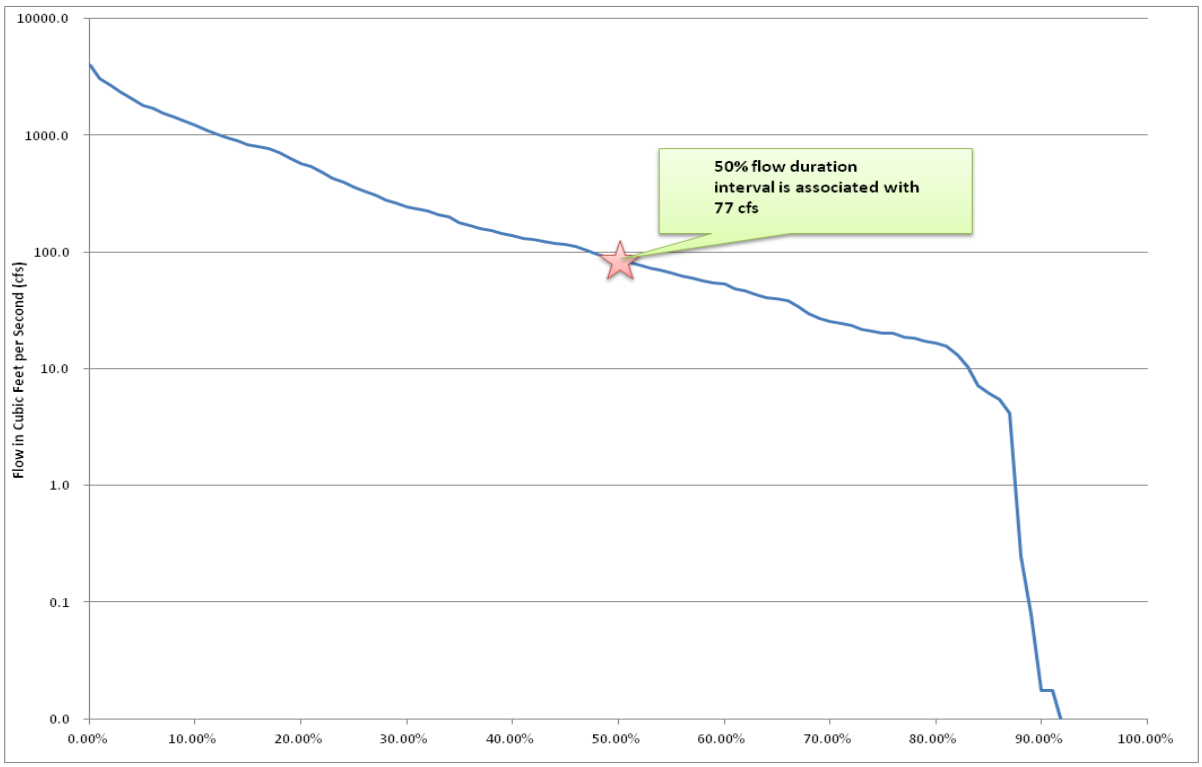

Figure 3. Flow Duration Curve for Monitoring Station 385234.

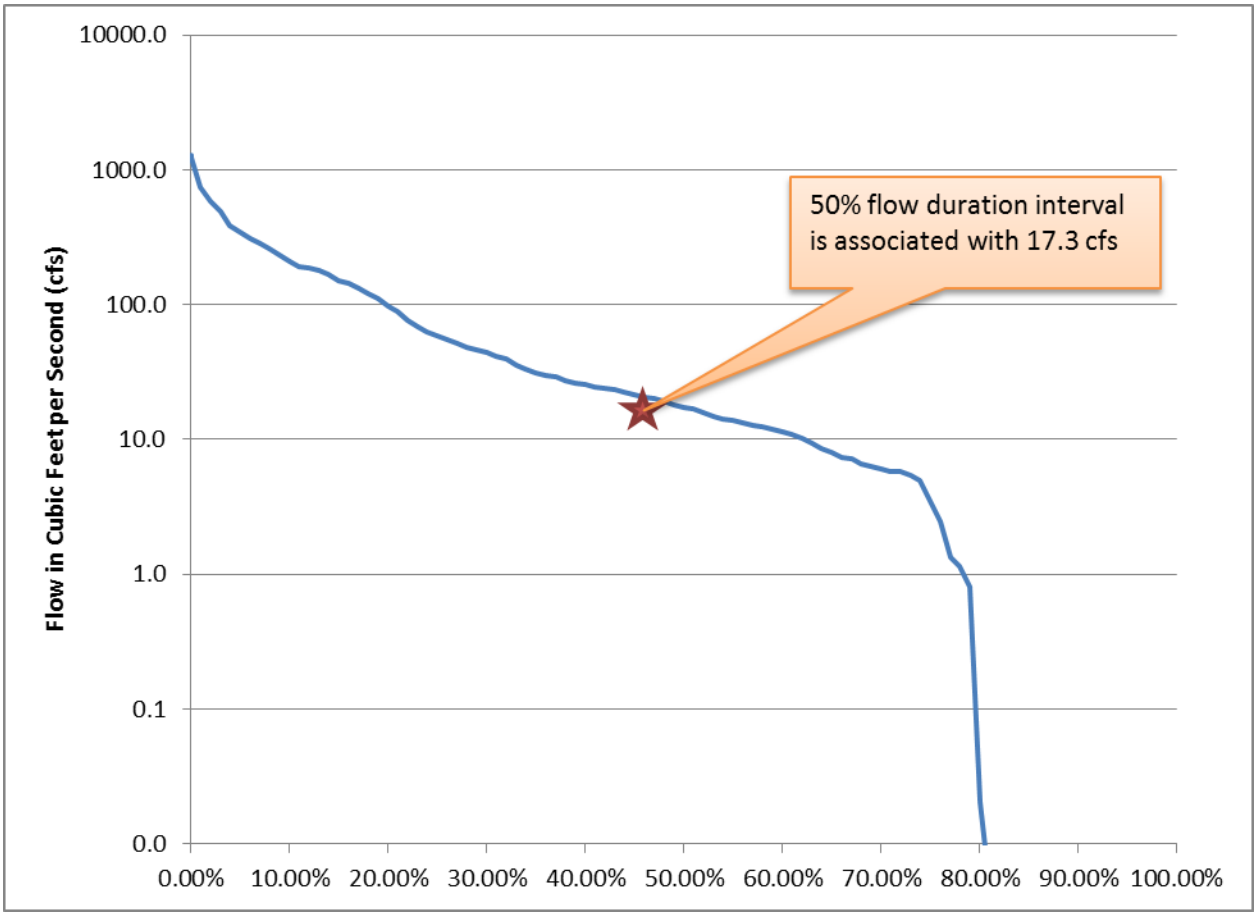

Figure 4. Flow Duration Curve for Monitoring Station 384037.

Total Nitrogen Load Duration Curve Analysis

<u>Wild Rice River and Shortfoot Creek</u>

According to the draft report *An Ecological Assessment of Perennial, Wadeable Streams in the Red River Basin* (Larsen, 2012), Ecoregion 46 (Northern Glaciated Plains) and 48 (Lake Agassiz), had total nitrogen reference values of 0.581 mg/L and 0.883 mg/L, respectively. These values were derived from nutrient data collected at a set of "least disturbed" reference sites located in the Northern Glaciated Plains and Lake Agassiz ecoregions of North Dakota. These values are not a water quality standard, as nutrient criteria or standards have not yet been developed, but are provided as a point of reference or goal when evaluating the data collected within the watershed.

Daily load estimates points above the criteria line of 0.581 mg/L for sites 380006 and 384037, and 0.883 mg/L for site 385234 depict observed concentrations that exceeded the reference concentration value for that flow, and would have also exceeded the nitrogen load of a least impaired/impacted reference stream for that given flow.

Ideally, values that are close to the line indicate a nitrogen load for the stream that is close to the least impacted condition for this ecoregion, and therefore is more healthy. The further away from the criteria line, the larger the negative impact to the stream becomes.

In Figures 4, 5, and 6, the load duration curves for sites 380006, 384037, and 385234 indicates that the total nitrogen load is highly related to flow as the symmetry of the samples follow the flow curve quite closely. This indicates that sources of nitrogen are most likely from overland flow related to nonpoint source pollution runoff.

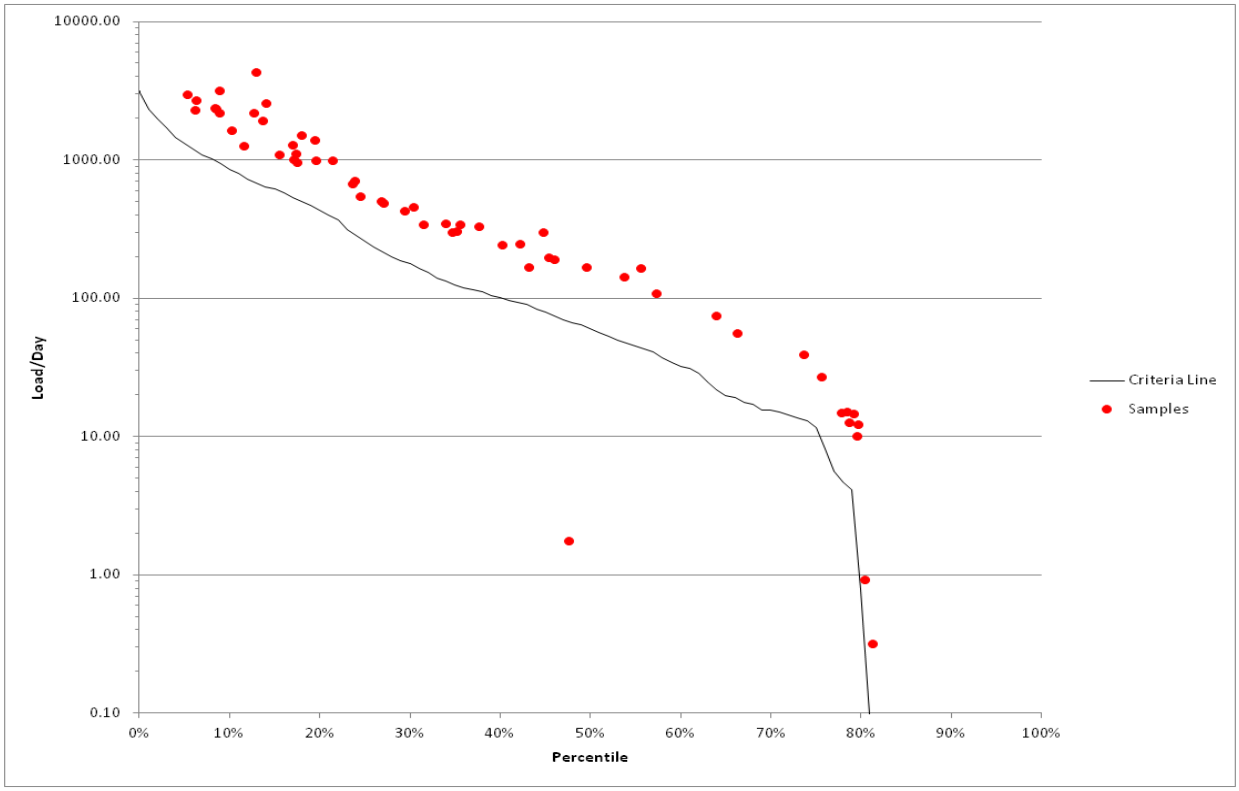

Figure 5. Total Nitrogen Load Duration Curve for the Wild Rice River Monitoring Station 380006 (the curve reflects flow data from 2010-2013).

