Red River Riparian Program – Phase 6

Project Implementation Plan

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Acronyms

RRRC	Red River Regional Council	**NDSU**	North Dakota State University
RRRP	Red River Riparian Program	**USDA**	United States Department of Agriculture
CWA	Clean Water Act	**NRCS**	Natural Resource Conservation Service
WRD	Water Resource District	**BMP**	Best Management Practice
SCD	Soil Conservation District	**OHF**	Outdoor Heritage Fund
EPA	Environmental Protection Agency	**USFS**	United States Forest Service
NDDH	North Dakota Department of Health	**I/E**	Information and Education
NPS	Nonpoint Source	**CPO**	Conservation Plan of Operations

1.0 PROJECT SUMMARY SHEET

PROJECT TITLE:
Red River Riparian Program – Phase 6

NAME, ADDRESS, PHONE AND E-MAIL OF LEAD PROJECT SPONSOR/SUBGRANTEE

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STATE CONTACT PERSON: Greg Sandness **Title:** NPS Pollution Manager
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STATE: North Dakota

Watersheds and Hydrologic Unit Codes:
Lower Pembina River: 09020316
Park River: 09020310
Forest River: 09020308
Turtle River: 09020307
Sheyenne River: 09020203
Goose River: 09020109

High Priority Watersheds: Yes
Project Location: Latitude 48°24'43.96"N Longitude 97°24'38.28"W

Project Types	Water Body Types	NPS Category
X Staffing and Support	Groundwater	X Agriculture
X Watershed	X Lakes/Reservoirs	X Urban Runoff
Groundwater	X Rivers	Silviculture
X I&E	X Streams	X Construction
	Wetlands	Resource Extraction
	Other	Stowage/Land Disposal
		X Hydromodification
		Other

Summarization of Major Goals

The main goal of the Red River Riparian Program (RRRP) is to improve the quality of impaired water bodies that have been identified on the Clean Water Act (CWA) Section 303(d) listing. The RRRP will provide technical and financial assistance for riparian restoration to landowners, communities, water resource districts (WRDs), and soil conservation districts (SCDs) within northeastern North Dakota. Anticipated results include improved riparian ecosystems and long-term, measurable improvements of water quality.

Project Description

The RRRP has been addressing the riparian needs of landowners in the Red River Valley since 1997. The program has received Environmental Protection Agency (EPA) funding through the North Dakota Department of Health (NDDH) 319 Nonpoint Source (NPS) Program since its inception. Past accomplishments have been carried out through more than 130 riparian management plans, greater than 13,000 acres of riparian improvement, and over 50 river miles with improved management. Success stories are illustrated in Appendix 6. Originally, the project area included much of the Red River Basin in North Dakota. More recently, the RRRP has worked on a regional scale, addressing water quality concerns in northeastern North Dakota.

The proposed Phase 6 project area includes the Lower Pembina River, Park River, Forest River, Turtle River, Middle Sheyenne River, and Goose River Watersheds within the counties of Cavalier, Pembina, Walsh, Grand Forks, and Nelson (Appendix 1). The RRRP works closely with SCDs, North Dakota State University (NDSU) Extension Agency, and the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) from each county to achieve mutual goals to improve our riparian ecosystems, soil health, and reduce NPS pollution within our waterways.

The proposed RRRP Phase 6 project period is July 2018 to June 2021, a 3-year period.

The Phase 6 RRRP will:

1. Increase stakeholder understanding of environmental and economic benefits of healthy riparian corridors.

2. Influence land management decisions in order to attain measurable water quality improvements.

3. Address natural resource concerns and generate solutions to minimize NPS pollution.

4. Implement best management practices (BMPs) to restore riparian areas seriously impacted by anthropogenic practices and changes in climate throughout northeastern North Dakota.

5. Coordinate with NRCS, NDSU Extension, and SCDs to streamline project planning, drawing upon individual strengths, in order to meet resource needs within watersheds. Coordination between agencies will increase the success and goals to reduce NPS pollution.

6. Provide stakeholders with direct technical and financial assistance necessary to restore, protect, and effectively manage riparian areas within the project area.

7. Deliver multiple projects involving riparian management through funding from the EPA Section 319 NPS Program, North Dakota Outdoor Heritage Fund (OHF), and other state and non-governmental sources.

8. Monitor vegetation and riparian ecosystem response to BMPs through vegetation monitoring and photo point monitoring via United States Forest Service (USFS) procedures.

9. Maximize the reduction of NPS pollution by protecting and restoring riparian areas along CWA Section 303(d) listed waters.

FY18 319 Funds Requested:	$ 349,162.70
Match:	$1,105,220.50
Other Federal Funds:	$31,214.30
Total Project Cost:	$1,485,597.50
319 Funded Full Time Personnel:	1.2 FTE

2.0 STATEMENT OF NEED

2.1 Water Quality Priority

Degradation of riparian areas has a direct influence on NPS pollution by increasing sediment loads through riverbank erosion and reducing filtration of agricultural nutrients. Flooding due to spring snowmelt and record breaking rainfall amounts in summer 2016 increased local concerns regarding streambank erosion, sedimentation, and loss of vegetation. In order to meet the goals to reduce NPS pollution, the RRRC via RRRP will provide financial and technical assistance to stakeholders for implementation of BMPs to restore, protect, and employ effective management of riparian areas as well as livestock and farmland along the riparian corridor.

Appendix 1 highlights categories of the 2016 CWA Section 305(b) assessed waters throughout the proposed Phase 6 project area. Appendix 1.2 illustrates the Phase 6 project

area, which is riparian areas within priority watersheds. Illustrated in the project map in Appendix 1, there are 4,900 miles of waterways, of which, 1,000 miles are on the 303(d) list of impaired waters needing a total maximum daily load. Thus, 20% of northeastern North Dakota's streams are water quality limited, not meeting water quality standards which include, chemical, biological, and physical parameters or maintaining beneficial uses, such as propagation of fish and wildlife or domestic, agricultural, industrial, and recreational uses. Less than 1% of streams in the Appendix 1 project map are within category 1, in which all designated uses were assessed and are fully supporting.

According to the North Dakota 2016 Integrated Section 305(b) Water Quality Assessment Report, NPS pollution is the primary cause for aquatic life use impairment and adversely impacts recreational uses due to excessive nutrient loading resulting in eutrophication and toxic algae blooms. Other impairments throughout northeastern North Dakota include sedimentation/siltation, copper, selenium, lead, cadmium, arsenic, e.coli, fish bioassessments, benthic-macroinvertebrate, methylmercury, fecal coliform, and dissolved oxygen.

Throughout Phase 6, the RRRP will strive to enhance water quality in northeastern North Dakota by reducing erosion and sediment load, restoring the riparian corridor and natural stream environment as well as maintaining and protecting our beneficial uses. Through stakeholder education and implementation of BMPs within the riparian corridor and adjacent livestock and agricultural operations, Phase 6 will allow further achievement of RRRP and Section 319 NPS Program goals.

2.2 Project Area

RRRP Phase 6 goals include continued effort to directly assist landowners and local entities with responsible management of riparian ecosystems within the Lower Pembina River, Park River, Forest River, Turtle River, Middle Sheyenne River, and Goose River Watersheds within the counties of Cavalier, Pembina, Walsh, Nelson, and Grand Forks (Appendix 1). Hydrologic unit codes are identified in Table 1. Phase 6 work will be completed along main river channels or within 1 mile of the main channel. This area is comparable to the average size of a single watershed in northeastern North Dakota (Appendix 1.2).

Table 1. RRRP Phase 6 Project Area

Red River Riparian Program Phase 6 Project Area		
8-Digit Hydrologic Unit Code	**Watershed Name**	**Counties**
09020316	Lower Pembina*	Pembina, Cavalier
09020310	Park	Walsh, Pembina, Cavalier
09020308	Forest	Walsh, Grand Forks, Nelson
09020307	Turtle	Walsh, Grand Forks, Nelson
09020203	Middle Sheyenne*	Nelson
09020109	Goose*	Grand Forks, Nelson

*Indicates partial inclusion of watershed.

A large portion of the Phase 6 project area is an extremely flat glacial lake plain. Streams and rivers are sluggish, meandering, and highly turbid with large sediment loads. Ditching, channelization, and tile drainage are very common. Section 2.4 explains the project area in further detail and the importance of the RRRP in northeastern North Dakota.

The large project area is justified by northeastern North Dakota's unique landscape (refer to Section 2.4), history of poor land management (refer to Section 2.4), 303(d) listed impaired waters, stakeholder demand (refer to Section 4.2), and our focus on improving and protecting riparian corridors.

2.3 Map of Project Area

Refer to Appendix 1 for detailed maps.

Figure 1. Project location with respect to the state of North Dakota.

2.4 General Information

The Phase 6 project area is within the Northern Glaciated Plains and the Lake Agassiz Plain Level III Ecoregions. Historic tallgrass prairie of these ecoregions has been replaced by intensive agriculture, with preferred crops including potatoes, sugar beets, dry beans, wheat, soybeans, and corn.

Glacial Lake Agassiz was the last in a series of proglacial lakes to fill the Red River Valley since the beginning of the Pleistocene. The glacial lake created the Lake Agassiz Plain Ecoregion, which is composed of lacustrine sediment underlain by glacial till. The Pembina Escarpment is the boundary between the Northern Glaciated Plains and the Lake Agassiz Plain.

East of the escarpment, the view of the Glacial Lake Agassiz Basin is of an extremely flat patchwork of cultivated farmland. The application of pesticides and fertilizers contributes to NPS pollution in this region. As a result, recreational, fish, and wildlife beneficial uses within dams are adversely impacted due to excessive nutrient loading resulting in eutrophication and toxic algae blooms. Turbid valley streams within the Glacial Lake

Agassiz Basin meander through narrow buffer strips of cottonwood, elm, ash, and willow. Most of this region has a high water table with soils ranging from silty to clayey in texture.

West of the escarpment, the Northern Glaciated Plains is characterized by flat to gently rolling landscape composed of glacial till. Within the Northern Glaciated Plains, the Drift Plains have very fertile till soil, thus, it is almost entirely cultivated.

The distinct topographic features of the Pembina Escarpment create a landscape unlike anywhere else in North Dakota (Figure 2). This unique landscape induces challenging geologic and hydrologic conditions in the RRRP project area. The high elevation gradient in the central portion of the project area quickly becomes low in the east. Because of this sudden change, frequent heavy rainfall as well as the poorly defined floodplain and very low gradient of the Red River, the RRRP Phase 6 project area suffers from flooding, erosion, and degraded riparian areas. Thus, NPS pollution is directly impacted by increased sediment loads and reduced filtration of agricultural nutrients.

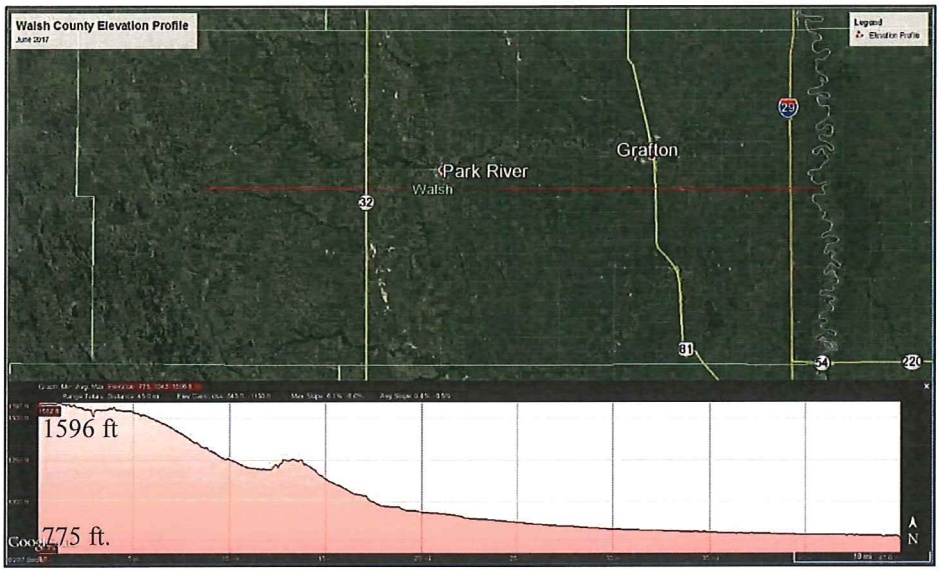

Figure 2. Walsh County Elevation Profile

Northeastern North Dakota watersheds have been impacted for over a century by land management decisions in agricultural production, grazing operations, and urbanization. The invasion of invasive plant species into riparian areas is detrimental to the composition of riparian plant communities, due to the substitution of low-functioning, shallow rooted species. More recently, the increased use of drain tile in agricultural operations is intensifying water quality concern. From 2002-2017, 28,350 acres were drain tiled in Walsh County. Drain tiling increases erosion within the riparian corridor as well as nutrient and sediment pollution. Thus, it is important that action is taken to mitigate the effects drain tile has on the riparian corridor and water quality.

2.5 Causes of Environmental Degradation and Pollutant Sources

The agriculturally dominated areas of northeastern North Dakota have water quality impairments for various reasons. Cultivation leads to soil transport and erosion that results in high amounts of runoff and sediment input into streams, especially in areas of poorly functioning riparian areas. Most farmland in the Phase 6 project area is nutrient rich, either naturally or due to fertilizer application. When soil is transported within runoff, these nutrient-rich inputs are reflected in water quality. Selenium is one example of a naturally occurring element that becomes a pollutant when too much of it exists in the surface water. Fertilization of crops and season long livestock grazing along riparian areas also contribute to water quality impairments. In particular, excess phosphorus results in eutrophication and toxic algae blooms. In addition to local recreational areas, such as Homme Dam (Figure 3), large downstream waterbodies such as, Lake Winnipeg in Canada (Figure 4), suffer from upstream NPS pollution. Excess nutrients coming from the Red River Basin contribute to Lake Winnipeg's chronic algal problem.

