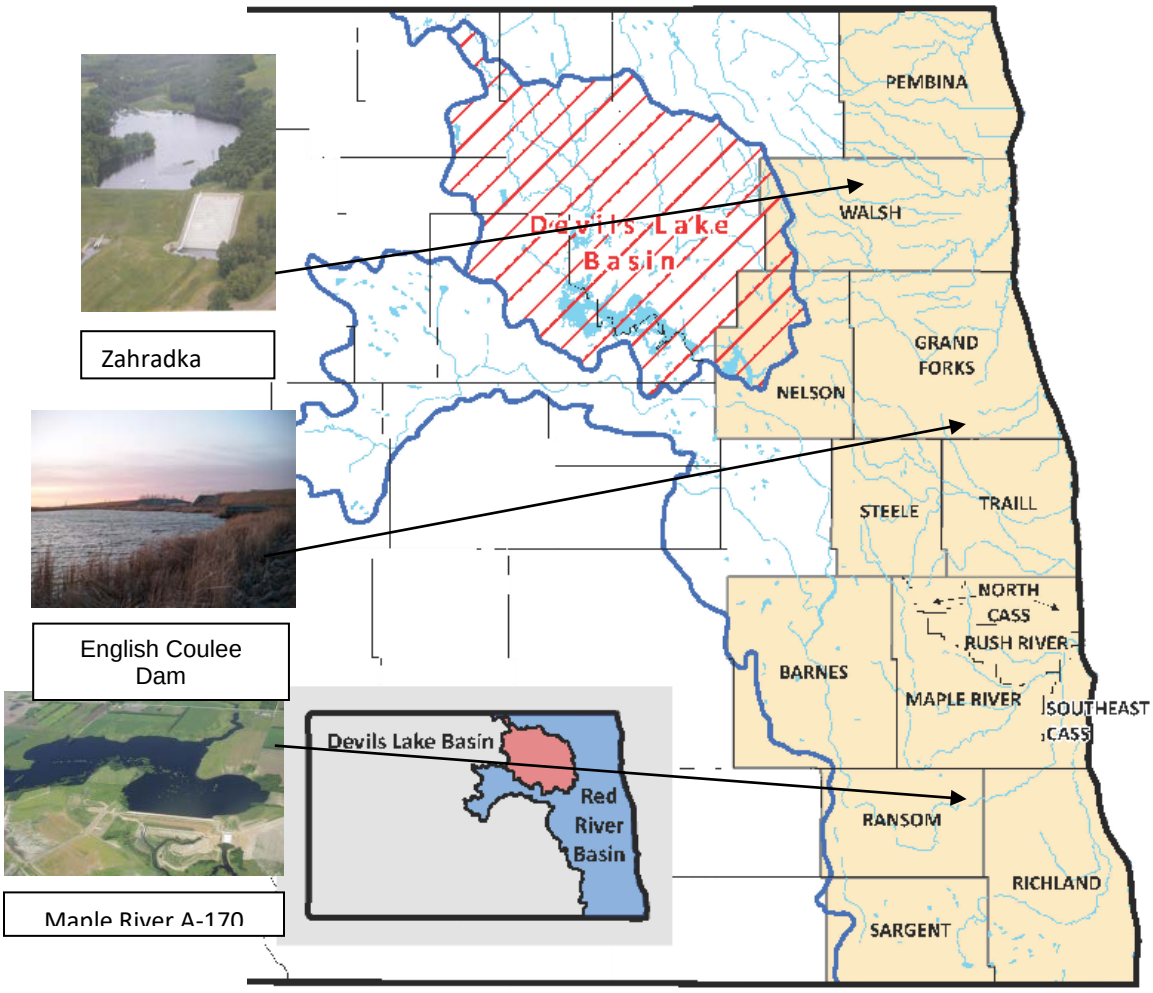
Red River Joint Water Resource District

"Providing a coordinated and cooperative approach to planning and implementing a comprehensive water management program in the Red River Valley"



2014-2017 WATER MANAGEMENT STRATEGY

Developed by:
The **R**ed **R**iver **J**oint **W**ater **R**esource **D**istrict
In cooperation with:
The **N**orth **D**akota **S**tate **W**ater **C**ommission

www.redriverjointwrd.org

TABLE OF CONTENTS

ABOUT THE RED RIVER JOINT WATER RESOURCE DISTRICT

Background

The majority of water resource districts in North Dakota are established along county lines, but because water does not respect political boundaries, it is often advantageous for groups of water resource districts to work together to more effectively manage their water resources.