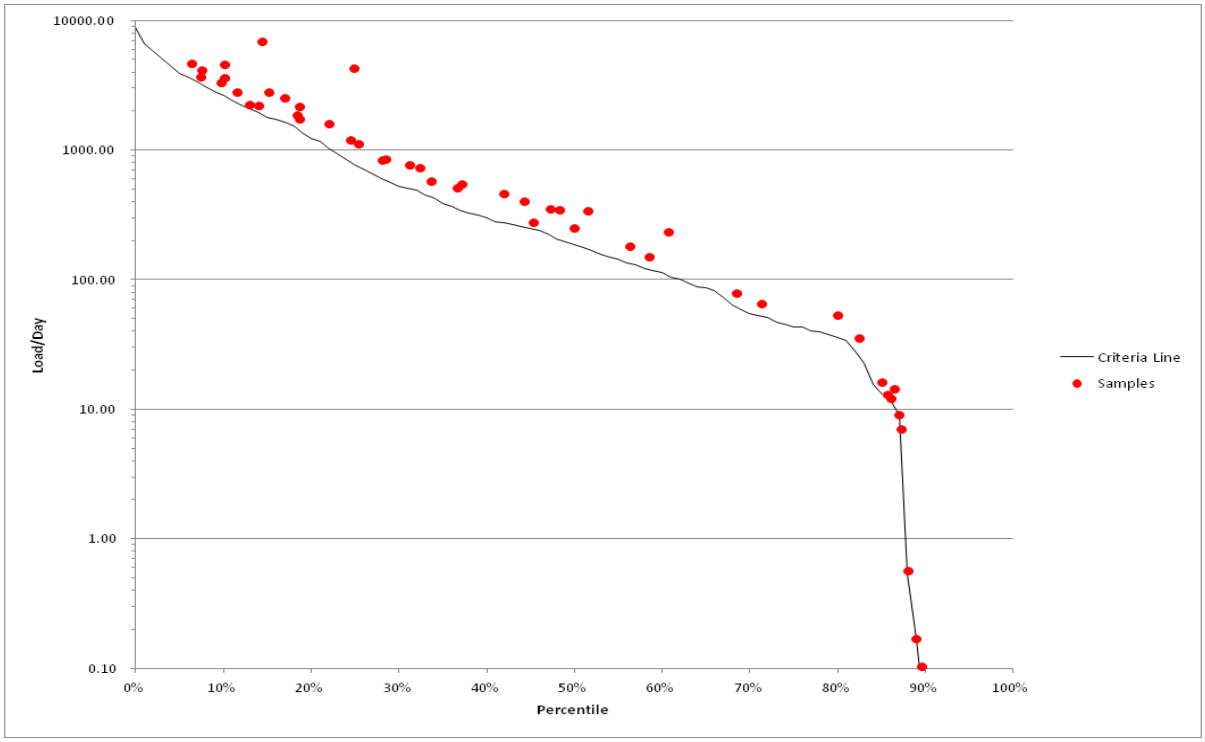

Figure 6. Total Nitrogen Load Duration Curve for the Wild Rice River Monitoring Station 385234 (the curve reflects flow data from 2010-2013).

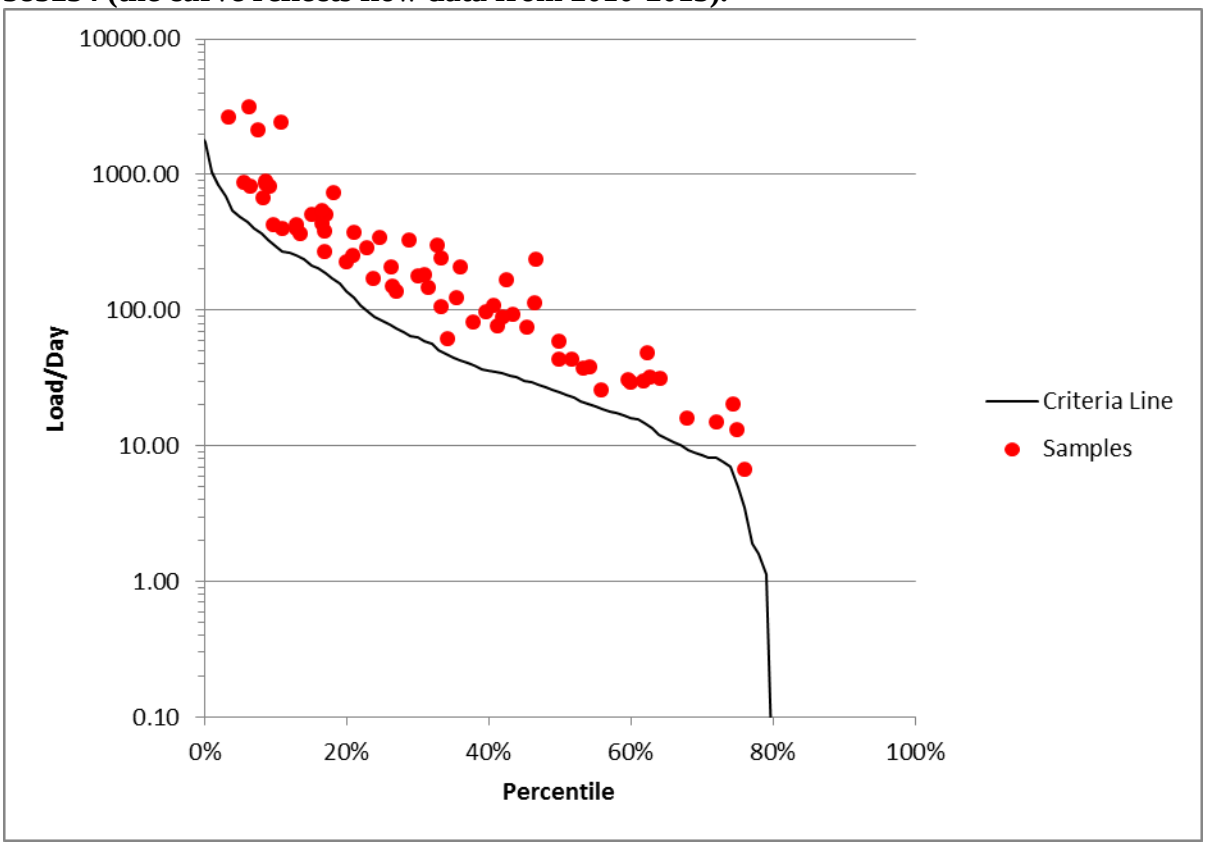

Figure 7. Total Nitrogen Load Duration Curve for Shortfoot Creek Monitoring Station 384037 (the curve reflects flow data from 2010-2013).

Total Phosphorus Load Duration Curve Analysis

<u>Wild Rice River and Shortfoot Creek</u>

Based on the draft report *An Ecological Assessment of Perennial, Wadeable Streams in the Red River Basin*, (Larsen, 2012), a total phosphorus reference value of 0.148 mg/L was estimated for the Lake Agassiz Ecoregion (48) and 0.115 mg/L for the Northern Glaciated Plains Ecoregion (46). These reference values were developed based on data collected at "least disturbed" reference sites located in the Northern Glaciated Plains and Lake Agassiz Ecoregions. Again, the reference values of 0.148 mg/L and 0.115 mg/L are not water quality standards, but are provided as a point of reference when evaluating the data.

Daily load estimates points above the criteria line of 0.115 mg/L for sites 380006 and 384037, and 0.148 mg/L for site 385234 depict observed concentrations that exceeded the reference concentration value for that flow, and would have also exceeded the phosphorus load of a least impaired/impacted reference stream for that given flow.

In Figure 6 and 7, the load duration curves for sites 380006 and 385234 indicate that the total phosphorus load is also related to flow conditions. This would also suggest that sources of phosphorus could be overland flow runoff and riparian grazing.

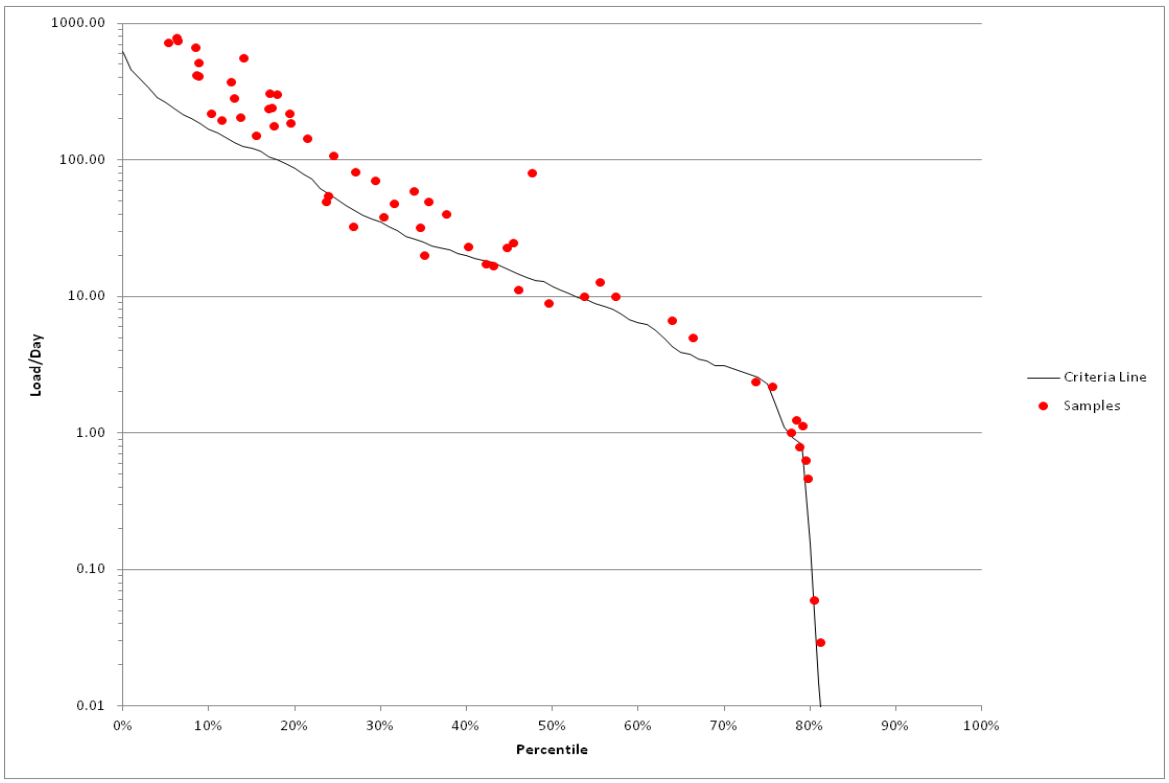

Figure 8. Total Phosphorus Load Duration Curve for the Wild Rice River Monitoring Station 380006 (the curve reflects flow data from 2010-2013).