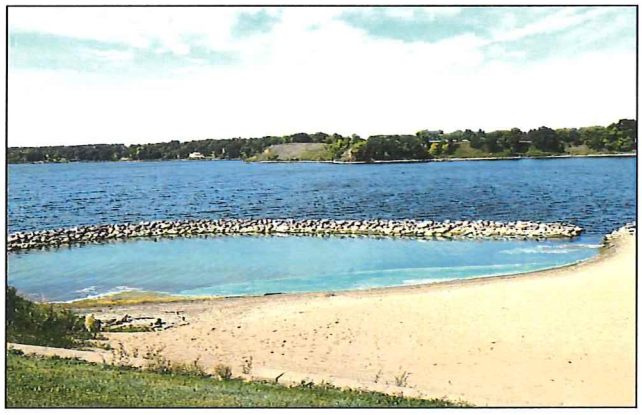

Figure 3. Homme Dam algae bloom in 2017. (Photo by Sarah Johnston, Walsh County Three Rivers SCD)

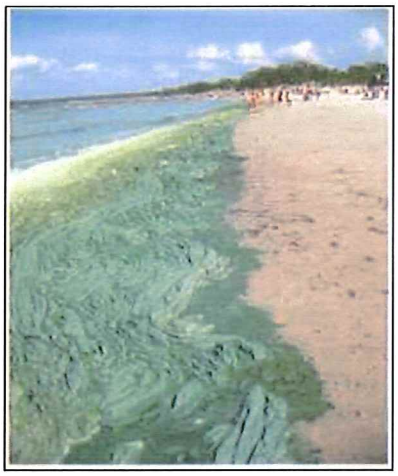

Figure 4. Lake Winnipeg algae bloom. (Photo by Cass County SCD)

Restoration of degraded riparian areas can greatly improve water quality. Established riparian zones filter and store sediment, nutrients, pesticides, and metals from upland surface and groundwater through infiltration, filtering, uptake, and transformation. The width necessary for filtering sediment is a function of velocity and particle size. Infiltration, uptake, and chemical transformations are dependent on soil properties and slope as well as diversity and density of vegetation. It is the RRRP's goal to restore and protect riparian areas in order to reduce the adverse effects sedimentation and excess nutrients have on surface water. We aim to enhance water quality locally as well as regionally.

3.0 PROJECT DESCRIPTION

3.1 Red River Riparian Program Goals

Goals of the RRRP include restoration of degraded riparian areas within the project area to reduce in-stream NPS pollution, including excess sediment and nutrients, such as nitrogen and phosphorus. Additionally, the RRRP will employ responsible management of livestock and cropland adjacent to streams to improve and protect the function of the riparian corridor. The RRRP will strive to increase stakeholder understanding on the environmental and economic benefits of healthy riparian corridors in order to influence land management decisions and attain measurable water quality improvements.

3.2 Objectives and Tasks

Objective 1. EDUCATE – Increase stakeholder understanding on the environmental and economic benefits of healthy riparian corridors in order to influence land management decisions and attain measurable water quality improvements.

Task 1. Collaborate efforts with local natural resource professionals who have mutual objectives. Natural resource professionals include, NRCS, NDSU Extension Service, and SCDs.

Product: Circulate a high-quality, influential message throughout the project area on the importance of healthy riparian corridors and responsible land management decisions by utilizing strengths and areas of expertise of all natural resource professionals.

Cost: Included in personnel/support costs. Refer to Task 7 and Appendix 2.

Task 2. Jointly plan, organize, and conduct information and education (I/E) events with Walsh County Three Rivers SCD, NRCS, and NDSU Extension Service. Education events include, 1 youth EcoEd day per year (3 total), 1 informational workshop per year for farmers, cattle producers, and local entities (3 total), and 1 riparian restoration site tour per year (3 total).

Product: Education to all ages on BMPs and the importance of riparian ecosystems. Informational handouts will be developed and distributed to ensure effective education and provide stakeholders with easy access to resources.

Cost: Management cost is included in personnel/support (Task 7 and Appendix 2). Fees and equipment costs are $1,500 319 funds (Appendix 2, Part 2, Objective 1).

Task 3. Participate in Red River Basin water quality improvement and education efforts by attending 2 informational workshops and/or conferences per

year conducted by agencies such as, Red River Basin Commission, NDDH, NDSU Extension Service, and SCDs. Additionally, complete Dave Rosgen Courses II-IV conducted by Wildland Hydrology.

Product: Support existing and future basin-wide water quality improvement efforts as well as maintain up-to-date knowledge on riparian restoration and management techniques.

Cost: 319 Funds: $7,900 (Appendix 2, Part 2, Support, "Other")

Task 4. Coordinate with the Walsh County WRD to implement a demonstration project to improve conventional drainage by utilizing two-stage channel geometry and establishing quality, low-maintenance prairie within and adjacent to the channel.

Product: Demonstrate the potential of a self-sustainable drainage system that has proved to restore natural stream processes and ecological function within a drainage channel environment, reduce erosion, increase drainage efficiency, and mitigate nutrient and sediment pollution within surface water. The project will demonstrate the effectiveness of an improved drainage design in order to promote sustainable drainage practices, with long-term goals to benefit both local, region, and state-wide rural drainage practices and water quality.

Cost: Management cost is included in personnel/support (Task 7 and Appendix 2). The demonstration project is fully funded as follows:

Funding Source	**Amount**	**% Total Project**	**Status**
Enbridge Ecofootprint	$100,000	45%	Committed
Section 319 Nonpoint Source Pollution Program Red River Riparian Program **Phase 5**	$ 74,000	33%	Committed
North Dakota Outdoor Heritage Fund	47,000	21%	Committed
Walsh County Water Resource District	$2,500	1%	Committed
TOTAL	**$223,500**	**100%**	

Objective 2. IDENTIFY CONCERNS – Jointly establish Park River Watershed Committee with Walsh County Three Rivers 319 Watershed Project Coordinator.

Task 5. Advertise establishment of the committee, providing information on the committee's purpose, objectives, and logistics for interested individuals. Invite known stakeholders who would be an asset to the committee, such as NRCS staff, NDSU Extension staff, North Dakota Forest Service

staff, Walsh County WRD Board Members, City of Grafton and Park River employees or council members as well as local farmers and cattle producers.

Product: Assemble a diverse group of individuals with interest in sharing opinions, generating ideas, and finding solutions to minimize NPS pollution and improve water quality.

Cost: Included in personnel/support. Refer to Task 7 and Appendix 2.

Task 6. Jointly conduct biannual Park River Watershed Committee meetings (6 total).

Product: Communicate and address concerns of natural resource professionals with stakeholders within the community. The committee would be instrumental in project development, bringing insight to urgent needs, assisting in prioritizing resource concerns, and setting short-term and long-term conservation goals.

Cost: In-kind match estimated at $200 per meeting, $400 per year, and $1,200 total from July 2018 – June 2021 (Appendix 2, Part 2, Objective 2).

Objective 3. TECHNICAL ASSISTANCE – Provide knowledge, planning, and management necessary to restore, protect, and effectively manage riparian areas within the project area.

Task 7. Provide RRRP support and local project management throughout the 3-year project period. Duties of 1.2 FTE include; development, implementation, management, and monitoring of BMPs; conducting stakeholder and riparian committee meetings; education and outreach; report development; fiscal management.

Product: Achieve RRRP and Section 319 NPS Program goals by providing technical assistance to stakeholders, implementing BMPs, and ensuring projects are completed to NRCS standards and specifications or alternative standards approved by the NDDH Section 319 NPS Program as well as monitoring outcome, documenting successes, failures, and ensuring proper operation and maintenance.

The RRRP Manager (1 FTE) will be responsible for overall project management, budget management, conducting meetings, outreach efforts, and developing and

submitting annual and final reports.

The RRRC Fiscal Manager and RRRC Executive Director (.2 FTE) will be responsible for RRRP oversight, fiscal management, and monthly reimbursement requests.

Cost:

Personnel/Support (3 years)	**319 Funds**
Personnel* – 1.2 FTE	$252,190.96
Support	$59,471.74
Total Personnel/Support	**$311,662.70**

*Personnel includes salary and fringe benefits.

Task 8. Implement BMPs along main channels or within one mile of the Lower Pembina River, Park River, Forest River, Turtle River, Goose River, or Middle Sheyenne River main channels (Appendix 1.2). Primarily, BMPs will include, but are not limited to streambank and shoreline protection, filter strip, riparian herbaceous cover, riparian forest buffer, cover crop, fencing, pipelines, trough/tank, wells, well decommissioning, pumps, and portable windbreaks (Appendix 3). Based on resource needs and stakeholder interest, initiate 3 new projects (two OHF and one 319) per year (9 projects total).

Product: BMPs will be utilized to complete projects including, riverbank stabilization, riparian vegetation establishment/restoration, cover crop on farmland adjacent to the riparian corridor, and riparian livestock management projects such as prescribed grazing and manure management plans.

Cost: Management cost is included in personnel/support (Task 7 and Appendix 2). Refer to Task 10 for BMP costs.

Task 9. Hold quarterly RRRC Riparian Committee meetings (12 meetings total). The Riparian Committee consists of SCD members from Pembina, Walsh, Nelson, and Grand Forks Counties as well as additional natural resource experts.

Product: Committee will assist the RRRP manager with project oversight, prioritization, planning, and funding recommendations, and ensure effective project management.

Cost: In-kind match estimated at $375 per meeting, $1,500 per year, and $4,500 total from July 2018 – June 2021 (Appendix 2, Part 2, Objective 3).

Objective 4. FINANCIAL ASSISTANCE – Provide financial assistance necessary to promote restoration, protection, and effective management of riparian areas within the project area.

Task 10. Provide 60/40 cost-share assistance for BMPs implemented according to NRCS standards and specifications or alternative standards approved by the NDDH Section 319 NPS Program. Assuming an average of 3 BMPs per project and 9 projects total, 27 BMPs will be implemented (Appendix 3).

Product: Reduce financial stress on stakeholders, promote voluntary implementation of BMPs, such as streambank and shoreline protection, filter strip, riparian herbaceous cover, riparian forest buffer, cover crop, fencing, pipelines, trough/tank, wells, well decommissioning, pumps, and portable windbreaks (Appendix 3). These BMPs will be utilized to reduce NPS pollution in waterways through riverbank stabilization, riparian vegetation establishment/restoration, cover crop on farmland adjacent to the riparian corridor, and riparian livestock management projects such as prescribed grazing and manure management plans.

Cost:

BMP Costs for July 2018 – June 2021 (Appendix 2, Part 2, Objective 4)		
	319-Funded Projects	OHF-Funded Projects*
60% Cost Share (319 Projects)	$36,000	-
40% Cash Match (319 Projects)	$24,000	-
In-Kind Match	-	$1,075,520.50
Total	$60,000	$1,075,520.50

* Awarded June 2017, $539,887 OHF funds are available after July 1, 2018 for riparian protection/restoration projects. Meeting OHF cost share requirements (i.e. 60% OHF funds and 40% stakeholder funds), $1,075,520.50 is the total BMP costs (OHF funds + match), which will generate in-kind match.

Objective 5. MONITORING – Document improvements in the vegetative community and riparian function of the river reaches where BMPs for restoration and management have been implemented.

Task 11. Monitor vegetation and riparian ecosystem response through vegetation monitoring and photo point monitoring via USFS (USFS) procedures. Refer to Section 5.2 for additional information.

Product: Monitoring will document change occurring at the site, strengths and weaknesses of implementation, and provide a

learning opportunity on how to improve upon BMPs. Procedures will ensure operation and maintenance (O&M) requirements are met, and provide the opportunity to modify O&M if necessary.

Cost: Included in personnel/support. Refer to Task 7 and Appendix 2.

3.3 Milestone Table: Refer to Appendix 4.

3.4 Environmental Permits

Required permits will be acquired on a case-by-case basis. During initial project development stages, the RRRP Manager will determine necessary permits such as, NDDH approval to operate, 404/401 certification, cultural resource inventory, stormwater permit, county/township zoning ordinance approval, and/or water storage permit.

3.5 Lead Agency

The RRRC will be the lead project sponsor. The RRRC is one of eight regional planning councils in North Dakota established in 1973 to enhance the ability of local governments to jointly plan, address issues, and seize opportunities that transcend individual boundaries. The RRRC is an independent quasi-governmental consulting group assisting local governments, business owners, homeowners, landowners, healthcare providers, and educational institutions in planning, solving problems, and creating holistic solutions.

The partnership between the NDDH and RRRC began in 1997 with Phase 1 of the RRRP. Our 20-year partnership has allowed the RRRP build momentum, foster close working relationships with local stakeholders, and enhance conservation practices in northeastern North Dakota.

There RRRC is successful in overseeing management of the RRRP. The RRRC is governed by a Board of Directors made up of elected officials, community leaders, and SCD staff or board members from Pembina, Walsh, Nelson, and Grand Forks Counties (Table 2). The RRRC provides a direct link between landowners and local elected officials who have the responsibility to manage soil and water resources. The Riparian Committee, a standing committee of the RRRC, is comprised of staff or board members from each SCD in the RRRP project area as well as additional local natural resource experts (Table 3). The Riparian Committee meets approximately four times a year to provide program oversight and funding recommendations to the Board of Directors on proposed riparian projects.

Table 2. RRRC Board of Directors

RRRC Board of Directors	
Member	**Representation**
Chris Lipsh	Local Development Corp

Jay Skorheim	Three Rivers SCD
Greg Amundson	Grand Forks SCD
Ken Briese	Pembina County Mayor
Ray Fegter	Grand Forks County Mayor
Kristina Halverson	Pembina County SCD
Mary Houdek	Job Service North Dakota
Maynard Loibl	Nelson County Commission
Keith Lund	City of Grand Forks
Cynthia Pic	Grand Forks County Commission
Nick Rutherford	Pembina County Commission
Korrey Tweed	Nelson County SCD
Todd Whitman	Nelson County Mayor
Lauren Wild	Walsh County Commission
Dan Stenvold	Walsh County Mayor

Table 3. RRRC Riparian Committee

RRRC Riparian Committee	
Member	**Representation**
Kristina Halvorson	Pembina County SCD Manager
Jay Skorheim	Walsh County SCD Board Member
Korrey Tweed	Nelson County SCD Manager
Greg Amundson	Grand Forks County SCD Board Member
Nick Rutherford	Pembina County Commissioner
Phil Gerla, Advisory Member	University of North Dakota Professor of Geology

Direct project planning and management will be carried out by RRRC RRRP Manager, Danielle Gorder. Danielle joined the RRRC in June 2016. With her background in farming and ranching, bachelor degrees in Geology and Environmental Geoscience, and professional experience in environmental regulation and compliance attained as an Environmental Representative for Hibbing Taconite Company, Danielle exhibits the knowledge, project management, organization, and communication skills necessary for successful implementation of riparian projects.