With that concept in mind, the North Dakota Legislature enacted the Joint Exercise of Powers Statute for water resource districts in 1975. This legislation essentially provided an opportunity for water resource boards to join together - providing improved communication and water management across political boundaries. The Joint Exercise of Powers for joint water resource districts can be referenced in North Dakota Century Code (NDCC) 61-16.1-11.

Four years after the Legislature enacted the Joint Exercise of Powers, the Red River Joint Water Resource District (RRJWRD) was created in 1979 – making it the first joint water resource district in the state. With a number of large flood events, particularly in 1950, 1969, 1975, 1978 and 1979 etched into the minds of many valley residents, the original impetus behind the formation of the RRJWRD was to establish an entity that could address the Red River Valley's flooding problems. The main purpose of the RRJWRD is to reduce flood damage by providing cost-sharing for the construction of flood protection projects such as detention dams.

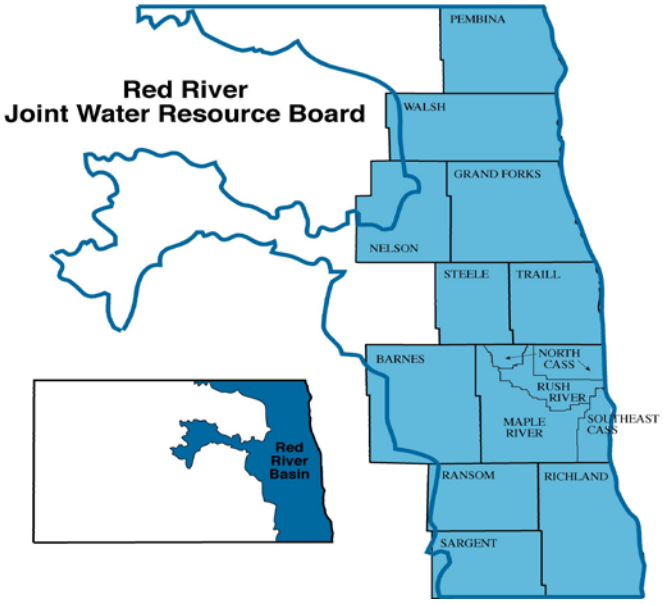
Beyond the response to flooding, it was also determined that a joint district would be more effective in holistically recognizing all of the natural resource management issues that were important to water management in the entire Red River Valley. Further, by joining together, members of the RRJWRD could more effectively develop comprehensive water management strategies, and more efficiently deal with other local organizations, regional entities, state and Federal agencies.

Membership and Structure

The RRJWRD is made up of fourteen individual water resource districts (WRDs), covering eleven counties and the majority of the Red River Valley portion of North Dakota (See **Figure 1**). The fourteen member WRDs (in alphabetical order) include: Barnes County, Grand Forks County, Maple River, Nelson County, North Cass, Pembina County, Ransom County, Richland County, Rush River, Sargent County, Southeast Cass, Steele County, Traill County and Walsh County.

For the purpose of formalized coordination and cooperation, a Joint Powers Agreement was established between the member WRDs. This agreement provides for the existence of a RRJWRD Board of Directors, which accounts for eleven members, or one vote from each county. As such, Southeast Cass, Rush River, Maple River and North Cass WRDs must determine among themselves and submit to the Secretary of the RRJWRD, the method by which they will cast one vote for Cass County.

Figure 1: RRJWRD member districts



In addition to the Board of Directors, an Executive Committee of five members and two alternates is also elected from the eleven-member Board of Directors. The Chairperson and Vice Chairperson of the RRJWRD also serve as Chairperson and Vice Chairperson of the Executive Committee. Further, the Executive Committee appoints a Secretary-Treasurer to the Board of Directors, who also serves as Secretary to the Executive Committee.