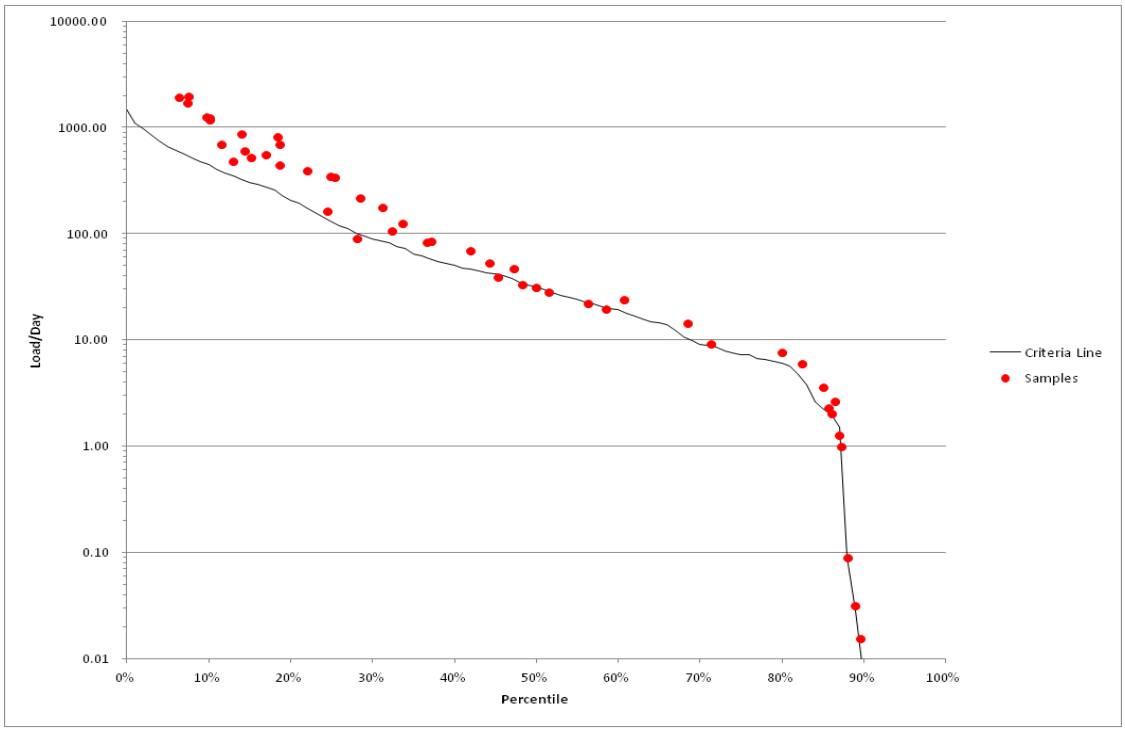

Figure 9. Total Phosphorus Load Duration Curve for the Wild Rice River Monitoring Station 385234 (the curve reflects flow data from 2010-2013).

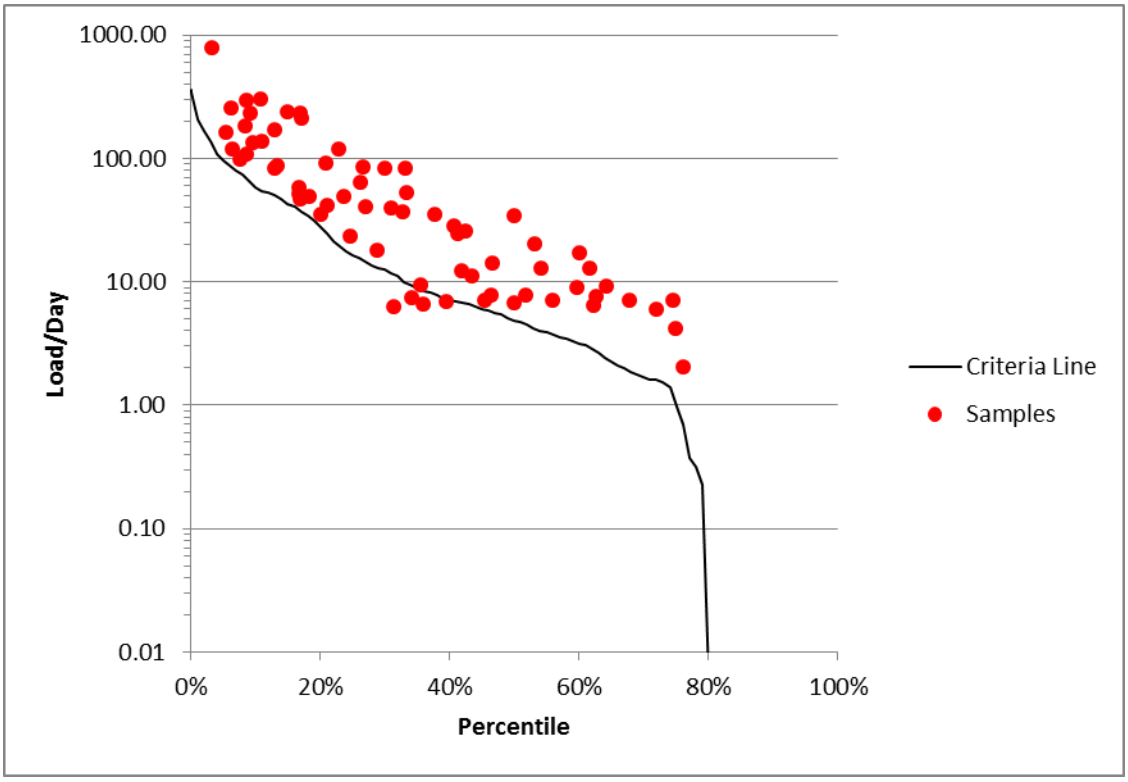

Figure 10. Total Phosphorus Load Duration Curve for the Shortfoot Creek Monitoring Station 384037(the curve reflects flow data from 2010-2013).

The load duration curves developed for site 380006 and 385234 on the Wild Rice River and 384037 on Shortfoot Creek indicate an increase input of total nitrogen and total phosphorus into the river system. The increase in nutrient inputs is a result of nonpoint sources (i.e. overland runoff, riparian grazing, etc.) located within the Wild Rice River and Shortfoot Creek watershed.

Crooked Creek Nutrient Results

A load duration curve was not developed for Crooked Creek due to insufficient flow data. Therefore, nutrient results for Crooked Creek were summarized for minimum, maximum, average, and median values and are presented in the Figures 10 and 11. The same nutrient criteria value for ecoregion 46 is represented by the red line on the graph.

The graph shows that Crooked Creek is also experiencing high levels of nutrients entering the river system.

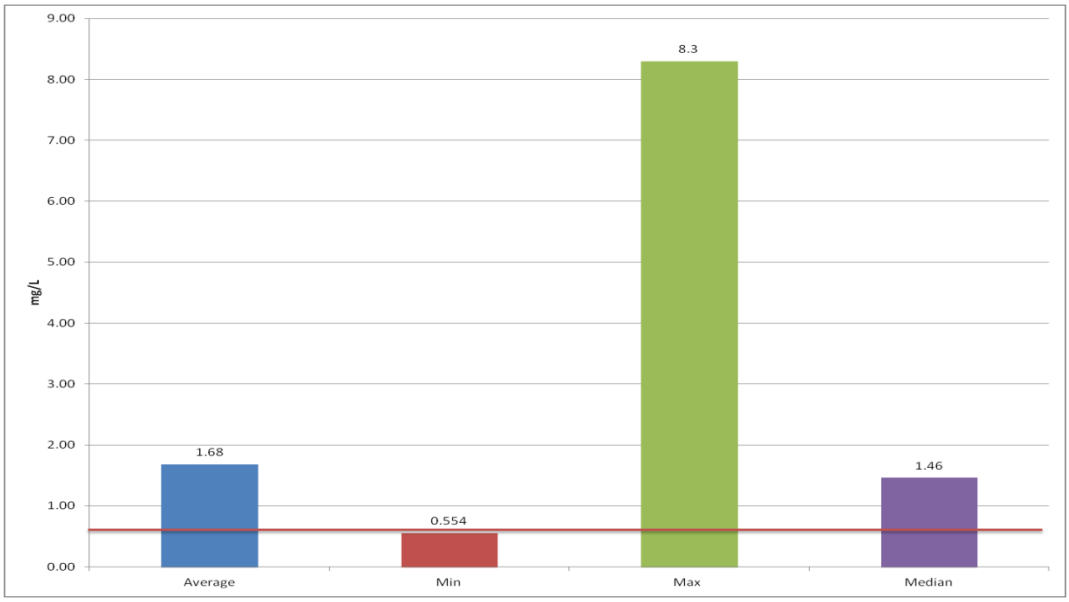

Figure 11. Total Nitrogen Concentration Results and Nutrient Criteria Line for Crooked Creek.

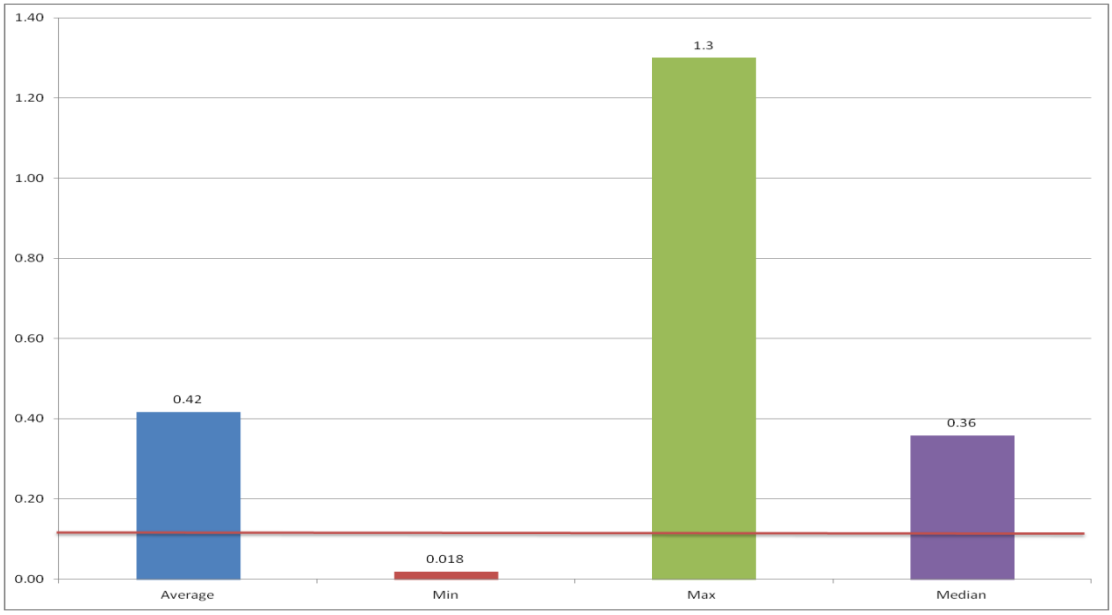

Figure 12. Total Phosphorus Concentration Results and Nutrient Criteria Line for Crooked Creek.