The RRRP will utilize fiscal support within the RRRC staff for reimbursement processing and financial reporting. In 2016, the RRRC had a 95% success rate with 112 grants written and 106 awarded. Managing most of these funding sources simultaneously, the RRRC staff is proficient in grant and fiscal management.

Excellent project management and communication skills of individuals and parties previously discussed will allow for effective and efficient implementation of RRRP projects. We will quickly adapt and respond to unique conditions of each project. By setting clear objectives and deadlines for project-specific tasks, we will achieve successful project delivery and fulfillment of RRRP and Section 319 NPS Program goals.

3.6 Roles/Responsibilities for Proper Oversight and Management of BMPs

Upon creation of the conservation plan of operations (CPO), the stakeholder will agree to Section 319 NPS Program conditions by completing the Cost Share Agreement Provisions form. Upon stakeholder signature, he/she or the entity is committed to maintaining practices installed with Section 319 cost share assistance for the lifespan of the practice.

BMPs will be fully implemented according to NRCS standards and specifications or alternative standards approved by the NDDH Section 319 NPS Program. The RRRP Manager will communicate specifications to stakeholders and conduct frequent site inspections to ensure compliance during construction. When necessary, the RRRP will coordinate with the Section 319 NPS BMP Team for engineering assistance, including design and implementation of projects. When construction is complete, the RRRP Manager will certify all practices are properly implemented. Upon satisfactory certification, the RRRP Manager will request cost-share reimbursement. Periodic follow-up visits will take place to ensure proper O&M is followed.

4.0 COORDINATION PLAN

4.1 Lead Project Sponsor and Subcontractors

The RRRC will be the lead project sponsor and will be responsible for coordination of all aspects of the RRRP. Under contract with the NDDH, the RRRC will manage all aspects of the project described in this proposal.

On June 30, 2017, the North Dakota Industrial Commission showed their support for the RRRP by awarding $584,200 from the OHF Grant Program. $539,887 will be available after July 1, 2018 and be used to provide project support for implementation of BMPs throughout Phase 6. The Section 319 NPS Program, OHF Program, and RRRP have mutual goals to restore water quality and protect riparian areas as well as effectively manage livestock and farmland in North Dakota. Collaboration between each of these programs creates the strong support system that is necessary to achieve goals.

On March 22, 2017, the Enbridge Ecofootprint Grant Program awarded $100,000 to the Walsh County WRD in support of the native prairie restoration within a two-stage drainage channel demonstration project. Refer to Section 3.2, Objective 1, Task 4.

The RRRC will be responsible for all financial aspects of the project including budget management, reimbursement requests from the NDDH, ND Industrial Commission, and Enbridge, payments to subcontractors, cost share disbursements to participants, identification and tracking of cash match and in-kind assistance from local sources, and overall project accounting.

Specific responsibilities of the RRRP Manager will include coordinating with project personnel, drafting and administering subcontracts, 319 NPS Program, OHF, and Ecofootprint budget management and record keeping, preparation of 319, OHF, and Ecofootprint reimbursement requests, submitting annual and final reports, conducting Riparian Committee meetings, conducting I/E activities, representing and promoting the

RRRP, reporting progress to the RRRC, and coordinating with other conservation efforts in northeastern North Dakota.

4.2 Local Support for Red River Riparian Program

The RRRP is supported locally by landowners, WRDs, SCDs, and communities throughout the proposed RRRP project area. According to the 2017 Park River Watershed stakeholder survey, 73% of active farmers indicated that they want planning advice and financial assistance from riparian and watershed specialists. 60% of stakeholders are concerned about streambank erosion and 85% of stakeholders prioritized riparian restoration and buffers as moderate to high. Refer to Appendix 5 for the complete survey report.

Pembina, Walsh, Nelson, and Grand Forks County SCD representatives serve on the RRRC Riparian Committee providing technical support in project planning and funding recommendations. Because the RRRP is based in Walsh County, the RRRP maintains a strong relationship with Walsh County Three Rivers SCD, Walsh County NRCS representatives, as well as Walsh County Extension Agency. This relationship is described in detail within Section 4.3.

By incorporating BMPs into water projects managed by local WRDs, the RRRP has continued support and success working with these county entities. Refer to Appendix 6 for past RRRC successes that were carried out with local support.

4.3 Coordination with Pertinent Programs

The natural resource team in Walsh County is comprised of NRCS District Conservationist, Rita Sveen; NDSU Extension Agent, Brad Brummond; SCD Watershed Coordinator, Sarah Johnston; and RRRP Manager, Danielle Gorder (Table 4). This team is working closely on the same resource concerns within the project area. We have learned that time, money, and knowledge can be gathered through networking and collaboration with partnering agencies and we are proud of the team's success. Continued collaboration between the Walsh County Natural Resource Team will increase the success of our agencies and goals to reduce NPS pollution.

The RRRP will provide riparian support for 319-funded Walsh County Three Rivers SCD Watershed Project and 319-funded Grand Forks County Watershed Project. Working cooperatively with other natural resource experts results in enhanced technical support and the ability to fully meet resource needs in northeastern North Dakota. Group effort is necessary to improve water resources within the complex ecosystems in which we live. Utilizing expertise from each collaborating entity, we can work together toward mutual goals to minimize water quality impairment in North Dakota.

Table 4

Walsh County Natural Resource Team

Partners		Areas of Expertise
	**Rita Sveen** NRCS District Conservationist	• Soil Health • Soil Conservation Practices • USDA Programs
	**Brad Brummond** Walsh County NDSU Extension Agent	• Agronomy • Public Outreach and Education • Walsh County Soils • Strong Landowner Relationships
	**Sarah Johnston** Walsh County Three Rivers SCD Watershed Coordinator	• Riparian Ecology and Restoration • Rangeland Ecology • Water Quality Sampling/Algae Blooms • Public Outreach and Education
	**Danielle Gorder** Red River Riparian Program Manager	• Riparian Restoration • Hydrologic Processes and Modeling • Mapping using ArcGIS software

4.4 Complementing Projects

The RRRP as an individual program fulfills a riparian niche and is committed to success and achievement of 319 NPS Program goals. Established in 1997, the RRRP has been successfully addressing riparian needs throughout the Red River Valley for twenty years, striving to achieve long term improvements in water quality and riparian health (Appendix 6). With twenty years of riparian management experience within the Red River Valley, the RRRP is the ideal complement to other northeastern North Dakota water quality

improvement efforts.

The RRRP will provide riparian support for comprehensive SCD watershed projects. The 319 RRRP Manager will work closely with the Walsh County Three Rivers SCD 319 Watershed Coordinator to streamline project planning, drawing upon individual strengths and areas of expertise in order to meet water resource needs. RRRP Manager and Three Rivers SCD Coordinator will work together on events such as stakeholder workshops, youth outreach and education, demonstration sites, tours, and watershed committee meetings. This collaboration will allow for a greater influence within communities by increasing awareness on the importance of responsible land management decisions and communicating solutions provided by the 319 NPS Program. Collaboration will result in higher impact, increased BMP implementation, and greater results within northeastern North Dakota.

5.0 EVALUATION AND MONITORING PLAN

5.1 Sampling and Analysis Plan (SAP)

Refer to Section 5.2 for standard operating procedures in which the RRRP will follow for monitoring tasks.

5.2 Monitoring Strategy

A riparian monitoring plan will be developed to assess vegetation and ecosystem response to BMPs implemented throughout Phase 6. This plan will be designed to obtain measurable data when possible. Procedures for photo point monitoring provided by the USFS will be followed in order to track changes of a riparian area of interest over a period of time. Monitoring will be conducted using the methods described in the US FS publication "Photo Point Monitoring Handbook" (Hall, 2002). This general technical report (PNW-GTR-526) may be accessed at https://www.fs.fed.us/pnw/pubs/pnw_gtr526.pdf.

Three vegetation monitoring methods will be used to inventory and monitor the vegetation resources in riparian areas. The vegetation cross-section method evaluates the health of vegetation across the valley floor. The greenline method provides a measurement of the streamside vegetation. The woody species regeneration method measures the density and age class structure of any shrub or tree species that may be present in the sampling area. These methods are described in the following USFS publication "Monitoring the vegetation resources in riparian areas" (Winward, 2000). This general technical report (RMRS-GTR-47) may be accessed at http://www.fs.fed.us/rm/pubs/rmrs_gtr047.pdf. Plant nomenclature will be referenced from USDA Plants Database at http://plants.usda.gov.

Monitoring will document change occurring at the site, strengths and weaknesses of implementation, and provide a learning opportunity to improve upon BMPs. Procedures will ensure operation and maintenance (O&M) requirements are met, and provide the opportunity to modify O&M if necessary.

5.3 Data – Management, Storage, and Reporting

Data will be managed and stored by the RRRC as well as reported to the NDDH through annual and final project reports.

Using the NDDH's BMP Budget Tracking Database, financial reports with corresponding project summaries for each project will be provided to the NDDH as reimbursement is requested. Financial reports will include the following on a per project basis, summary of expended funds, documentation of matching funds, total expenditures to date, and a description of work completed for the project.

Annual reports will be submitted each year providing up-to-date documentation of all expenditures, matching funds, and the balance of grant funds remaining under the contract. At the conclusion of the contract, a final report will be submitted including the project description, BMPs implemented and revised, engineering/design plans and specifications, financial report, outcome of implemented BMPs, monitoring strategy and results, milestones achieved, coordination efforts, stakeholder participation, aspects that did not work well in Phase 6, and future recommendations.

Monitoring results will be used to evaluate progress throughout the projects duration, determine if changes in project or monitoring design is needed, and to assess overall project success. Project monitoring reports will be available for each monitored reach at the end of the project period. These reports and any interim reports will be made available and shared with other agencies and projects conducting current and future riparian restoration within the region. Successes and failures will be studied, which will allow for improvements to be made in the RRRP's 7th Phase as well as region-wide conservation goals.

5.4 Models Used

When necessary, the RRRP Manager will use models such as the Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS) and ArcGIS for hydrologic analysis. These models can include analysis or forecasting of watershed characteristics, infiltration, hydrographs, hydrologic routing, evapotranspiration, snowmelt, soil moisture, streamflow, erosion, sediment transport, and water quality.

5.5 Long Term Funding for Operation and Maintenance

Upon creation of the CPO, the stakeholder will agree to Section 319 NPS Program conditions by completing the Cost Share Agreement Provisions form. Upon stakeholder signature, he/she or the entity is committed to maintaining practices installed with Section 319 cost share assistance for the lifespan of the practice.

6.0 BUDGET

6.1 Project Budget: Refer to Appendix 2.

7.0 PUBLIC INVOLVEMENT

7.1 Ensuring Public Involvement

Public involvement in the RRRP is assured through oversight of project activities by the RRRC Riparian Committee and Board of Directors. Furthermore, public will be an integral player in the project when establishing the Park River Watershed Committee as well as conducting riparian tours, stakeholder meetings, and informational surveys. Such public involvement will aid in project development, bringing insight to urgent needs, assisting in prioritizing resource concerns, and setting short-term and long-term conservation goals. Press releases and social media will be used to enhance public involvement as well.