Recreational Use Assessments for Sites 38006 and 385234

Within the Wild Rice River watershed, E. coli data was collected at two sites (380006 and 385234). Data were collected during the recreation season of May 1 through September 30 in 2011 to present. Recreational beneficial use attainment was determined for each site and is summarized in Tables 1 and 2.

Analysis of E. coli bacteria data collected at site 380006 in May 2011 to August 2013, demonstrated that the months of May, July, August, and September were fully supporting recreational beneficial uses. The geometric mean and percent exceeded calculations for beneficial uses in the month of June were not supporting recreational beneficial uses.

The recreational use support assessment of E .coli bacteria data for site 385234 concluded that during the month of September recreational beneficial uses were not supporting, May was assessed as fully supporting, but threatened, and June, July, and August was fully supporting recreational beneficial uses.

Table 1. Recreational Use Attainment Analysis for Monitoring Site 380006.

Monitoring Site 380006									
May		June		July		August		September	
5/18/2011	10	6/1/2011	200	7/5/2011	130	8/1/2011	70	9/6/2011	50
5/23/2011	10	6/6/2011	20	7/6/2011	30	8/2/2011	10	9/7/2011	30
5/25/2011	10	6/7/2011	30	7/11/2011	60	8/8/2011	150	9/12/2011	140
5/31/2011	150	6/13/2011	10	7/12/2011	60	8/9/2011	90	9/13/2011	30
5/7/2012	40	6/14/2011	10	7/18/2011	70	8/15/2011	2900	9/19/2011	300
5/9/2012	50	6/20/2011	120	7/19/2011	10	8/16/2011	90	9/20/2011	150
5/14/2012	30	6/21/2011	6400	7/25/2011	20	8/22/2011	70	9/26/2011	40
5/16/2012	30	6/27/2011	250	7/9/2012	10	8/23/2011	230	9/27/2011	70
5/21/2012	130	6/28/2011	10	7/11/2012	110	8/29/2011	170	9/4/2012	10
5/23/2012	310	6/4/2012	210	7/17/2012	210	8/30/2011	70		
5/29/2012	170	6/6/2012	280	7/18/2012	10	8/6/2012	40		
5/30/2012	160	6/11/2012	110	7/23/2012	10	8/7/2012	90		
5/7/2013	10	6/13/2012	620	7/24/2012	100	8/13/2012	160		
5/6/2013	10	6/18/2012	600	7/30/2012	60	8/15/2012	100		
5/13/2013	10	6/20/2012	2700	7/31/2012	80	8/20/2012	90		
5/14/2013	40	6/25/2012	320	7/1/2013	160	8/22/2012	100		
5/21/2013	250	6/27/2012	190	7/8/2013	230	8/27/2012	20		
5/22/2013	10	6/5/2013	40	7/10/2013	1100	8/28/2012	60		
5/28/2013	10	6/4/2013	70	7/15/2013	370	8/5/2013	10		
5/29/2013	10	6/11/2013	220	7/17/2013	110	8/7/2013	40		
		6/12/2013	150	7/22/2013	80	8/13/2013	50		
		6/24/2013	280	7/30/2013	50				
				7/31/2013	80				
	33		142		67		78		58
	0%		18%		4%		5%		0%
FS		NS		FS		FS		FS	

FS – Fully Supporting; FSbT- Fully Supporting, but Threatened; NS – Not Supporting; INSFD – Insufficient Data

Table 2. Recreational Use Attainment Analysis for Monitoring Site 385234.

Monitoring Site 385234									
May		June		July		August		September	
5/18/2011	10	6/1/2011	200	7/5/2011	40	8/1/2011	110	9/6/2011	160
5/23/2011	60	6/6/2011	10	7/6/2011	20	8/2/2011	10	9/7/2011	80
5/25/2011	20	6/7/2011	10	7/11/2011	100	8/8/2011	20	9/12/2011	60
5/31/2011	5800	6/13/2011	40	7/12/2011	60	8/9/2011	20	9/13/2011	500
5/7/2012	10	6/14/2011	40	7/18/2011	100	8/15/2011	1100	9/19/2011	100
5/9/2012	40	6/20/2011	30	7/19/2011	20	8/16/2011	100	9/20/2011	180
5/14/2012	50	6/21/2011	250	7/25/2011	30	8/22/2011	80	9/26/2011	110
5/16/2012	60	6/27/2011	310	7/9/2012	70	8/23/2011	240	9/27/2011	80
5/21/2012	30	6/28/2011	40	7/11/2012	30	8/29/2011	80	9/4/2012	140
5/23/2012	600	6/4/2012	130	7/17/2012	350	8/30/2011	120	9/10/2012	540
5/29/2012	330	6/6/2012	10	7/18/2012	90	8/6/2012	80	9/11/2012	200
5/30/2012	1600	6/11/2012	70	7/23/2012	80	8/7/2012	90	9/17/2012	360
5/7/2013	10	6/13/2012	30	7/24/2012	30	8/13/2012	110	9/18/2012	350
5/6/2013	10	6/18/2012	70	7/30/2012	120	8/15/2012	110	9/26/2012	70
5/13/2013	10	6/20/2012	1600	7/31/2012	50	8/20/2012	80	9/25/2012	80
5/14/2013	20	6/25/2012	140	7/1/2013	90	8/22/2012	90		
5/21/2013	5100	6/27/2012	120	7/8/2013	240	8/27/2012	40		
5/22/2013	1900	6/5/2013	110	7/10/2013	2900	8/28/2012	2300		
5/28/2013	20	6/4/2013	60	7/15/2013	110	8/5/2013	80		
5/29/2013	10	6/11/2013	60	7/17/2013	540	8/7/2013	160		
		6/12/2013	140	7/22/2013	180	8/13/2013	40		
		6/24/2013	1900	7/30/2013	60				
				7/31/2013	90				
	75		83		90		94		154
	25%		9%		9%		10%		13%
FSbT		FS		FS		FS		NS	

FS – Fully Supporting; FSbT- Fully Supporting, but Threatened; NS – Not Supporting; INSFD – Insufficient Data

Index of Biotic Integrity (IBI) Summary for Sargent County

Aquatic macroinvertebrates are the most common organisms used in water quality assessments. Human disturbance of streams and landscapes alter key attributes of the aquatic environment, (i.e., water quality, flow regime, habitat structure) which elicits a response from the macroinvertebrate community and can ultimately result in decreased biotic integrity. For example, if pollutants enter a waterway, sensitive species will suffer while tolerant species will continue to thrive. Changes in species composition such as this can easily be detected through index development.

An Index of Biotic Integrity (IBI) is a multi-metric index designed and calibrated for specific regions. A metric is simply an expression of the biological community. The score is a qualitative rating such as good, fair or poor that can be associated with each site for an overall indication of biological integrity.

Table 3. Reference Based Thresholds Used to Determine Condition Class in the Northern Glaciated Plains Ecoregion (46) of the Red River Basin in North Dakota.

	Fully Supporting	**Fully Supporting but Threatened**	**Not Supporting**
Percentile	25th Percentile	NA	5th Percentile
Value	> 70	70 -59	< 59

Table 4. IBI Scores for Macroinvertebrate Sampling Locations in the Wild Rice River Drainage in Sargent County, ND.

Station ID	WaterbodyName	Date	IBI Score	Condition Class
551249	Wild Rice River	26-Jun-02	53	Not Supporting
551249	Wild Rice River	31-Aug-09	45	Not Supporting
551251	Shortfoot Creek	26-Jun-02	32	Not Supporting
551251	Shortfoot Creek	01-Sep-09	44	Not Supporting
551252	Crooked Creek	26-Jun-02	16	Not Supporting
551252	Crooked Creek	01-Sep-09	14	Not Supporting
551375	Wild Rice River	17-Sep-07	61	Fully Supporting but Threatened
551376	Wild Rice River	17-Sep-07	70	Fully Supporting but Threatened

The macroinvertebrate IBI scores for Wild Rice River, Crooked Creek, and Shortfoot Creek indicate that the river systems are impaired for aquatic life. This correlates with the nutrient data for the same areas which also indicates nutrient water quality impairment. These areas are an important focal point for implementation of conservation practices.

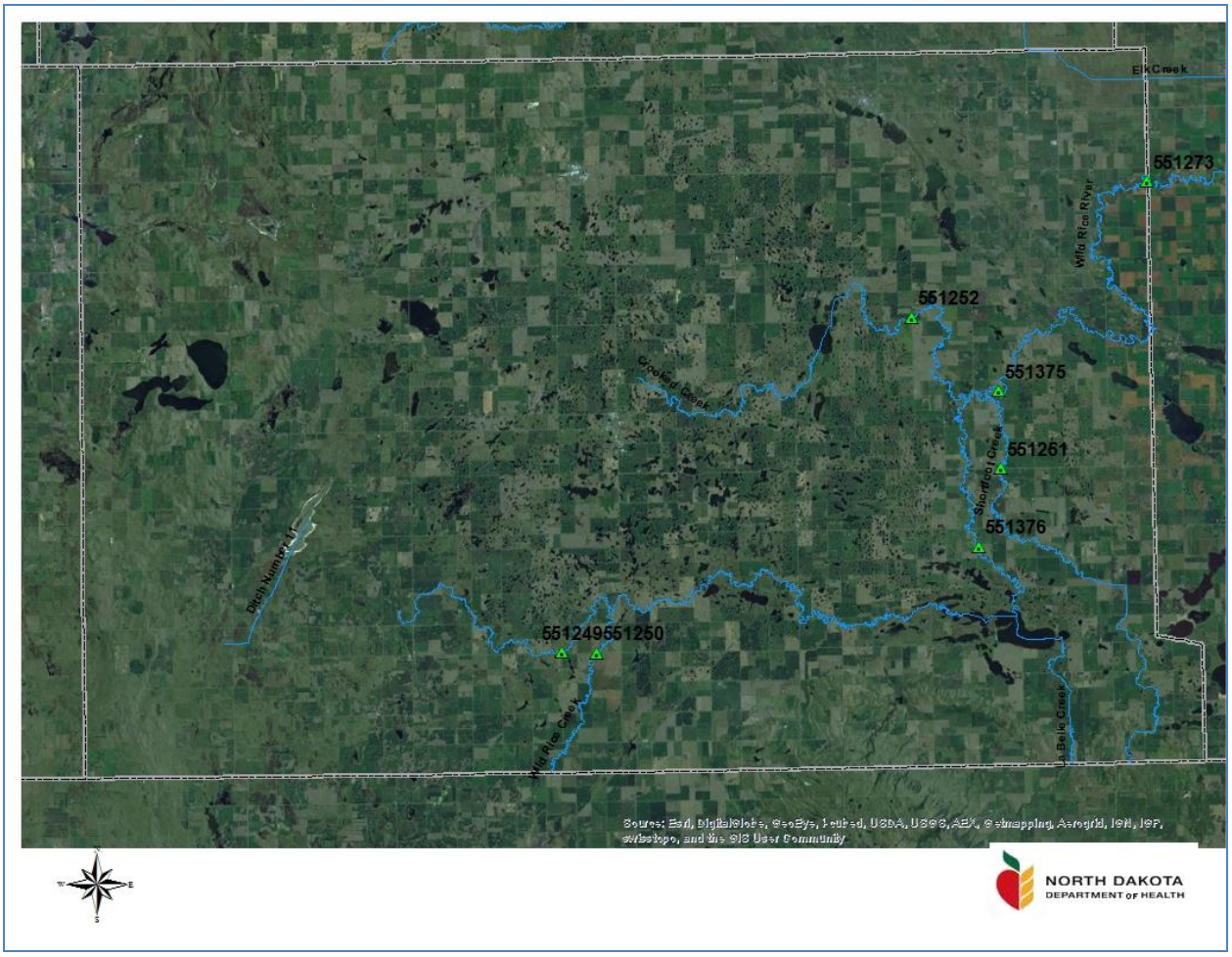

Figure 12. Sargent County Macroinvertebrate Sampling Locations.