Red River Riparian Program – Phase 6

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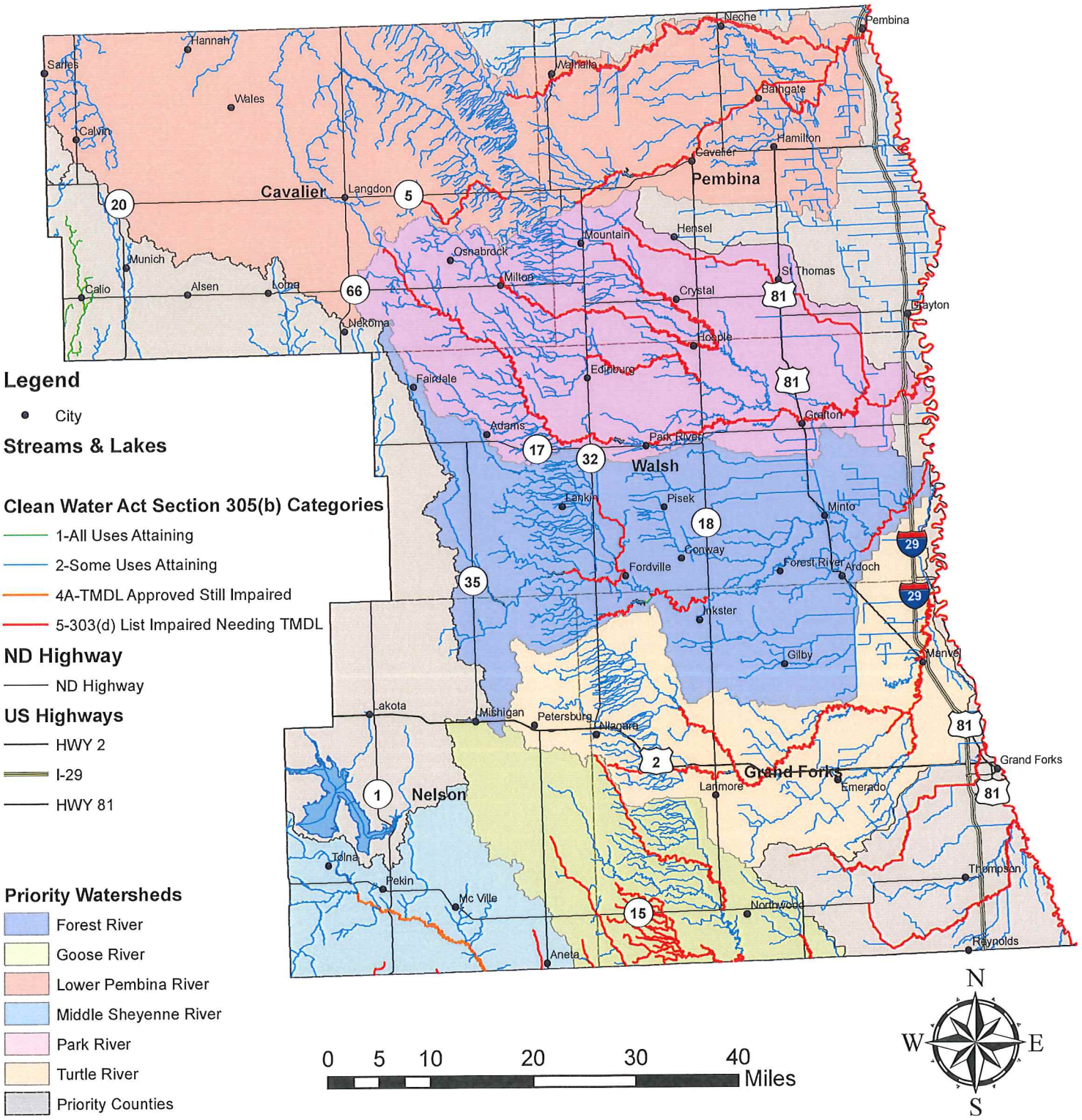
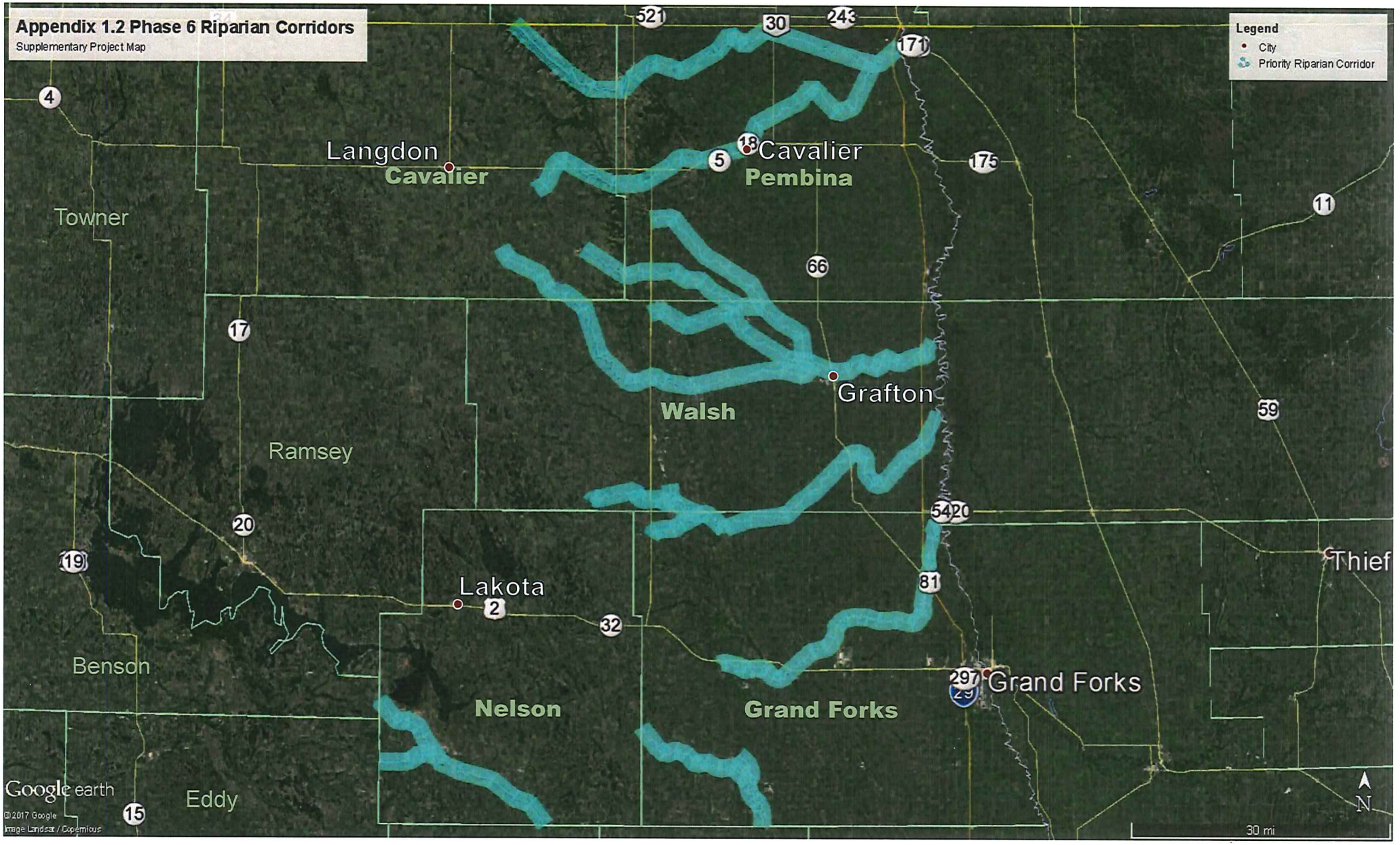
Red River Riparian Program
Phase 6 Project Area
2016 Water Quality Assessment




Appendix 1.2 Phase 6 Riparian Corridors
Supplementary Project Map
Legend
City
Priority Riparian Corridor
Langdon
Cavalier
Cavalier
Pembina
Towner
Grafton
Walsh
Ramsey
Lakota
Benson
Nelson
Grand Forks
Grand Forks
Thief
Eddy
Google earth
© 2017 Google
Image Landsat / Copernicus
N
30 mi
521
30
243
171
4
18
5
175
11
66
17
59
54
20
19
81
2
32
297
29
15

Appendix 2
RED RIVER RIPARIAN PROGRAM - PHASE 6
PROJECT BUDGET - PART 1
Revised 2/20/2018

Part 1: Budget Summary

EPA Section 319 Summary of Funds	7/1/18-6/30/19	7/1/19-6/30/20	7/1/20-6/30/21	Total Costs
FY18	$ 111,587.71	$ 116,687.57	$ 120,887.42	$ 349,162.70
Subtotal	$ 111,587.71	$ 116,687.57	$ 120,887.42	**$ 349,162.70**
Other Federal Funds				
FEMA *(pending)* [1]	$ 31,214.30	$ -	$ -	$ 31,214.30
Subtotal	$ 31,214.30	$ -	$ -	$ 31,214.30
State/ Local match				
RRRC Cash and Inkind Match	$ 1,900.00	$ 1,900.00	$ 1,900.00	$ 5,700.00
Landowner Match-319	$ 8,000.00	$ 8,000.00	$ 8,000.00	$ 24,000.00
ND Outdoor Heritage Fund (OHF)	$ 172,083.28	$ 172,083.28	$ 172,083.28	$ 516,249.84
Landowner Match-OHF	$ 186,423.55	$ 186,423.55	$ 186,423.55	$ 559,270.66
Subtotal	$ 368,406.83	$ 368,406.83	$ 368,406.83	**$ 1,105,220.50**
TOTAL (Section 319, Other Federal, State/Local Match)	$ 511,208.85	$ 485,094.40	$ 489,294.25	$ 1,485,597.50
TOTAL 319/NON-FEDERAL BUDGET	**$ 479,994.55**	**$ 485,094.40**	**$ 489,294.25**	**$ 1,454,383.20**

Footnotes:

[1] The Federal Emergency Management Agency (FEMA) funds would be used for streambank and shoreline protection (NRCS Code 580) at a site along the Forest River, where serious erosion is occurring due to perpetual flooding in the Red River Valley. The 319 NPS BMP Team would be utilized to carry out the streambank stabilization and protection project, reducing sediment load in the Forest River.

Appendix 2							
RED RIVER RIPARIAN PROGRAM - PHASE 6							
PROJECT BUDGET - PART 2							
Revised 2/20/2018							
Part 2: Detailed Budget							
Section 319/Non-federal							
Personnel/Support	7/1/18-6/30/19	7/1/19-6/30/20	7/1/20-6/30/21	Total Costs	Cash Match	In-Kind Match	319 Funds
Personnel[1, 2] (1 FTE)	$ 66,664.28	$ 69,997.49	$ 73,497.37	$ 210,159.13	$ -	$ -	$ 210,159.13
Personnel (.2 FTE)	$ 13,332.86	$ 13,999.50	$ 14,699.47	$ 42,031.83	$ -	$ -	$ 42,031.83
Travel, Food, & Lodging	$ 6,368.92	$ 6,368.92	$ 6,368.92	$ 19,106.76	$ -	$ -	$ 19,106.76
Supplies	$ 764.88	$ 764.88	$ 764.88	$ 2,294.64	$ -	$ -	$ 2,294.64
Rent/Utilities	$ 1,567.44	$ 1,567.44	$ 1,567.44	$ 4,702.32	$ -	$ -	$ 4,702.32
Communications (Telephone/Postage)	$ 2,258.38	$ 2,258.38	$ 2,258.38	$ 6,775.14	$ -	$ -	$ 6,775.14
Equipment	$ 1,910.22	$ 1,910.22	$ 1,910.22	$ 5,730.66	$ -	$ -	$ 5,730.66
Consultant/Contractual	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other (professional development)[3]	$ 1,900.00	$ 3,000.00	$ 3,000.00	$ 7,900.00	$ -	$ -	$ 7,900.00
Administration (10% limit)	$ 4,320.74	$ 4,320.74	$ 4,320.74	$ 12,962.22	$ -	$ -	$ 12,962.22
Subtotals	$ 99,087.71	$ 104,187.57	$ 108,387.42	$ 311,662.70	$ -	$ -	$ 311,662.70
Objective 1: Information/Education							
Speaker Fees	$ 200.00	$ 200.00	$ 200.00	$ 600.00	$ -	$ -	$ 600.00
Bus Rental for Tours	$ 300.00	$ 300.00	$ 300.00	$ 900.00	$ -	$ -	$ 900.00
Professional Development included in: Personnel/Support - Other							
Subtotals	$ 500.00	$ 500.00	$ 500.00	$ 1,500.00	$ -	$ -	$ 1,500.00
Objective 2: Park River Watershed Committee Meetings							
Park River Watershed Committee Meetings - Inkind	$ 400.00	$ 400.00	$ 400.00	$ 1,200.00	$ -	$ 1,200.00	$ -
					$ -	$ -	$ -
Subtotals	$ 400.00	$ 400.00	$ 400.00	$ 1,200.00	$ -	$ 1,200.00	$ -
Obective 3: Technical assistance - Costs included in Personnel/Support							
Riparian Committee Meetings - Inkind	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 4,500.00	$ -	$ 4,500.00	$ -
					$ -	$ -	$ -
Subtotals	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 4,500.00	$ -	$ 4,500.00	$ -
Obective 4: Financial Assistance for BMPs							
OHF BMPs[4]	$ 358,506.83	$ 358,506.83	$ 358,506.83	$ 1,075,520.50	$ -	$ 1,075,520.50	$ -
319 BMPs[5]	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 60,000.00	$ 24,000.00	$ -	$ 36,000.00
Subtotals	$ 378,506.83	$ 378,506.83	$ 378,506.83	$ 1,135,520.50	$ 24,000.00	$ 1,075,520.50	$ 36,000.00
Objective 5: Monitoring							
Costs included in Personnel/Support							
Subtotals							
Totals	$ 479,994.55	$ 485,094.40	$ 489,294.25	$ 1,454,383.20	$ 24,000.00	$ 1,081,220.50	$ 349,162.70
TOTAL 319/NON-FEDERAL BUDGET	**$ 479,994.55**	**$ 485,094.40**	**$ 489,294.25**	**$ 1,454,383.20**	**$1,105,220.50**		**$ 349,162.70**

Footnotes:

1. Personnel will increase 5% annually
2. Personnel includes salary and fringe benefits including, 10% retirement; employee full medical, dental and vision insurance; family medical insurance; all required payroll taxes
3. Planning to complete Rosgen Levels 2-4
4. OHF refers to North Dakota Outdoor Heritage Fund. Awarded June 2017, $539,887 OHF funds are available after July 1, 2018 for riparian protection/restoration projects. Meeting OHF cost share requirements (i.e. 60% OHF funds and 40% stakeholder funds), $1,075,520.50 is the total BMP costs (OHF funds + match), which will generate in-kind match.
5. OHF will be the primary source of funds for BMP implementation. However, 319 BMP funds requested will be used for practices OHF will not fund (i.e. portable windbreaks). The addition of 319 funds for BMP implementation will enhance longevity of Phase 6, increase BMP implementation, provide flexibility in emergency situations, and lead to higher impact within the project area. Refer to Appendix 3 for detailed information on BMPs.

Appendix 3
Phase 6 Best Management Practices

Funding Source	NRCS/319 NPS Code	Best Management Practice[4]
319 or OHF[1]	390	Riparian Herbaceous Cover
	391	Riparian Forest Buffer
	642	Well
	351	Well Decommissioning
	004	Pump
	580	Streambank and Shoreline Protection
	393	Filter Strip
	340	Cover Crop
	382	Fencing
	516	Pipelines
	614	Trough/Tank
319 Only[2]	066	Portable Windbreaks
OHF Only[3]	326/064	Selective Debris Removal

Footnotes:

1. OHF will be the primary source of funds for BMP implementation. However, the addition of 319 funds for BMP implementation will enhance longevity of Phase 6, increase BMP implementation, provide flexibility in emergency situations, and lead to higher impact within the project area.

2. Portable windbreaks are not fundable through OHF.

3. Phase 3 of a selective debris removal or "snag and clear" project will be completed on the Park River throughout winter 2018/2019 using OHF funds. RRRP and OHF involvement ensures that the project is completed to NRCS specifications for clearing and snagging (Code 326). For example, the following statement was extracted from NRCS specification and inserted into Park River Snag and Clear Phase 3 construction specifications:

   "Measures and construction methods that enhance landscape resource quality and fish and wildlife values shall be incorporated as needed and practical. Special attention shall be given to visual resources, protecting and maintaining key shade, food and den trees, and to stabilization of disturbed areas. Where specified, sound logs shall be placed against eroded banks and anchored to serve as bank protection and fish habitat. If necessary, areas disturbed by snagging and clearing operations will be seeded with Prairie Cord Grass and Echinochloa crusgalli (Barnyard Grass)."

   The RRRP Manager serves as the authorized on-site representative during project implementation and ensures work is completed to NRCS specification.

4. BMPs will be utilized to complete projects including, riverbank stabilization, riparian vegetation establishment/restoration, cover crop on farmland adjacent to the riparian corridor, and riparian livestock management projects such as prescribed grazing and manure management plans.

Appendix 4					
MILESTONE TABLE					
RED RIVER RIPARIAN PROGRAM - PHASE 6					
			Year 1	Year 2	Year 3
Task/Responsible Organizations	Output	QTY	7/1/18-6/30/19	7/1/19-6/30/20	7/1/20-6/30/21
OBJECTIVE 1 - EDUCATION					
Task 1. Coordinate outreach and education efforts with NRCS, NDSU Extension, and SCDs. Groups 1, 2, 3, 4	Circulate quality message throughout the project area to influence land management decisions.	3 years	X	X	X
Task 2. Jointly conduct I/E events including, 3 youth education events (EcoEd), 3 stakeholder conservation workshops, and 3 riparian tours. Groups 1, 2, 3, 4	Education to all ages on the importance of BMPs and riparian ecosystems. Informational handouts will be distributed.	9 events/tours	3	3	3
Task 3. Attend at least 2 educational workshops or conferences per year as well as Wildland Hydrology Levels II through IV. Group 1	Maintain up-to-date knowledge on riparian restoration and management techniques.	9 courses	3	3	3
Task 4. Conduct demonstration project utilizing two-stage channel design and proper vegetation establishment along 3 miles of a rural drainage channel. Groups 1, 5	Demonstrate effectiveness of an improved drainage design and promote sustainable drainage practices.	3 miles	X		
OBJECTIVE 2 - IDENTIFY CONCERNS					
Task 5. Jointly establish Park River Watershed Committee with Walsh County Three Rivers SCD. Groups 1, 4	Assemble a team to generate solutions to minimize NPS pollution and improve water quality in the Park River Watershed.	1 committee	1		
Task 6. Jointly conduct biannual Park River Watershed Committee meetings. Groups 1, 4	Address local concerns, provide insight to urgent needs, and prioritize resource concerns.	6 meetings	2	2	2
OBJECTIVE 3 - TECHNICAL ASSISTANCE					
Task 7. Provide RRRP support and local project management throughout the entire project. Group 1	Effectively manage RRRP as well as meet stakeholder needs by providing assistance in planning, implementation, and overall management of BMPs. Ensure implementation is completed to NRCS specifications or alternative standards approved by NDDH Section 319 NPS Program.	9 projects	3	3	3
Task 8. Implement Section 319 NPS Program-approved BMPs (Appendix 4) within the Phase 6 project area along main river channels or within 1 mile of the main channel. Based on resource needs and stakeholder interest, initiate 3 new projects (two OHF and one 319) per year. Groups 1, 2, 3, 4, 7, 8	Minimize NPS pollution and improve water quaility.	9 projects	3	3	3
Task 9. Hold quarterly RRRC Riparian Committee meetings. Groups 1, 4, 6	Committee assists RRRP Manager with project oversight, prioritization, planning, and funding recommendations.	12 meetings	4	4	4
OBJECTIVE 4 - FINANCIAL ASSISTANCE					
Task 10. Provide 60/40 cost-share assistance for BMPs implemented. Assuming an average of 3 BMPs per project and 9 projects total, 27 BMPs will be implemented. Groups 1, 8	Reduce financial stress on stakeholders, promote voluntary implementation of BMPs, and reduce NPS pollution in waterways.	27 BMPs	9	9	9
OBJECTIVE 5 - MONITORING					
Task 11. Document improvements in the vegetative community and riparian function of river reaches where BMPs were implemented. Group 1	Document impacts of BMPs, including success and weakness. Monitoring identifies improvement strategies.	9 projects	3	3	3

Responsible Agencies

Group 1 Red River Riparian Program - Local project manager and sponsor, responsible for project coordination, reimbursement payments, match tracking, and progress reporting to NDDH.

Group 2 Natural Resource Conservation Service - Provide technical assistance in planning and design as well as coordination on education and outreach events.

Group 3 North Dakota State University Extension - Provide technical assistance in planning and design as well as coordination on education and outreach events.

Group 4 Soil Conservation Districts - Provide technical assistance in planning and design as well as coordination on education and outreach events.

Group 5 Walsh County Water Resource District - Sponsor sustainable drainage demonstration project.

Group 6 University of North Dakota Faculty - Provide RRRP project oversight via the RRRC Riparian Committee.

Group 7 Stakeholders (farmers, landowners, community members, and other entities) - Make land management decisions, provide cash and in-kind match for BMPs.

Group 8 North Dakota Department of Health - Statewide Section 319 program management including oversight of local 319 planning and expenditures.

Appendix 5

THE TWO MINUTE

PARK RIVER WATERSHED SURVEY

by

Sarah Johnston

Walsh County Three River Soil Conservation District

and

Danielle Gorder

Red River Regional Council

9/20/2017

Survey Methods

The following survey was sent to approximately 125 stakeholders via traditional mail in early September 2017. The mailing consisted of primarily rural landowners or farmers, including twenty five township board members. Recipients were asked to send responses to the Soil Conservation District via mail, or if they preferred, they could utilize a Survey Monkey link provided by the Red River Regional Council. In addition to this direct solicitation effort, an online survey was advertised on social media and in the legal section of the county newspaper. Surveys were also made available to the public at the Park River Watershed Stakeholders' meeting held on September 15th. In addition to soliciation to citizens, we also solicited members of the Walsh County Commission, Walsh County Weed Board Coordinator, Walsh County Highway Superintendent, Water Resource District board members, the City of Grafton, the City of Park River, the NRCS District Conservationist, and the Walsh County Extension Agent for their feedback.

The survey questions served as a basis for discussion during the September 15th public stakeholder meeting, where eight individuals attended. The meeting took place during harvest season, which of course is a busy time for farmers to attend. With the imminent grant deadline, we were pleased with the amount of feedback we received in the survey and the meeting. Please see the next two pages for a copy of the original survey.

The 2 Minute 

Park River Watershed Survey-

Please return in the envelope provided prior to September 15th.

Thank you in advance for your feedback!

1. **Please describe yourself (choose any that apply):**
   a. Active Farmer/ Operator
   b. Retired farmer
   c. City/County agency
   d. Rural landowner (employed other than farming)
   e. Urban landowner
   f. Other:_____

2. **Do you have concerns over resources in the Park River Watershed?** (If so, please circle all that apply)
   a. Soil Erosion
   b. Salinity
   c. Water Quality (sedimentation, algae blooms)
   d. Streambank Erosion
   e. Wildlife Habitat Loss
   f. Other (please specify) _____
   g. Soil Fertility/Soil Health
   h. Water Quantity/Drainage
   i. Shelterbelts and Forest Health
   j. Groundwater/Aquifer protection

3. **From the list above, what resource concerns do you feel conservation programs should prioritize in the Park River Watershed?**

4. **Do you feel that there is a need for a watershed coordinator or river specialist to provide planning advice and financial assistance in the Park River Watershed? The project area includes all branches of the Park River.**
   a. Yes, both financial and planning advice should be provided
   b. Yes, only planning advice is needed and should be provided
   c. Yes, only financial assistance is needed and should be provided
   d. No, our needs are met without these roles providing planning advice and/or cost share assistance.

One Last Question----------→

5. **How should funding be prioritized in terms of practices if we are awarded a local pool of funding for Park River Watershed landowners?**

	Please circle the Level of Importance		
Residue Management (no-till, strip-till, mulch-till)	High	Moderate	Low
Salinity & Sodic Soil Management (establish vegetative cover only)	High	Moderate	Low
Shelterbelt Establishment/Renovation	High	Moderate	Low
Nutrient Management (includes fertilizer rates and/or manure mgmt.)	High	Moderate	Low
Riparian restoration, buffers, and other river enhancements	High	Moderate	Low
Conservation easements in river areas (10 - 30yr w/land rental payment)	High	Moderate	Low
Water retention projects (ponds, dikes, conversion of acres to wetland)	High	Moderate	Low
Grazing practices such as fencing/prescribed grazing	High	Moderate	Low
Pasture/Hayland Planting, or land conversion to grassland	High	Moderate	Low
No-till farming including a demonstration site and no-till drill rental	High	Moderate	Low
Cover Crops, including prevent planting cost share	High	Moderate	Low
Workshops focused on farming and conservation planning	High	Moderate	Low
Other ideas: _____	High	Moderate	Low

Name (optional):_____

Address: _____

Phone: _____

Email: _____

Would you like to receive a copy of the results? Y N (please ensure your address is listed above)

Your identity and contact information will be kept private. We may want to use your information to follow up with you regarding conservation in the watershed.

This survey is being conducted jointly by 319 water quality projects at the Walsh County Three Rivers Soil Conservation District and the Red River Regional Council. We want to thank you again for your time.

If you have any questions, please contact us:

Walsh County Three Rivers Soil Conservation District
Sarah Johnston
Homme Dam Watershed Coordinator
701-284-7363

Red River Regional Council
Danielle Gorder
Environmental Program Manager
701-352-3550

Survey Results & Discussion

Of the 125 surveys mailed to watershed stakeholders, 34 surveys or 27% were returned (33 were returned by mail, and one was completed online). In addition to the direct mail results, three individuals of unknown solicitation completed the survey using the Survey Monkey web link, making the total number of respondents for the survey thirty-seven. The following figures describe their responses.

The respondents were classified based on whether or not they indicated being an active farmer, retired farmer, rural landowner only, or belonged to a city or county agency. A total of 17 active farmers, 11 retired farmers, 6 City or County Agency staff, and 3 rural landowners with no farming background made up the group.

Resource Concerns & Need for Assistance

In survey question #2, respondents chose as many resource concerns as he/she wanted to with a total of nine resource categories offered. There was also a blank and a write-in option for unlisted concerns of which one active farmer wrote in a concern for chemical runoff. The respondents' most frequent cumulative responses to this question included soil erosion, streambank erosion, and water quantity/drainage (Fig. 1).

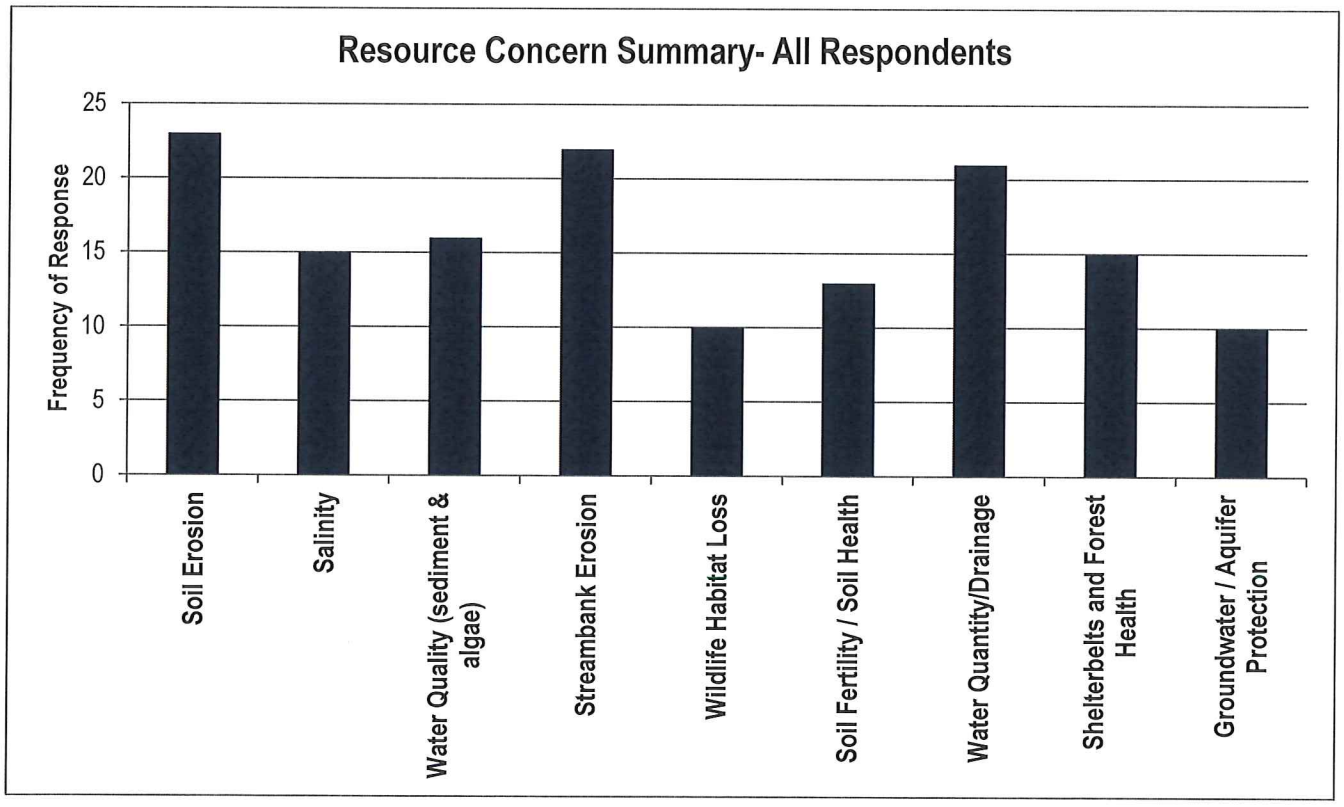


Figure 1. Responses to survey question #2 inquiring about resource concerns in the Park River Watershed.

Active farmers showed concern for all natural resource categories presented to them, with water quantity and drainage being the most frequently selected concern, followed by soil erosion, salinity, and streambank erosion (Fig. 2). Groundwater and aquifer protection received more selections than wildlife habitat loss. One farmer wrote in that he was concerned with chemical runoff. The Park River Community receives water from the Fordville Aquifer, and the Grafton Community received drinking water from the Red River and the Park River.