3.0 PROJECT DESCRIPTION

3.1 Goal for the Project: The goal of the project is to restore riparian habitat and buffering capabilities in Crooked and Shortfoot Creek watersheds as well as along the mainstem of the Wild Rice River in Sargent County to improve aquatic life uses in the creeks and river. As a secondary goal, livestock and cropland management immediately adjacent to the creeks and river will also be addressed to enhance and protect the function of the riparian corridor.

3.2 Objective 1: Increase the IBI score for the specific reaches being addressed by the project to achieve a fair to good ranking (>70 for good and 59-70 for fair).

Task 1: SCD will employee personnel to manage the project during the grant period. Responsibilities will include BMP inventories, producer contacts, and water quality sampling ect.

Product: Watershed Coordinator (4 ½ years)
Cost: $212,516 Total

Task 2: SCD will conduct cropland, fertilizer management, rangeland/pasture condition, cover crops, critical area plantings, riparian, and filter strips, and manure management inventories within ½ mile of Crooked Creek, Shortfoot Creek and the Wild Rice River corridors. This data will provide a guideline to assist producers operating properties along the Wild Rice River, Crooked Creek, and Shortfoot Creek with the development of conservation plans that prescribe the most feasible BMP to improve riparian conditions and prevent the delivery of nutrients, sediments and livestock manure to the river and/or creeks.

Product: Land use Inventories
Cost: See task 1 – Staffing

Task 3: Develop and implement 363 acres (approximately 10 miles) of riparian easement, grass waterway, grade stabilization structure, filter strips, and trees along the Wild Rice River, Shortfoot and Crooked Creeks. See Appendix D.

Product: WRSCD Water Quality Easement and Erosion Control BMPs
Cost: $33,125 Total

Task 4: SCD and landowners will develop cropland management plans on 1000 acres of cropland. The plans will include BMPs such as tree plantings, conservation crop rotation, cover crops, nutrient management, and soil testing and residue management.

Product: Cropland Management BMPs
Cost: $22,860 Total

Task 5: SCD will work with the owner/operators of the priority livestock feeding areas, to develop and implement a manure management system for their feeding areas. The objective will be one in the 5 year proposal request.

Product: Livestock Manure Management System BMPs
Cost: $78,000 Total

Task 6: SCD and landowners will develop grazing management plan on 300 acres of land. These BMPs will include fencing, pipelines, wells, spring development, prescribed grazing plans, solar pumps, and winter grazing plan, tank and trough. The placement will be on the riparian corridor of the Wild Rice River as well as Crooked and Shortfoot Creek.

Product: Grazing Management Plan BMPs
Cost: $10,400 Total

Objective 2: Coordinate with the International Water Institute to develop the Light Detection and Ranging (LiDAR) based Decision Support Tool to more accurately identify specific areas in the Wild Rice River Basin that are most vulnerable to erosion and sedimentation due to concentrated runoff and utilize reports from the Decision Support Tool to establish more refined priority areas for the delivery of whole-farm or field-scale planning assistance.

Task 7: Coordinate with the ND Dept. of Health and Richland Co. SCD and WRSCD to contract with the International Water Institute to develop a LiDAR based Decision Support Tool for the Wild Rice River Basin that can be used to identify and prioritize specific areas in that watershed that may be significant sources of nutrients and sediment.

Product: Decision Support Tool and site-specific priority areas

Cost: $0 (Cost will be supported by the ND Dept, of Health through other funding sources)

***Task 8*:** Train local project staff as well as staff from local partners on the use of the Decision Support Tool

.*Product*: Local staffs who are proficient in the use of the Decision Support Tool and have the capability to train others in its use.

Cost: $ 0 (Supported under the ND Dept. of Health agreement with the International Water Institute)

Task 9: Based on the priority areas identified by the Decision Support Tool, coordinate with the applicable landowners and/or producers to develop whole-farm plans or field scale plans that will address the erosion and nutrient management concerns on the acres draining to identified priority sites.

Product: Farm unit or field-scale plans for approximately 10 priority areas.

Cost: $0 (Costs for planning is included in the Task for staffing and support.)

Objective 3: Increase awareness in the rural and urban watershed of the importance of daily practices to achieve and maintain fully supporting status of recreational and aquatic life uses, by delivering a Watershed Information/Education Program.

Task 10: The Watershed Coordinator will conduct public meetings/notification yearly on watershed accomplishments.

Product: Annual Report and Program Information Meetings, 10 one-on-one personal contacts.

Cost: $2,000 Total

***Task 11*:** The SCD will disseminate information to increase producer awareness of practices and/or management systems that can be implemented to improve management of nutrients, riparian areas, and livestock manure, as well as improve soil health and reduce soil erosion.

Product: An annual cover crop tour, biennial ladies Ag night, 4 annual newspaper articles, yearly display boards in county businesses and fair.

Cost: $1,000 Total

Task 12: The Watershed Coordinator will implement a conservation education program with local schools on watersheds and water quality as related to Wild Rice River Restoration and Riparian Project .Specific activities will be determined through planning between watershed coordinator and interested teachers.

Product: Envirothon Team, First Grade Recycle Museum Tour

Cost: $1,000 Total

Objective 4: The Conservation Cropping System Project Farm (CCSP) provides opportunities for producers and the general public to increase their understanding of NPS pollution related to

agricultural production and potential cropping options and management systems that can be used to reduce the delivery of sediments and nutrients to rivers, lakes and streams in southeastern ND. See Appendix B and C

Task 13: Employ an experienced soil scientist and equipment specialist with and commercial pesticide applicator license to perform day to day operation on the demonstration plots.

Product: Staff Employed
Cost: No 319 Funding

Task 14: Employ a part time field tech for summer work on demonstration farm Pull soil samples and leaf tests on 50 plots to verify nitrogen status to exclude or include fertility affects to rotations.

Product: Staff Employed
Cost: No 319 Funding

Task 15: Coordinate with the CCSP board to implement a variety of crop rotations and tillage systems to demonstrate the most feasible and economical crop management systems that can be used locally to reduce soil erosion, improve soil health, display cover crops and prevent the delivery of nutrients to nearby waterbodies. Increase the public's understanding of the impacts of NPS pollution and potential solutions through the use of a 120 acre, 180+ plot, rotation cropping demonstration farm.

Product: 160 acres CCSP Demonstration Farm
Cost: $14,510

Task 16: Organize and conduct scheduled information and education (I/E) events focusing on NPS pollution control within agricultural areas and coordinate them with ongoing state/federally sponsored I/E programs. Farm Manager and Watershed Coordinator will participate in Tillage Workshops, Scheduled Tours of CCSP, radio programs, and booth presentations.

Product: display and inform about compost and compost turners, rainfall simulator, no-till equipment. Guest speakers and educators are guests on the Farm Talk Mick Kjar radio Ag show.

Cost: $5,203 Total

3.3 See Attached Milestone Table in Appendix E

3.4* Permits*: All necessary permits will be acquired. These may include CWA (Clean Water Act) Section 404 permits. Project sponsors will work with NDDH to determine if National Pollution Elimination System permits are needed for the proposed livestock systems.

***3.5* Lead Project Sponsor** Wild Rice Soil Conservation District (WRSCD) is the lead sponsor. Wild Rice SCD has sponsored three 319 projects. The WRSCD's annual and long range plans help to prioritize and guide the field service staff. The WRSCD has legal authorization to employ personnel and receive and expend funds. They have a track record for personnel management and addressing conservation issues for their constituency. The Sargent County Water Resource Board is responsible for the management of water resources in Sargent County. They will provide support for the project as well as assist the WRSCD in overseeing the projects progress.

3.6 Operation and Maintenance The Wild Rice SCD will be responsible for auditing Operation and Maintenance Agreements (O&M) for Section 319 cost shared BMP through yearly status reviews of EPA Section 319 contracts. The lifespan of each BMP will be listed in each individual contract to ensure longevity of the practices. The producer signs the "EPA 319 Funding Agreement Provision" form which explains in detail the consequences of destroying a BMP before the completion of it lifespan. The Wild Rice Soil Conservation District Water Quality Easement will be filed, with the County Office Recorder at the Sargent County Count House. The original document will be file in a custody file at the Wild Rice Soil Conservation District Office. See Appendix D

4.0 Coordinating Plan

4.1 Cooperating Organizations The WRSCD is the signer of the Section 319 contract and is the lead agency responsible for administration. They will provide office space, clerical assistance, access to equipment, and supplies as well as annual financial support. The WRSCD board will oversee implementation of the scheduled project activities, and provide for staff time if feasible. The board (WRSCD) will be the primary supervisors of the watershed conservationist and all Section 319 funded activities.

4.1b The Sargent County Water Resource Board (SCWRB) will assist the WRSCD in project implement and provide negotiable financial support.

4.1c Sargent County Commission (SCC) - The Sargent County Commission has agreed to support this project.

4.1d. NRCS Environmental Quality Incentives Program (EQIP) will be used to plan relevant conservation practices not supported by the 319 grant. Some projects, like animal waste systems, can included several cost-sharable conservation practices. The 319 project dollars will be used to cover areas, practices, or landowners not addressed though EQIP.

4.1e North Dakota Department of Health (NDDH). - The NDDH will oversee 319 funding as well as develop the Quality Assurance Project Plan (QAPP) for this project. NDDH will provide training for proper water quality sample collection, preservation and transportation, to ensure reliable data is obtained. It will provide the sponsor over sight to ensure proper management and expenditure of Section 319 funds. They will assist NRCS and SCD personnel in the review of O&M requirements for section 319 cost shared BMP's.

4.1f Farm Services Agency (FSA) - Programs available through FSA will be pursued for cost share assistance.

4.1g North Dakota Extension Service (EXT) - Local and State personnel and educational materials will be utilized to compliment the projects I/E activities. This will include such things as specific BMP publications and assistance with workshops and field tours. The specific role of EXT will be dependent on the type of I/E activity being implemented and availability of staff and materials.

4.1h USF&W Programs and technical assistance available through USF&W will be pursued for project assistance.

4.1i Ducks Unlimited Inc. (DU) - DU has agreed to support the project and to provide conservation planning and technical assistance for the implementation of BMPS through a partnership with the DU sponsored Winter Cereal Initiative (WCI). The WCI project will promote winter cereal grains and conservation tillage through incentive payments and technical assistance over the project period through a partnership to implement conservation practices benefiting multiple resources.

4.1j The Conservation Cropping System Project (CCSP) board, with the assistance of the Advisory board will oversee the implementation of the demonstration farm.

Appendix C - advisory members

4.2 Local Support The WRSCD Board has concerns for the Sargent County community at large. All the board members are on township boards, we have one board member on the SCWRB. Spring 2013, 75 plus people attend the Wild Rice SCD Long Range Planning meeting.

4.3 Partnership The WRSCD will work with multiple partners (e.g., NRCS, other SCDs, WRD, Extension Service, CCSP Farm, etc.) to increase awareness of solutions to water quality and NPS pollution issues in the area. This will be accomplished through educational events and/or demonstrations that focus on the benefits various conservation practices provide in protecting soil resources, improving air and water quality; enhancing fish and wildlife habitat, and improving nutrient and rangeland management. Some of these events may include an annual cover crop tour; biennial ladies Ag night; 4 annual newspaper articles; 1 annual radio program; and yearly display boards in county businesses and the county fair.

4.4 Similar Activities N/A

5.0 EVALUATION AND MONITORING PLAN

The project sponsors are currently coordinating with the ND Department of Health to develop the Quality Assurance Project Plan (QAPP). The QAPP will be included in the final PIP when it is fully approved.

6.0 BUDGET

6.1 See Appendix F, the budget worksheet.

7.0 Public Involvement

The Wild Rice Watershed Program has a past history of watershed projects. The success of the program has secured public involvement on a widespread basis. The Wild Rice Restoration and Riparian Project Phase II and Sargent County SCDs are active in youth education. The county sponsors an EcoEd Day every year for middle school children. The purpose of the camp is to help stimulate the need for natural resource conservation. Public tours and demonstrations are held each year to inform the public on various conservation issues such as no-till farming, strip tillage, cover crops. The Wild Rice Restoration and Riparian Project Phase II will be handled in a

manner similar to that of other projects. With this, local project staff feels that public involvement is guaranteed.

Appendix A
1of 2

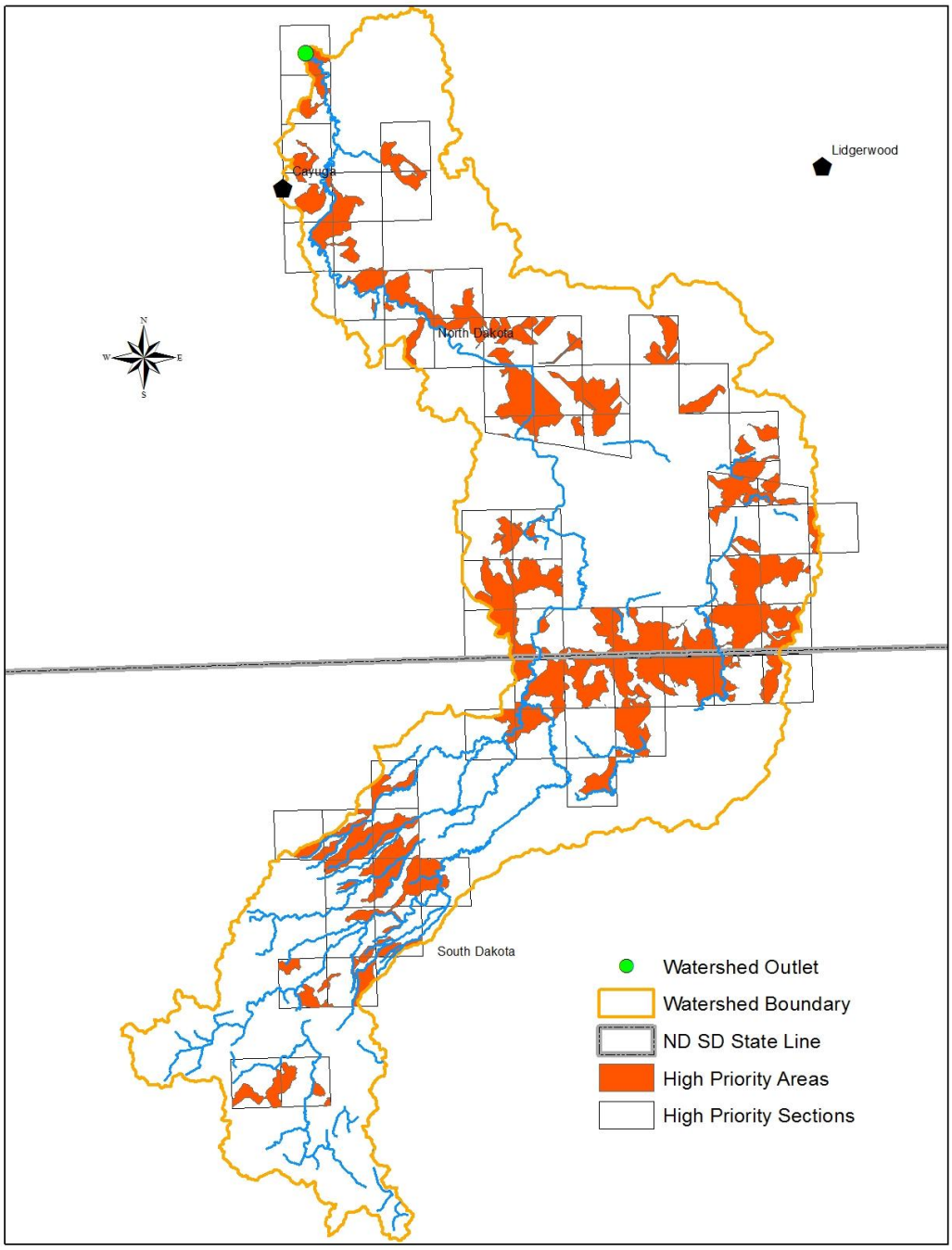

Figure 1. Annualized Agricultural NonPoint Source Pollution (AnnAGNPS) priority area map for Shortfoot Creek.

Appendix A
2of 2

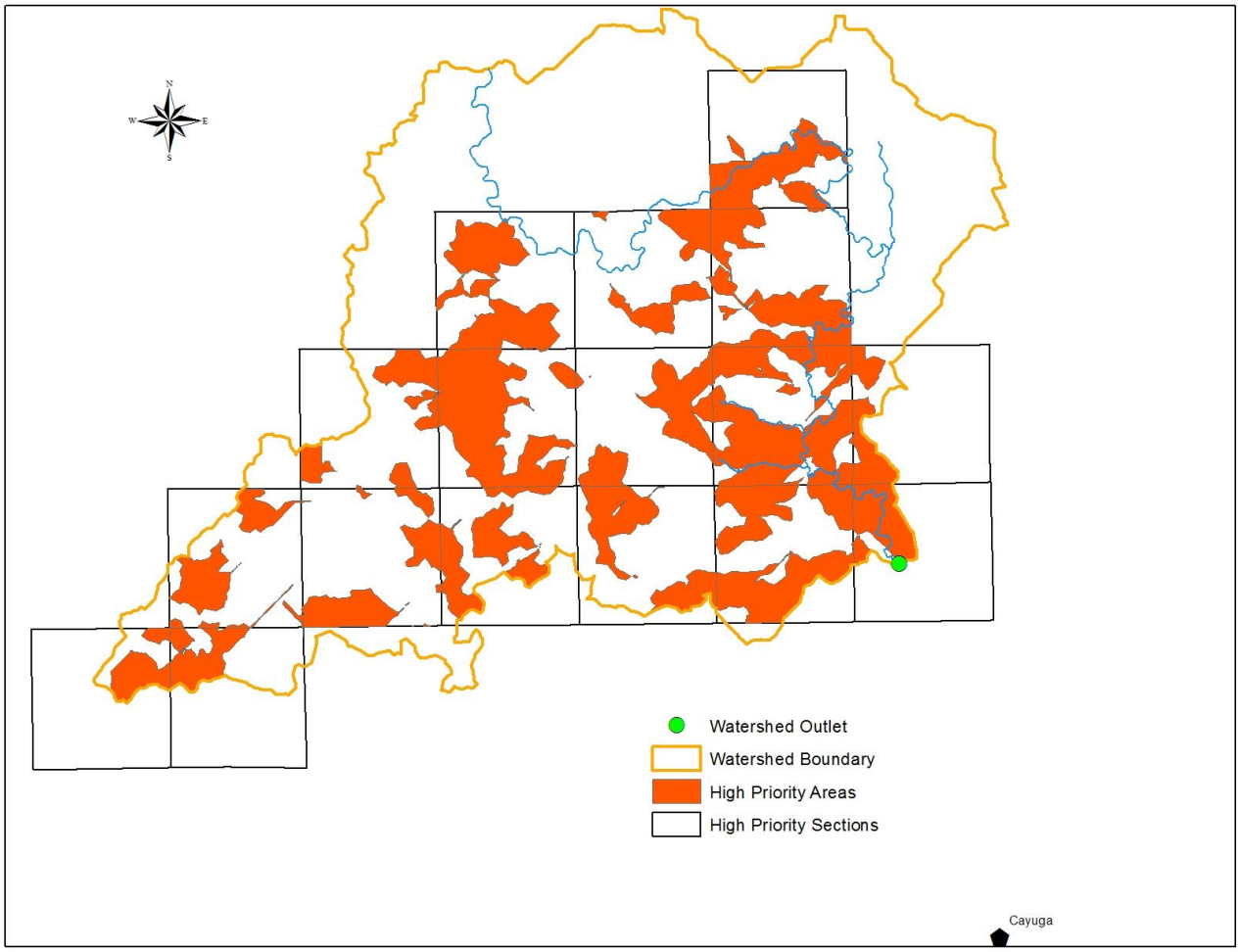

Figure 2. Annualized Agricultural NonPoint Source Pollution (AnnAGNPS) priority area map for Crooked Creek.