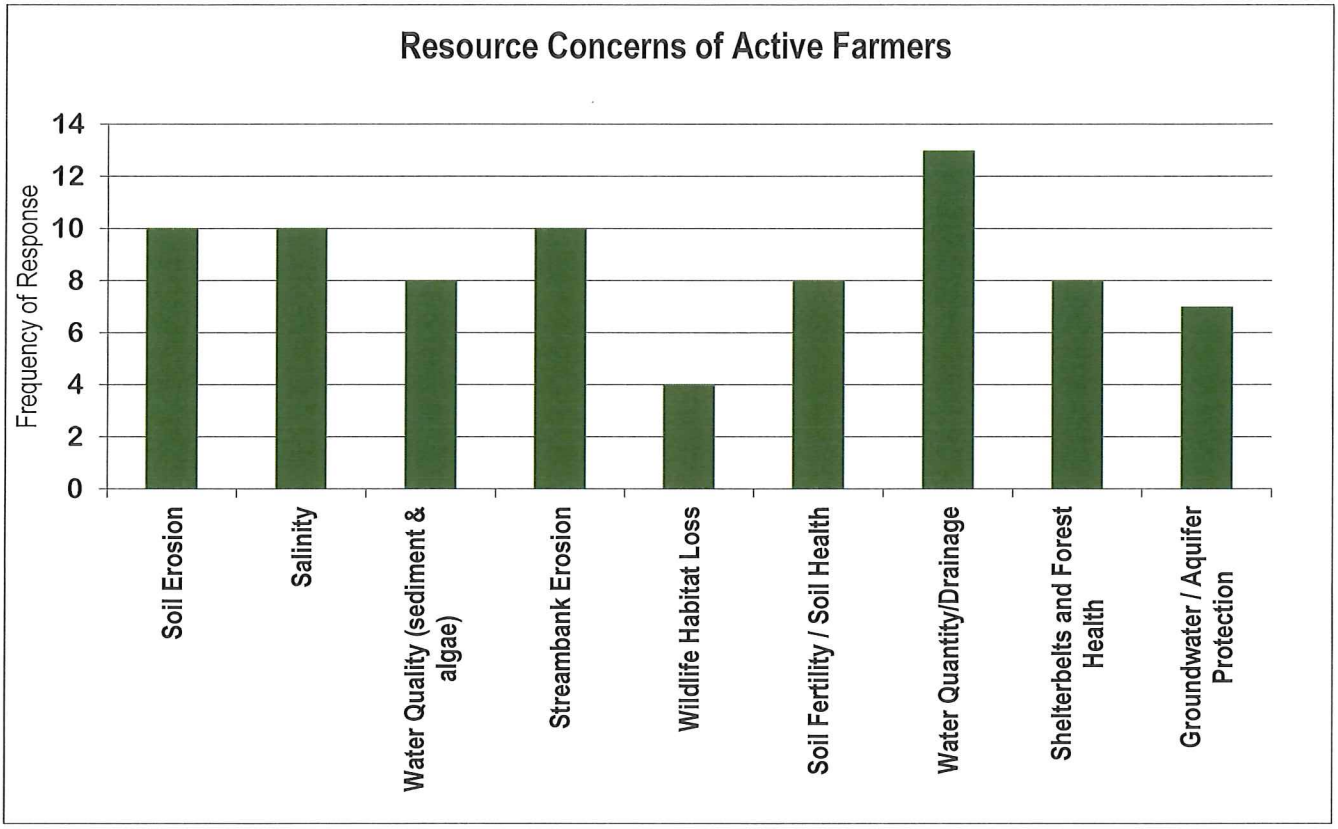


Figure 2. Active farmer responses to question #2 regarding resource concerns in the Park River Watershed.

In response to question #4, eleven of the fifteen farmers who answered the question with a "yes" (73%) believe that assistance is needed from a watershed coordinator or a river specialist in the form of planning advice. Of these responses, ten favor planning advice in combination with financial assistance (66%) (Table 1). Four of the fifteen (26%) stated that their needs were already met.

Table 1. Do you feel that there is a need for a watershed coordinator or river specialist to provide planning advice and financial assistance in the Park River Watershed?

Yes - Financial and planning advice	10
Yes - Only planning advice	1
Yes - Only financial assistance	0
No - Needs are already met	4

Retired farmers most frequently responded that soil erosion, streambank erosion, and shelterbelts and forest health were resource concerns (Fig. 3). Many retired farmers indicated that they are rural landowners as well.

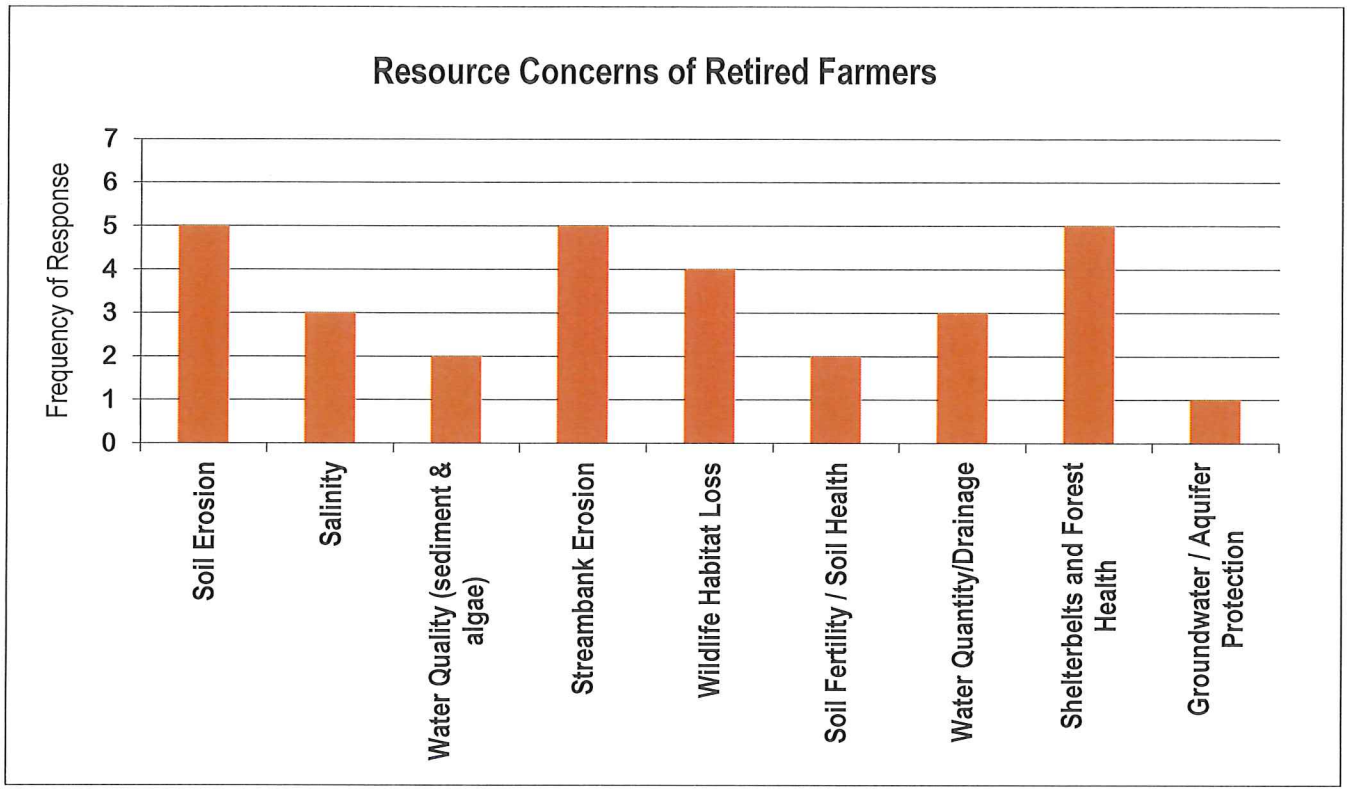


Figure 3. Retired farmer responses to question #2 regarding resource concerns in the Park River Watershed.

In response to question #4, four of the eight retired farmers (50%) believe that assistance is needed from a watershed coordinator or a river specialist in the form of planning advice and financial assistance (Table 2).

Table 2. Do you feel that there is a need for a watershed coordinator or river specialist to provide planning advice and financial assistance in the Park River Watershed?

Yes - Financial and planning advice	4
Yes - Only planning advice	1
Yes - Only financial assistance	1
No - Needs are met	2

City and county agencies had six respondents, of which all six (100%) selected soil erosion and water quality as concerns (Fig. 4). Five respondents (83%) selected for streambank erosion as a resource concern.

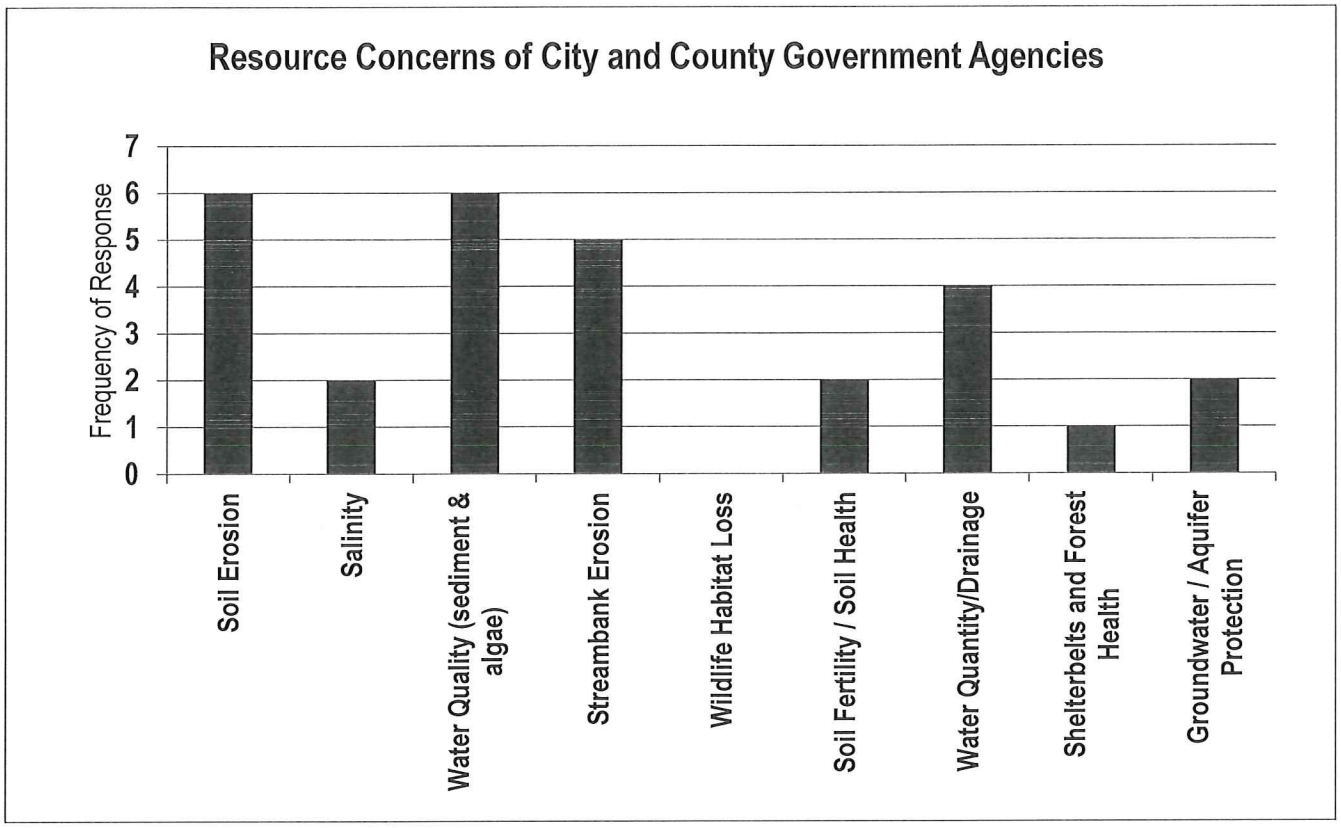


Figure 4. City and local government agency responses to question #2 regarding resource concerns in the Park River Watershed.

In response to question #4, six of the six agency respondents (100%) believe that assistance is needed from a watershed coordinator or a river specialist in the form of planning advice and financial assistance (Table 3).

Table 3. Do you feel that there is a need for a watershed coordinator or river specialist to provide planning advice and financial assistance in the Park River Watershed?

Yes - Financial and planning advice	6
Yes - Only planning advice	0
Yes - Only financial assistance	0
No - Needs are met	0

Rural landowners chose soil erosion, streambank erosion and wildlife habitat loss more frequently than other resource concerns in question #2 (Fig. 5). Rural landowners are defined as landowners who have a profession other than farming. This includes rural residents that work in town.

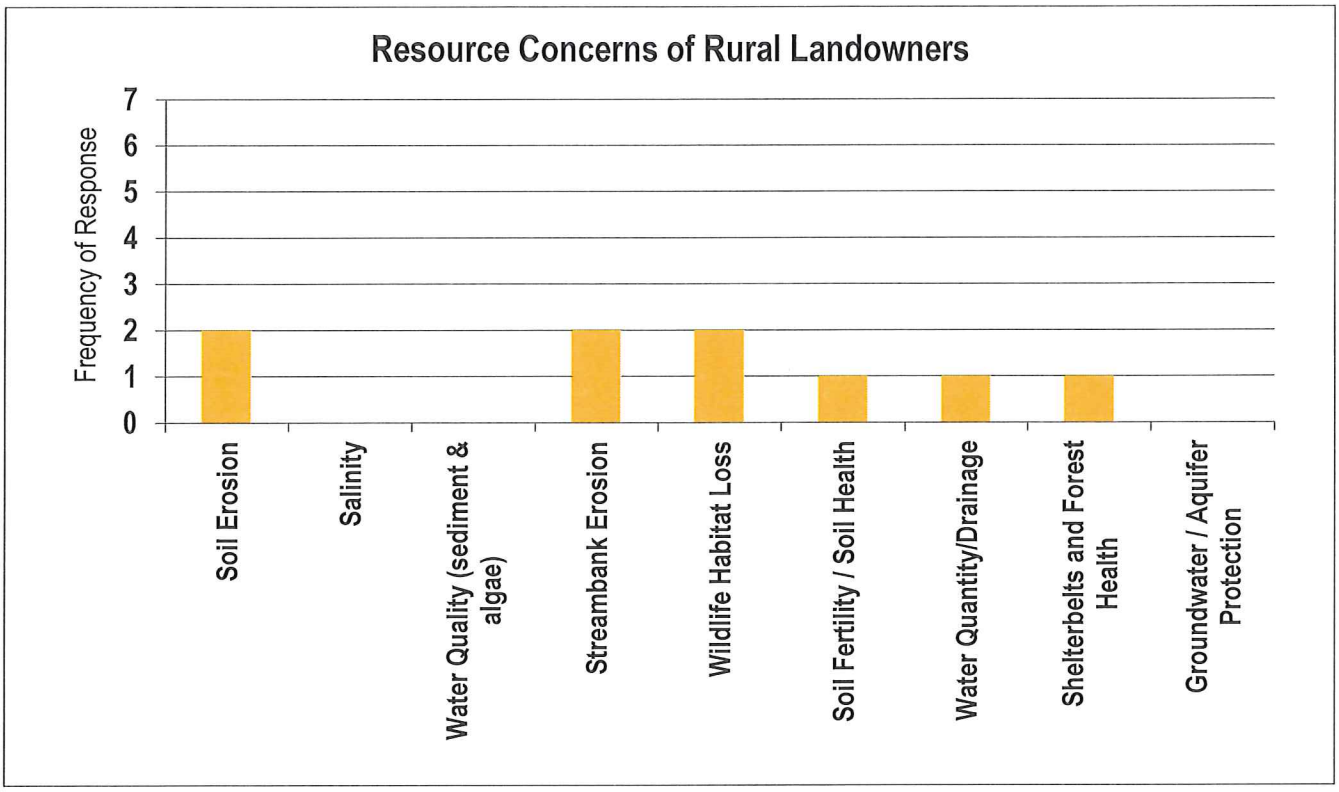


Figure 5. Rural landowner responses to question #2 regarding resource concerns in the Park River Watershed.