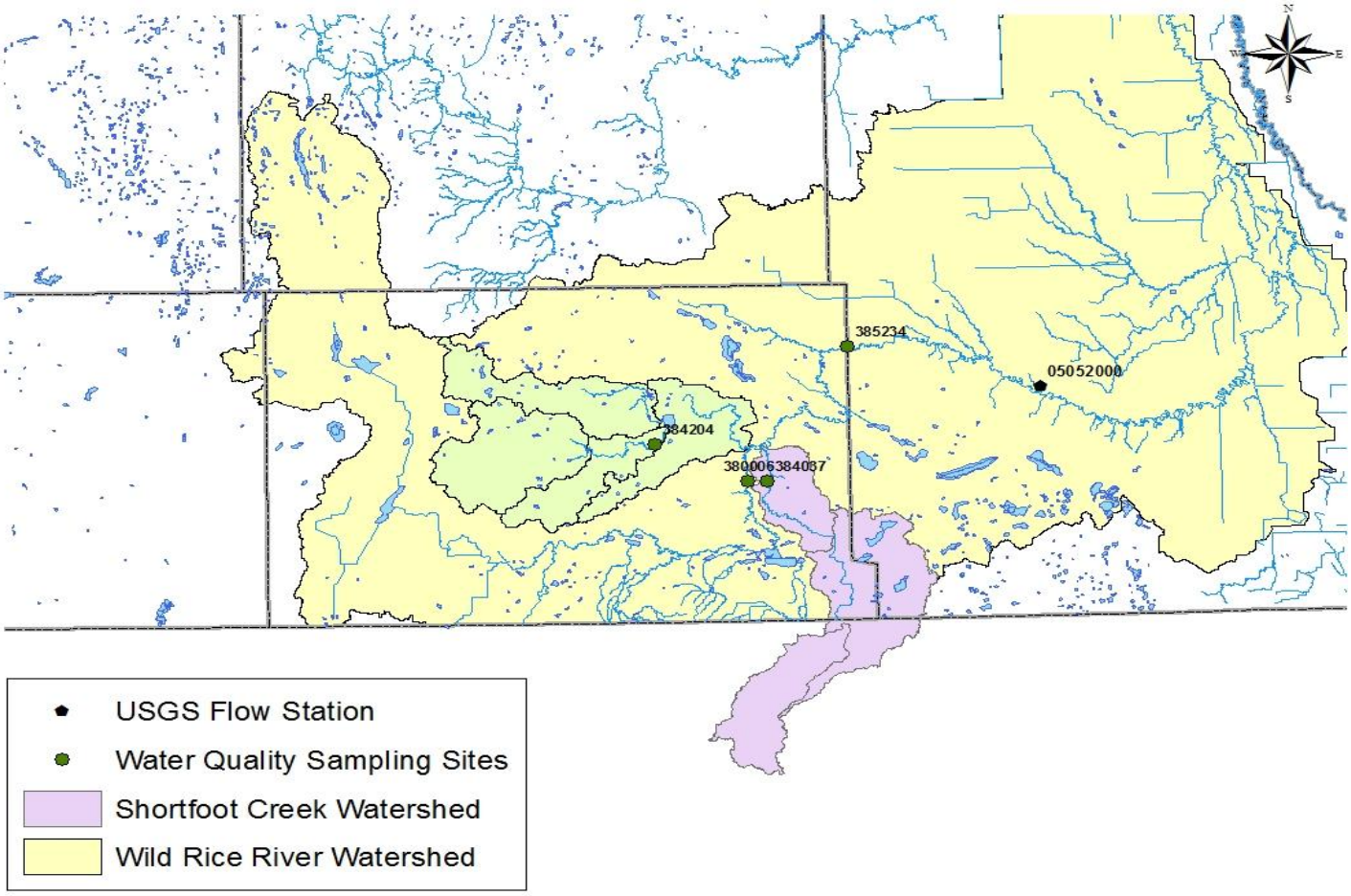

Figure 3. Location of Crooked and Shortfoot Creek subwatersheds in the Wild Rice River watershed.

Appendix B

3.0 PROJECT DESCRIPTION

The Conservation Cropping Systems Project board composed of local producers representing counties with the targeted region from both sides of the NO - SO border. Professionals from agricultural research, as well as natural resources conservation agencies, and non-profit interest groups will assist the directing board with technical advice and support. The projects activities will take place on a 160-acre conservation demonstration farm located just south of Forman, NO.

The mission of the Conservation Cropping Systems Project is to evaluate and demonstrate profitable crop rotations and crop management strategies that are uniquely adapted to the local climate. These strategies will strive to protect the natural resources of southeast North Dakota and northeast South Dakota through research, demonstration and education.

The Conservation Cropping Project will provide producers in the target area a very good tool to compare one crop rotation against many other crop rotations. These crop rotations will be able to show how to reduce the use of fertilizer and pesticides by using legumes, such as soybeans, alfalfa, field peas, etc. in rotation. Nitrogen would be produced naturally, thus reducing the required amount of commercial fertilizer. By timing applications precisely and by using less commercial fertilizer, the chances of nitrates leaching into our lakes and streams are reduced.

By using crop rotations, weed and insect cycles can be broken, reducing the amount of pesticides needed. Some insects feed on cool season crops, while others prefer warm season crops. The alternating of warm and cool season crops will lower weed pressures and break insect cycles. This project has not been designed as an organic study, but it will have some good application for someone interested in this type of farming.

The demonstration will run at least fifteen years. It is designed to compare 8 or more different crop rotations. Crop rotations will range from 2 to 6 year rotations, with many different commodity crops used in the rotations. Cover crops will be tested.

Some crops, such as winter cereals, provide excellent nesting habitat for pintails, other ducks, game and non-game wildlife. Pesticide usage and soil erosion is reduced and water quality is improved. The various types of crop rotations will be used to compare water and wind erosion, soil tilth, soil moisture retention, gain in organic matter, infiltration rates, and most important, the profitability of each rotation.

As we monitor the increase of organic matter, the amount of carbon being sequestered can be calculated. Carbon credits may become a possibility for farmers to sell power plants and other pollution producers who are required to meet the federal clean air guidelines. This part of the project may prove to be an important side benefit of the study.

The results from the project will be presented to producers in the target area as well as to all appropriate sectors of society. Field days on the premises will be planed for agricultural producers to see the differences between the long and short rotations, no-till seeding practices and water quality management practices. Internet, newsletters, newspapers, and other media will distribute the information. The demonstration will be designed as a replicated scientific study, three sites for each rotation, so as to make the data collected statistically reliable. One or two crop rotations using

prevailing common practices will also be part of the demonstration.

Appendix C

CCSP-Conservation Cropping Systems Project

Day County:
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605-880-4059

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Pat Freeberg
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701-678-3368

Sargent County:
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701-678-5447
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Mark Wyum
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701-680-0434

Richland County:
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Ducks Unlimited:
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71-226-8989

North Dakota State University:
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Abbey.wick@ndsu.edu

Farm Manager:
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Forman, ND 58032
701-724-6226
701-799-1180
Kelly Cooper
coop@notillfarm.org

Easement
Wild Rice Soil Conservation District

This Easement("Easement"), is made by and between_____ whose address is_____("Grantors"), and the Wild Rice Soil Conservation District, a North Dakota political subdivision whose post office address is 8991 Hwy 32, Forman, ND 58032-9702 (the "District"), Grantee.

WHEREAS, the purpose of this Easement is to provide and enhance riparian lands in locations most likely to benefit and sustain water quality. Grantors, in exchange for compensation paid by the District, wish to provide the District with an easement for these purposes. This Easement does not grant any rights to the general public for access to or entry upon the lands described below.

WHEREAS, Chapters 47-05 and 4-22 of the North Dakota Century Code authorize the District to acquire easements on eligible lands to establish conservation practices to enhance water quality.

WHEREAS, the District has developed a water quality program, with the goal of achieving "fully supporting" status for the aquatic life and recreational uses of the Wild Rice River and its tributaries within Sargent County by the means of preventing and reducing water pollutions through the establishment of vegetative riparian buffer zones.

NOW, THEREFORE, for and in consideration of the sum of_____ dollars, (_____) the receipt and sufficiency of which the parties acknowledge, Grantors hereby grant, convey, and warrant to the District, its successors and assigns, an easement in accordance with the terms and conditions set forth herein for a term of _____ years on the following real property in Sargent County, North Dakota, containing _____ acres, more or less, identified as follows, and more particularly described in the attached Exhibit A:

(the "Property"). This Easement is subject to all prior easements, roadways, and mineral rights of record.

Binding Effect. This Easement constitutes a servitude upon the Property; this Easement will run with the Property; and this Easement binds Grantors, their heirs, successors, assigns, representatives, and lessees, and including successors in title.

Ownership. Grantors represent and warrant they are the sole owners of the Property in fee simple, including any and all mineral rights; they have good and marketable title to the Property; they have the authority and right to execute this Easement; and this Easement does not violate any mortgage or other interest held by any third party regarding the Property, or any portion of the Property.

Hazardous Substances. Grantors represent and warrant there are no hazardous or toxic substances, pollutants, or contaminants in, on, or under the Property. With the exception of reasonable and necessary application of government-approved fertilizers and pesticides, Grantors will not store or permit spillage, leakage, discharge, or application, of any hazardous or toxic substance, pollutant, contaminant, compost, or manure in, on, or under the Property, and including ground water, surface water, and subsurface soils.

Access to the Property. Grantors warrant the right of not giving access to the public for ingress and egress to the Property across adjacent or other properties of Grantors. Grantors grant the District the right of reasonable ingress and egress to, from, in, on, over, across, and through the Property to inspect the Property and to ensure compliance with the terms of this Easement.

Recreational Uses. Grantors expressly reserve the right to use the Property for reasonable recreational purposes, including, but not limited to, hunting, fishing, hiking, canoeing, and kayaking, as well as access to the Property for those purposes; Grantors' access and recreational rights do not include use of motorized vehicles on the Property.

Obligations of Grantors. Grantors will comply with all terms and conditions of this Easement, including the following:

1. Grantors, their heirs, successors, assigns or leases, will manage the established native grass cover for purposes of water quality in accordance with the following Best Management Practice agreed to by the District and Grantors.

2. Without otherwise limiting the rights of the District granted in this Easement, the following activities and uses are prohibited on the Property:

   a. Altering of grassland, woodland, wildlife habitat or other natural features by burning, digging, plowing, disking, cutting, or otherwise destroying the vegetative cover except as described in the attached Best Management Practice;

   b. Draining, dredging, channeling, filling, leveling, pumping, diking, impounding, grading, excavating, or related activities, as well as altering or tampering with ground control substances or devices;

c. Diverting or causing the diversion of surface or underground water into, upon, over, across, through, within, from, or out of the Property by any means;

d. Planting or harvesting any crops;

e. Grazing or allowing livestock on the Property except as described in the attached Best Management Practice;

f. Removing topsoil;

g. Dumping refuse, waste, sewage, soil, ashes, abandoned vehicles, appliances, machinery, garbage, rubbish, junk, equipment, or other debris; and

h. Building, constructing, locating, or placing any structures on the Property.

3. Grantors will control noxious weeds and pests on the Property by complying with noxious weed control laws, and will control pests as necessary to protect the public health.

4. Grantors will allow the District, through its authorized agents, access to the Property for purposes of inspection to verify compliance with the terms of this Easement.

5. Grantors will pay when due any and all real property and other taxes and assessments, if any, which may be levied or assessed against the Property.

6. Within 30 days of any sale or conveyance of the Property, or any portion of the Property, Grantors will notify the District, in writing, of the names and addresses of the new owner or owners.

7. Grantors are responsible for all maintenance to improvements on the Property (i.e. fences, gates, pumps, or wells), including any improvements paid for or cost-shared by the District,

8. With regard to all rights reserved by Grantors, including any activities not prohibited by this Easement, Grantors will minimize and prevent any potential damage to water quality. If Grantors believe or reasonably should believe the exercise of a right or any activity not prohibited by this Easement may have an adverse effect on water quality, Grantors will notify the District in writing before exercising the right or activity. If the District determines the exercise of the right or activity will, in fact, result in an adverse effect on water quality, Grantors will not exercise the right or activity without prior written consent of the District.

9. Grantors will not install, or allow any third party to install, any utility facilities, including lines, wires, pipelines, cables, and other associated facilities appurtenances, above or below ground, in, on, under, over, above, through, or across the Property, or any portion of the Property, without prior written consent of the District.

Mineral Development. Grantors expressly acknowledge mineral extraction is detrimental to the purposes of this Easement. Grantors warrant they have not conveyed any unexpired surface or subsurface mineral leases or rights to any third parties, and that Grantors own all mineral and subsurface rights regarding the Property. If Grantors convey, or have previously conveyed, the right to extract minerals from or below the Property during the Easement term, including any sale or lease regarding mineral rights to any portion of the Property, the District may terminate this Easement and Grantors must return to the District any compensation paid to Grantors within 30 days. For purposes of this Easement, "minerals" means oil, gas, coal, ores, gravel, sand, stone, clay, scoria, uranium, and any other solid or liquid material or substance of commercial value and which may be extracted in solid or liquid form from natural deposits on or in the earth.

Violations and Remedies. If Grantors fail to comply with any provision of this Easement, the District may, immediately and without the need for any prior notice, enforce the provisions of this Easement in accordance with N.D.C.C. § 47-05-10 and may take any and all other available actions, in law or in equity, to enforce any of Grantors' obligations under this Easement. The remedies provided for in this Easement are cumulative and not exclusive, and are in addition to any and all other remedies available to the District under North Dakota law. Grantors will be responsible for all of the District's costs and expenses, including reasonable attorneys' fees, incurred in enforcing this Easement, or incurred in litigating the terms or validity of this Easement.

Survival of Easement. If any court of competent jurisdiction finds any provision or part of this Easement is invalid, illegal, or unenforceable, that portion will be deemed severed from this Easement, and all remaining terms and provisions of this Easement will remain binding and enforceable.

Entire Agreement. This Easement, together with the attachments to this Easement and together with any subsequent amendments, constitutes the entire agreement between the parties regarding the matters described in this Easement, and this Easement supersedes any previous oral or written agreements between the parties.

Forbearance or Waiver. The failure or delay of the District to insist on the timely performance of any of the terms of this Easement, or the waiver of any particular breach of any of the terms of this Easement, at

any time, will not be construed as a continuing waiver of those terms or any subsequent breach, and all terms will continue and remain in full force and effect as if no forbearance or waiver had occurred.

Governing Law. This Agreement will be construed and enforced in accordance with North Dakota law. The parties agree the venue for any litigation arising out of this Agreement will be in State District Court in Sargent County, North Dakota, and the parties waive any objection to personal jurisdiction or venue in Sargent County, North Dakota.

Headings. Headings in this Easement are for convenience only and will not be used to interpret or construe its provisions.

IN WITNESS WHEREOF, Grantors have caused this Easement to be duly executed.

GRANTORS SIGNATURE(S) AND ACKNOWLEDGMENT

Dated this_____ day _____, 20____

STATE OF NORTH DAKOTA)
) ss.
COUNTY OF SARGENT)

On this ____ day of _____, 20__, before me, a Notary Public in and for said County and State, personally appeared _____, known to me to be the person(s) described in and who executed the within and foregoing instrument and acknowledged to me that he/she/they executed the same.

_____
Notary Public, Sargent County, ND
My Commission Expires:

(SEAL)

Appendix E

MILESTONE TABLE FOR WILD RICE RESTORATION AND RIPARIAN PROJECT Phase II							
TASK/RESPONSIBLE ORGANIZATIONS	OUTPUT	QTY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
OBJECTIVE: 1							
Task 1: Employ Watershed Coordinator	Watershed Coord	1					
Group 3							
Task 2: Conservation Plan	Conservation plan	30	6	6	6	6	6
Group 1,2,3,4							
Task 3: Financial and Technical As	BMPs	100	15	22	22	21	20
Group 1,2,3,4							
Task 4: Track BMPs w/BMP Tracker	Monthly updates	60	5	15	15	15	10
Group 3,4							
Task 5: Follow Quality Assurance Project Plan	approved QAPP	1					
Group 3,4							
Task 6: Water Sample & Test	Water Sample	140	28	28	28	28	28
Group 3,4							
OBJECTIVE: 2							
Task 7,8,9: LiDAR	Train/implement	4	2	2			
Group 3,4							
OBJECTIVE: 2							
Task 10: Organize I/E Events on pollution control	Tours, Workshop	20	4	4	4	4	4
Group: 1,3							
Task 11: Public Education	Other Coops	5	1	1	1	1	1
Group 1,3,4							
Task 12: Education	Teacher/Student	5	1	1	1	1	1
Group 1,3,4							
OBJECTIVE: 4							
Task 13,14,15,16: Coordinate w/ CCSP Board	Cover Crop/No-Till	20	4	4	4	4	4
Group 1,2,3,4							
Task 17 : Annual & Final Report	Complete	6	1	1	1	1	2
Group 3							

Group 1 - Natural Resources Conservation Service - Provide technical assistance to plan, design, and implement BMP's.
Group 2 - Landowners in Wild Rice River drainage - Make land management decisions and provide cash and in-kind match for BMP's.
Group 3 - Sargent County SCD - Local project manager and sponsor, including responsibilities for project coordination, reimbursement payments, match tracking, and progress reporting to ND Health Dept.
Group 4 - North Dakota Health Department - Statewide Section 319 program management including oversight of local 319 planning and expenditures.

Wild Rice River Restoration and Riparian Project Phase II

PART 1: Funding Sources	**YEAR 1**	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	Project Total
1) FY14 Section 319 Funds	$ 18,510	$ 62,876	$ 109,759	$ 63,027	$ 55,748	309,920
SUBTOTAL	$ 18,510	$ 62,876	$ 109,759	$ 63,027	$ 55,748	309,920
STATE/LOCAL MATCH						
Local SCD (TA & FA)	$ 5,189	$ 34,736	$ 34,761	$ 34,786	$ 29,902	$ 139,374
Ducks Uunlimited	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000
Land Owners (FA)	$ 7,151	$ 7,181	$ 38,412	$ 7,232	$ 7,263	$ 67,239
SUBTOTAL	$ 12,340	$ 41,917	$ 73,173	$ 42,018	$ 37,165	$ 206,613
TOTAL BUDGET	**$ 30,850**	**$ 104,793**	**$ 182,932**	**$ 105,045**	**$ 92,913**	**$ 516,533**

Appendix F
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Wild Rice River Restoration and Riparian Project Phase II								
Budget Table								
PART 2: Sect 319/Non-Fed Budget Table	**YEAR 1**	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	**Total Cost**	**In-Kind Cash Match**	**319 Funds**
PERSONNEL/SUPPORT								
A) Personnel	$ 5,012	$ 53,550	$ 53,550	$ 53,550	$ 46,854	$ 212,516	$ 85,006	$ 127,510
B) Fringe Benefits	$ 1,750	$ 10,920	$ 10,920	$ 10,920	$ 9,100	$ 43,610	$ 17,444	$ 26,166
C) Travel, Food & Lodging	$ 508	$ 3,113	$ 3,175	$ 3,239	$ 2,753	$ 12,788	$ 5,115	$ 7,673
D) Supplies	$ 10	$ 55	$ 55	$ 55	$ 46	$ 221	$ 88	$ 133
E) Rent/Utilities	$ 192	$ 1,150	$ 1,150	$ 1,150	$ 958	$ 4,600	$ 1,840	$ 2,760
F) Communications (Tel/Post)	$ 22	$ 1,334	$ 1,334	$ 1,334	$ 1,112	$ 5,136	$ 2,054	$ 3,082
G) Equipment lease	$ 2,705	$ -	$ -	$ -	$ -	$ 2,705	$ 1,082	$ 1,623
H) Consultant/Contractual	$ 200	$ -	$ -	$ -	$ -	$ 200	$ 80	$ 120
I) Other*	$ 1,424	$ 9,000	$ 9,000	$ 9,000	$ 7,500	$ 35,924	$ 14,370	$ 21,554
J) Administration	$ 1,150	$ 7,718	$ 7,718	$ 7,718	$ 6,431	$ 30,735	$ 12,294	$ 18,441
SUBTOTAL	$ 12,973	$ 86,840	$ 86,902	$ 86,966	$ 74,754	348,435	$ 139,374	$ 209,061
Objective 1:APPLYING BEST MANAGEMENT PRACTICES								
Task 1: Personnel See above								
Task 2: See Task one								
Task 3: Riparian	$ 6,625	$ 6,625	$ 6,625	$ 6,625	$ 6,625	$ 33,125	$ 13,250	$ 19,875
Task 4: Cropland	$ 4,572	$ 4,572	$ 4,572	$ 4,572	$ 4,572	$ 22,860	$ 9,144	$ 13,716
Task 5: Manure Management Sy	$ -	$ -	$ 78,000	$ -	$ -	$ 78,000	$ 31,200	$ 46,800
Task 6: Grazing Management	$ 2,080	$ 2,080	$ 2,080	$ 2,080	$ 2,080	$ 10,400	$ 4,160	$ 6,240
SUBTOTAL	$ 13,277	$ 13,277	$ 91,277	$ 13,277	$ 13,277	$ 144,385	$ 57,754	$ 86,631
Objective 2: CRITICAL AREA								
Task 7: Support Tool LiDAR	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 8: Training LiDAR	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 9: Land Identification	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Objective 3: INFORMANT & EDUCATION								
Task 10: Meetings	$ 400	$ 400	$ 400	$ 400	$ 400	$ 2,000	$ 800	$ 1,200
Task 11: Public Awareness	$ 200	$ 200	$ 200	$ 200	$ 200	$ 1,000	$ 400	$ 600
Task 12: Student Education	$ 200	$ 200	$ 200	$ 200	$ 200	$ 1,000	$ 400	$ 600
SUBTOTAL	$ 800	$ 800	$ 800	$ 800	$ 800	$ 4,000	$ 1,600	$ 2,400
Objective 4: CCSP Farm								
Task 13: Farm Manager	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 14: Staff	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Task 15: Public Awareness	$ 2,800	$ 2,856	$ 2,913	$ 2,941	$ 3,000	$ 14,510	$ 5,804	$ 8,706
Task 16: Workshop/Tours	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082	$ 5,203	$ 2,081	$ 3,122
SUBTOTAL	$ 3,800	$ 3,876	$ 3,953	$ 4,002	$ 4,082	$ 19,713	$ 7,885	$ 11,828
Objective5:MONITORING								
Water Sample/Testing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL COST	**$ 30,850**	**$ 104,793**	**$ 182,932**	**$ 105,045**	**$ 92,913**	**$ 516,533**	**$ 206,613**	**$ 309,920**