In response to question #4, two of the three landowner respondents believe that assistance is needed from a watershed coordinator or a river specialist in the form of planning advice and financial assistance (Table 4).

Table 4. Do you feel that there is a need for a watershed coordinator or river specialist to provide planning advice and financial assistance in the Park River Watershed?

Answer	# Respondents
Yes - Financial and planning advice	2
Yes - Only planning advice	0
Yes - Only financial assistance	0
No - Needs are met	1
Total Respondents	4

Comparisons of Concerns

The resource concerns of stakeholders between groups does show some distinctions, with the farmers having different levels of frequency for salinity concerns or wildlife versus rural landowners and agencies (Fig. 6). All groups had high frequency of selections for soil erosion and streambank erosion. Soil erosion being the number one resource concern amongst stakeholders concurs with results from the 2016 Local Work Group resource prioritizations for cropland and rangeland.

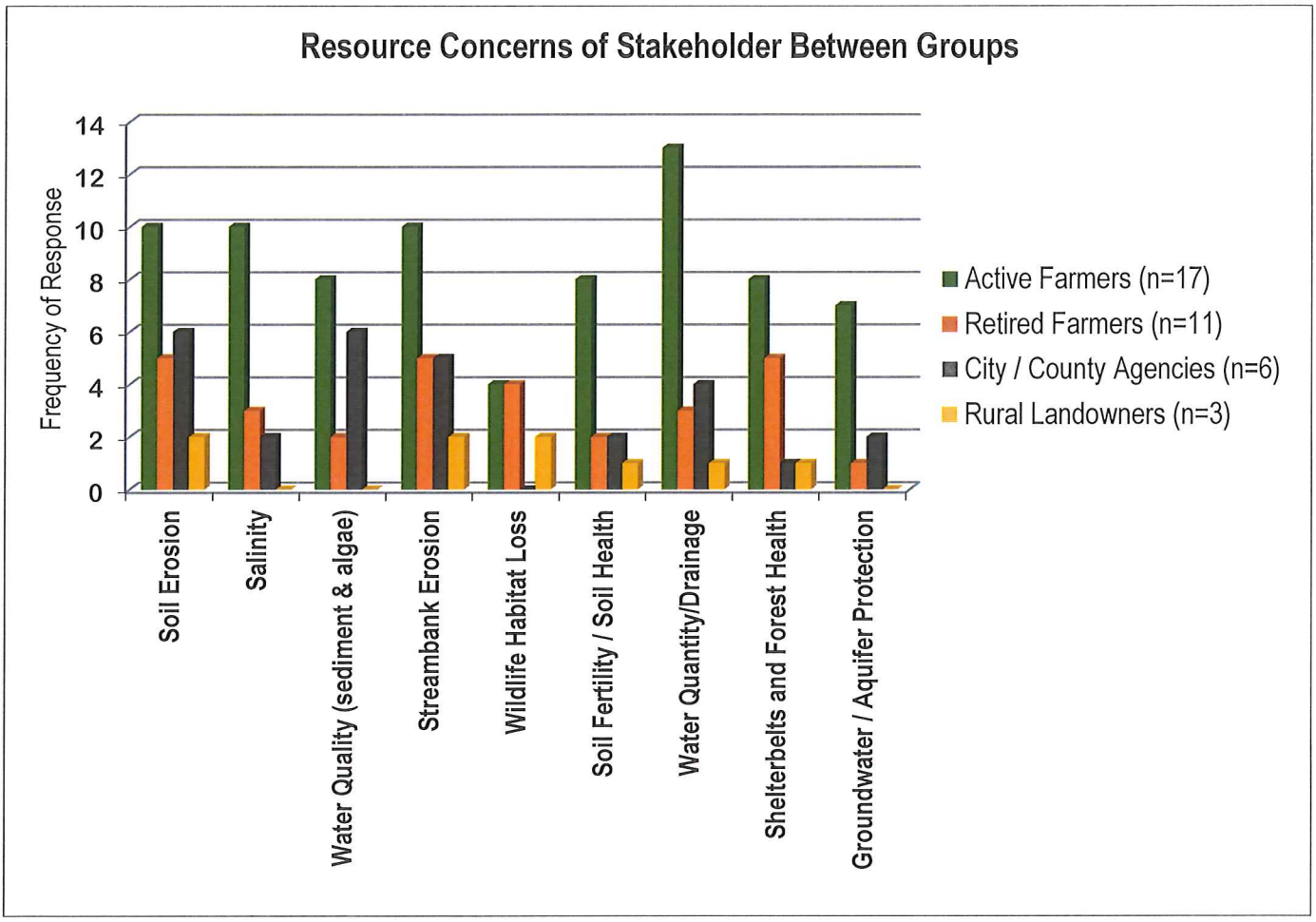


Figure 6. Side by side frequency of responses to question #2 regarding resource concerns in the Park River Watershed.

Funding prioritization

In survey question #5, stakeholders were asked to prioritize any special funding received by the upcoming grant (Fig. 7). Respondents could select levels of priority for each management practice based on resource areas that the Soil Conservation District and Red River Regional Council selected for their consideration. Shelterbelt establishment/renovation and riparian restoration/buffers/river enhancements were frequently selected as high priority.

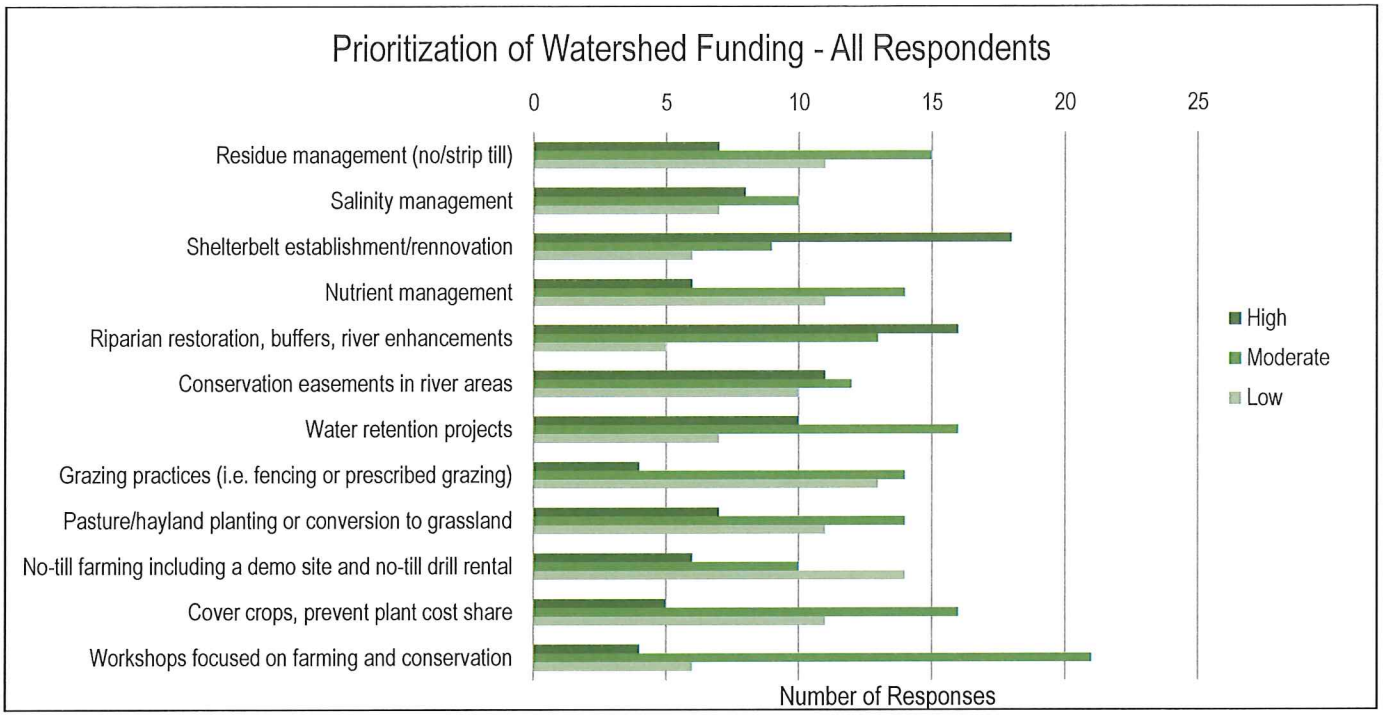


Figure 7. Cumulative responses regarding watershed funding priorities (n=37).

Active farmers gave highest prioritization to shelterbelt establishment or renovation, riparian area practices, conservation easements in river areas, and salinity management (Fig. 8). Residue management (including strip tillage, mulch tillage, or no-till) was of medium priority as were workshops focused on farming and conservation.

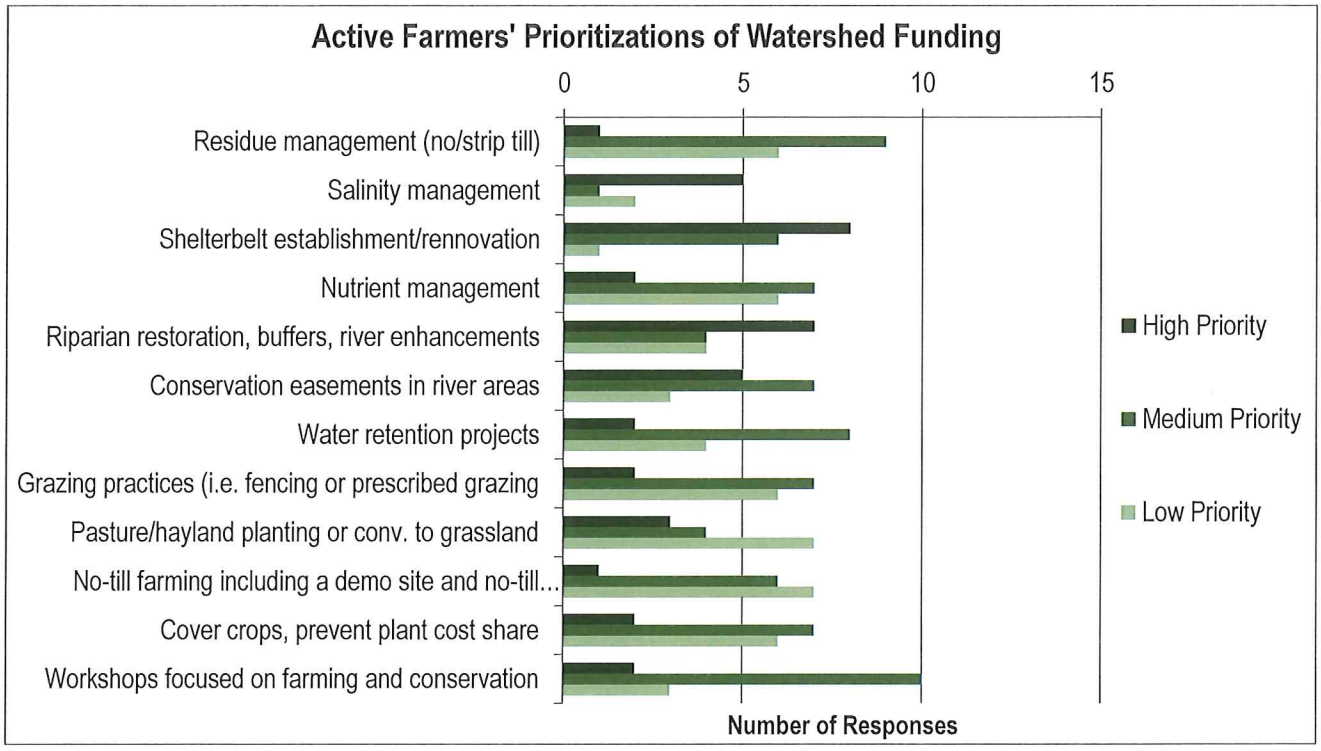


Figure 8. Active Farmers' prioritizations of watershed funding (n=17).

Regarding water retention projects, two of the thirteen (15%) of active farmers considered retention a high priority for funding. Of the thirteen farmers who responded to this topic, eight farmers (61.5%) considered retention a medium funding priority, and four (31%) considered it a low priority. These results are important to note because they directly pertain to question #2, where drainage and water quantity were selected most frequently as a concern for active farmers. Drainage and water quantity ranked often as the top concern or secondary concern for farmers in question #3 (Table 5.) Drainage issues were also discussed at the watershed stakeholder meeting on September 15, 2017.

Table 5. Question #3- Prioritized Resource Concerns for Conservation Programs

Primary Concern	# Respondents	Secondary Concern	# Respondents	Third Concern	# Respondents
Soil Erosion	4	Water Quantity/Drainage	3	Streambank Erosion	3
Streambank Erosion	3	Streambank Erosion	3	Groundwater\ Aquifer Protection	3
Water Quality -Homme Dam (2) -Other areas (2)	4	Salinity	2	Soil Erosion	1
Shelterbelts/ Forest Health	2	Shelterbelts/ Forest Health	2	Drainage	1
Water Quantity/ Drainage	2	Tree Debris	1		
Total Respondents	**15**		**11**		**8**

*This question required respondents to write in their answers

Retired farmers prioritized shelterbelt establishment and renovations, riparian restoration/buffers/other riparian enhancements, and water retention projects as higher priorities for funding than other resource practices (Fig. 9). Conservation easements and residue management practices were considered lower priorities for this group compared to the priorities of active farmers.

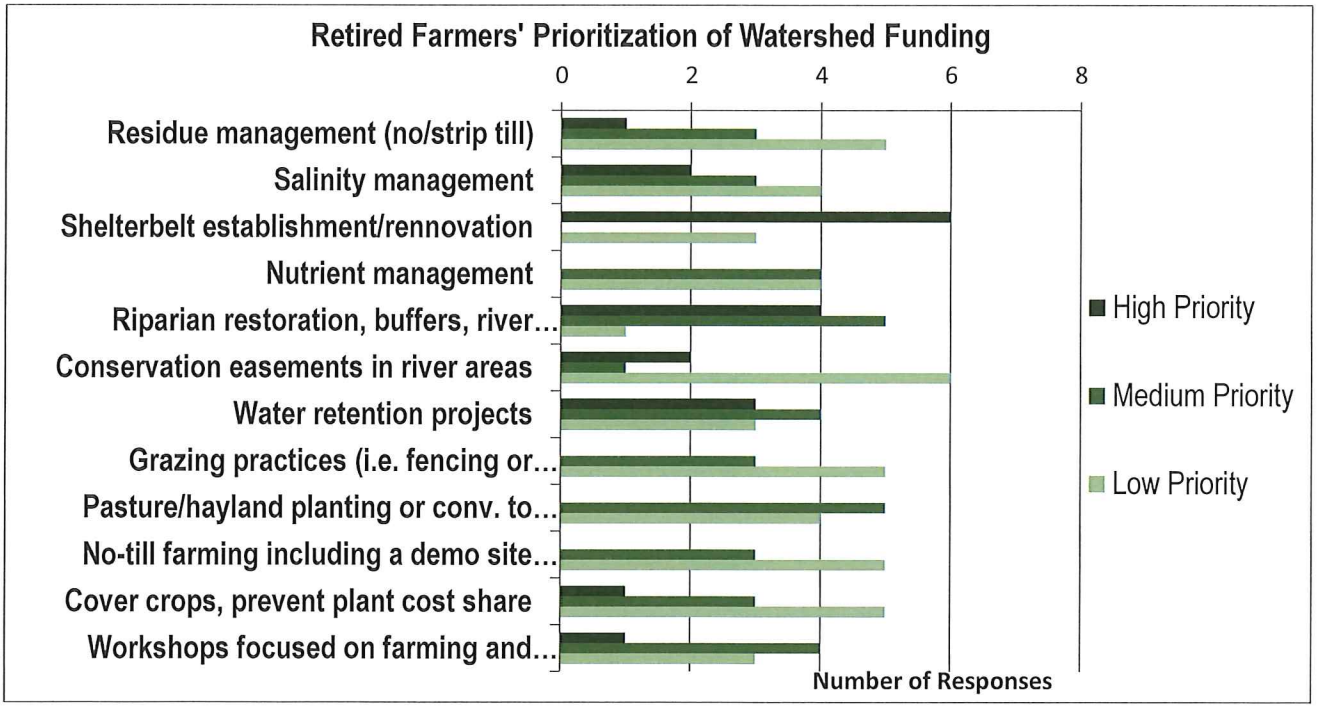


Figure 9. Retired Farmers' prioritizations of watershed funding (n=11)

Appendix 6

Red River Riparian Program Success Stories

Phase 2: March 1998 – June 2003

Successful Streambank Protection along the Park River

Serious erosion occurring on the Park River in spring of 1999.

Bioengineering implementation fall of 1999.

Fall 2016 illustrates a successful project.

Phase 3: July 2003 – June 2008

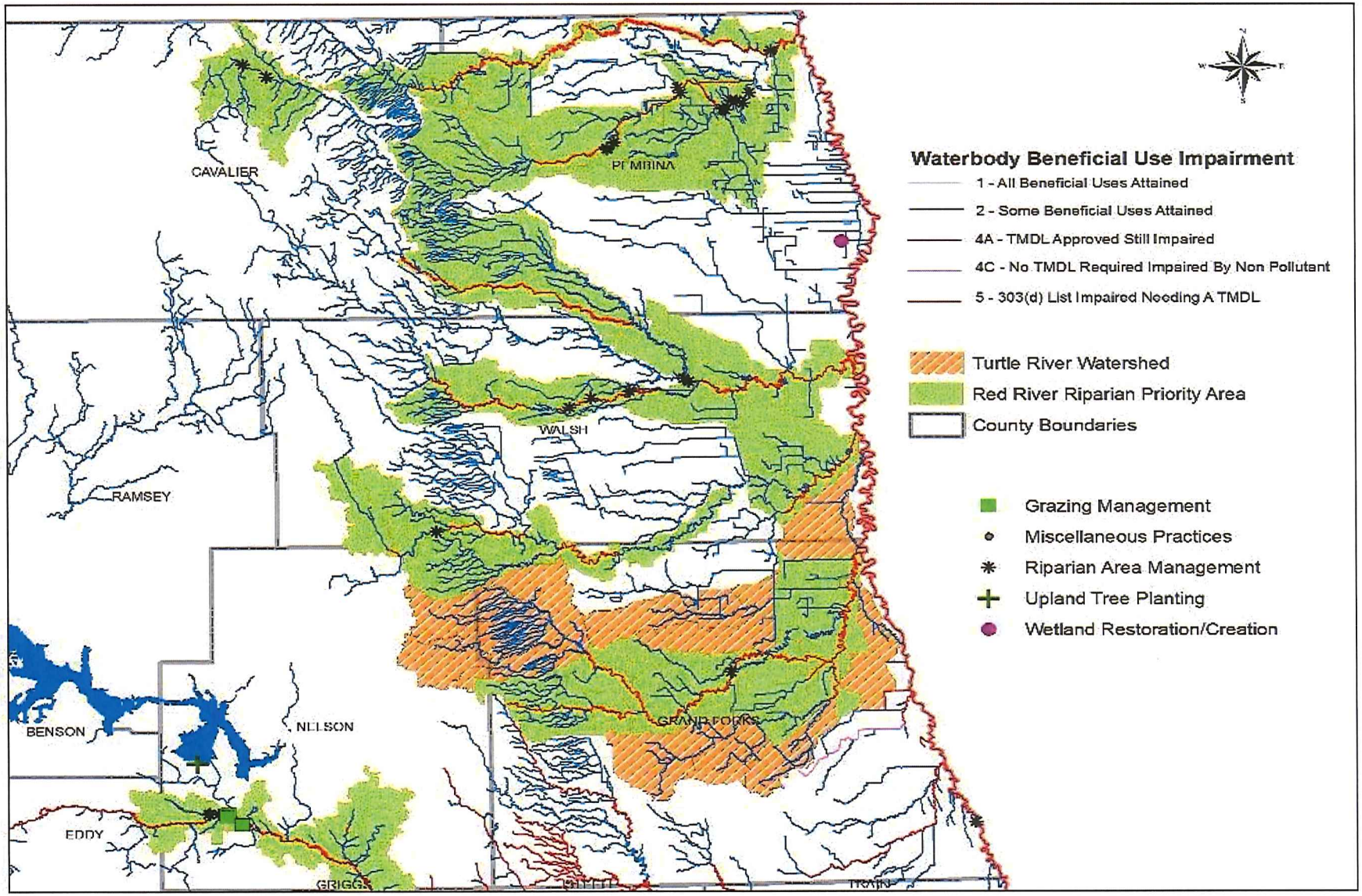
Results of Phase 3 included:

- 129 riparian management plans
- 12,936 acres of riparian improvement
- 34.9 river miles with improved riparian management

Natural stream restoration within a legal drain within the Sheyenne River Watershed.

Phase 4: June 2008 – September 2014

RRRP Phase 4 Project Area and BMP Implementation



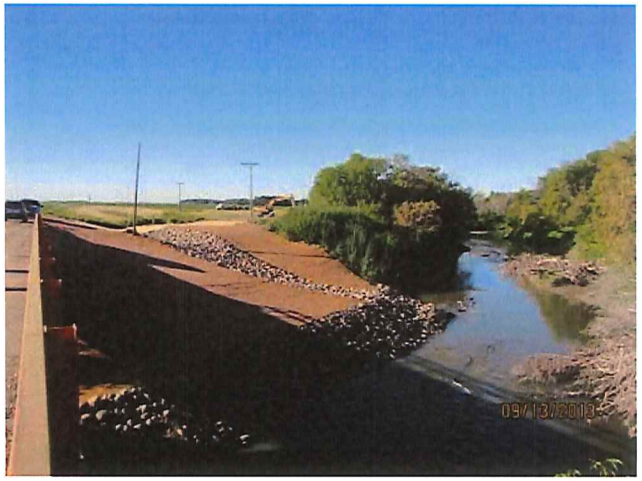
Locations of successful projects implemented during Phase 4 are illustrated in the map above. ***Projects were distributed throughout 5 watersheds, which highlights stakeholder interest and the need for riparian assistance within each watershed.***

Phase 4: June 2008 – September 2014 (Continued)

Successful Streambank Protection along the Pembina River

Serious erosion occurring along the Pembina Riverbank in 2011.

The Section 319 NPS BMP Team carried out a streambank protection project utilizing bioengineering practices in 2013.



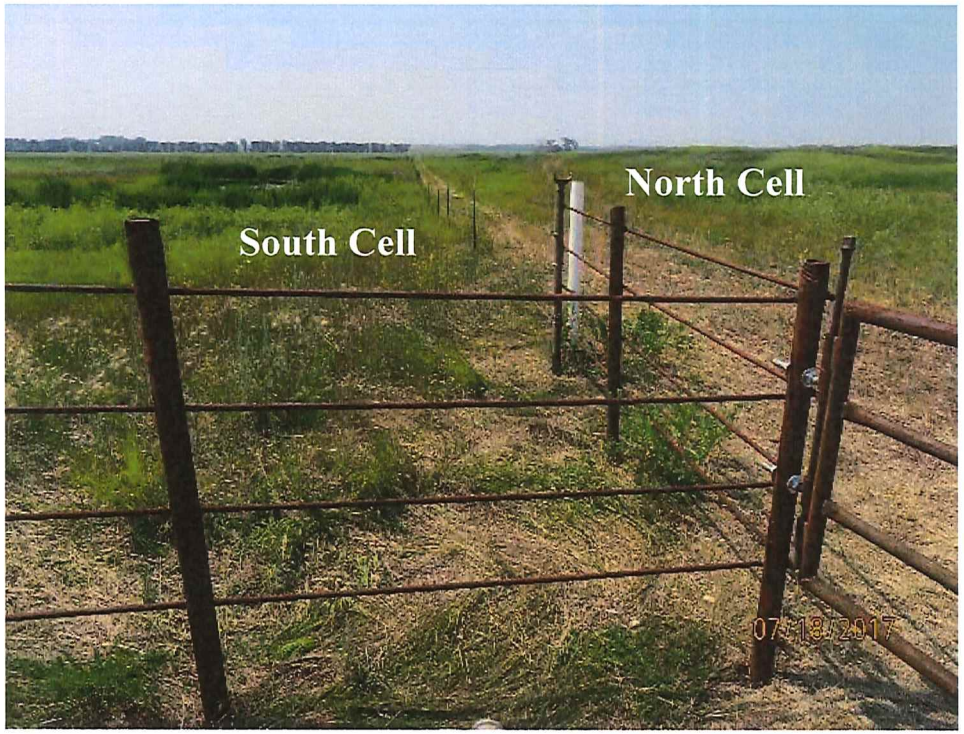
Final product, which successfully reduces sediment input into the Pembina River.

Off-Channel Watering System

Off-channel watering systems for livestock were utilized to reduce grazing within the riparian corridor, resulting in reduced sediment and nutrient input to the Middle Sheyenne River.

Phase 5: June 2014 – Present

Livestock Management along the Forest River



A rotational grazing plan was developed and implemented, which limits grazing within a riparian area along the Forest River.

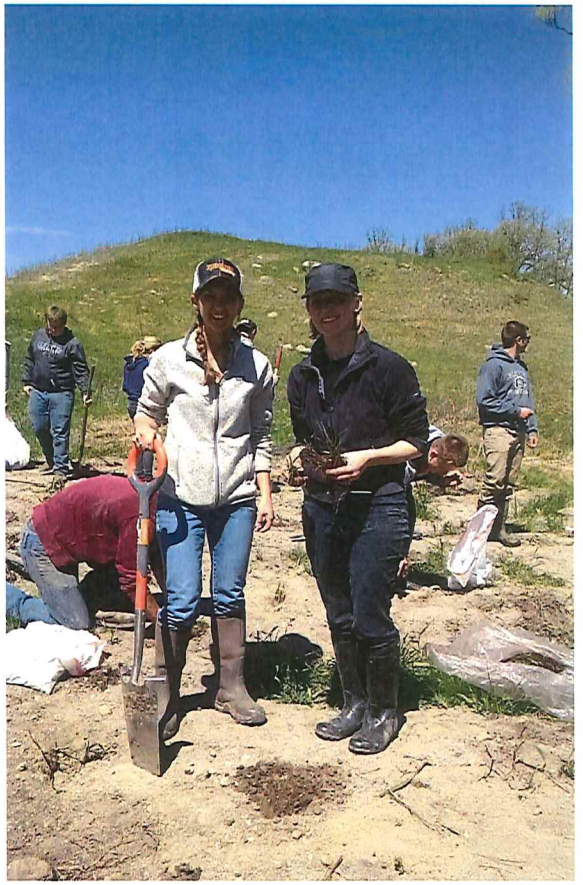
Off-channel watering and fencing BMPs were utilized for livestock management, resulting in reduced sediment and nutrient input to the Forest River.

Phase 5: June 2014 – Present (Continued)

Public Outreach and Education

Riparian planting with Biology students.

Public education on riparian restoration and the importance of healthy riparian ecosystems.



Successful collaboration with the Walsh County Three Rivers SCD.