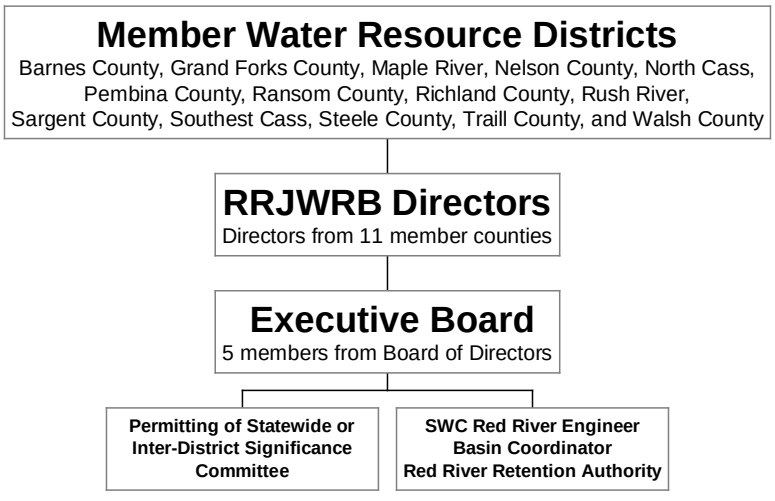
Since 1984 the RRJWRD has shared in the cost of a full-time engineer from the North Dakota State Water Commission, whose office is located within the watershed in the Fargo / West Fargo area. The full-time engineer serves the RRJWRD in a technical capacity, attending meetings on behalf of the district and providing expertise as necessary.

The RRJWRD may also cost-share with the State Water Commission for the Basin Coordinator position. The Basin Coordinator would be responsible for: establishing and maintaining contacts with all entities interested in flood reduction or water management in the Red River basin; collaboration with these entities to develop and implement a program of information gathering and dissemination for improved water management; serving at the disposal of the Executive Committee for other education, information, and collaborative purposes; and for coordinating the development and implementation of this water management strategy. The organizational structure of the RRJWRD is outlined in **Figure 2**.

Red River Retention Authority

The RRJWRD of North Dakota and the Red River Water Management Board (RRWMB) of Minnesota signed a Joint Powers Agreement in 2010, which more formally describes the cooperation and coordination required between the two Boards in order to pursue detention projects within the watershed. The two Boards will work together to prioritize projects; to facilitate interaction with Federal agencies; to provide assistance to

Figure 2: RRJWRD organizational structure



member districts in obtaining regulatory approvals; to seek Federal, state, and other cost-share assistance; to develop long term watershed goals; and to otherwise cooperate to reduce peak flood flows in the Red River watershed.

RRJWRD Authority

NDCC 61-16.1 outlines extensive authority and powers of individual WRDs, which are local government units charged with managing the surface water in their jurisdictional boundaries – within state water management guidelines and policies. When a joint board/district is formed, they essentially have similar authority as the individual WRDs that make up their entirety. However, joint boards cannot have authority over their individual member districts; and joint boards are only called to act in instances of inter-district significance, where two or more member WRDs may be benefitted or negatively impacted by a given action (project or program). The specific powers of the RRJWRD can be found on our website, www.redriverjointwrd.org.

Funding

To pay for water management projects, programs, studies, and district operations, RRJWRD member districts pay an annual membership fee. By state law, the membership fee cannot exceed two mils upon the taxable valuation of real property within each district in the Red River watershed. However, the two mill levy may be in addition to the normal levy authorized in each district. The amount of the membership fee is set by a RRJWRD resolution. In all cases, levies must be approved by the respective county commissioners.

When the RRJWRD was initially formed, member counties were asked to pay a membership fee. In the first years of the district's operation, membership fees were only a few hundred dollars per county. The RRJWRD soon began to use its authority to levy one mill to pay for more extensive activities and district operations. In 2011 the RRJWRD, with county commission approval, began to levy two mills to provide cost-share for detention projects that provide flood damage reduction benefits to more than one district. For more information on the history of the RRJWRDs mill levy history and revenue generated, visit our website at www.redriverjointwrd.org.

PURPOSE OF THE STRATEGY

What the Strategy Will Provide

In general terms, the overall purpose of this water management strategy is to improve the quality of water management actions pursued by the RRJWRD. With this strategy in place, it will enable the RRJWRD to focus on future efforts that will help to more efficiently achieve water management and development goals. By providing timeframes for activity completion, the RRJWRD will be better equipped to monitor their progress in the future. The approximate timeframe of this planning strategy will be 2014-2017. Toward the end of this timeframe, the RRJWRD will reevaluate their water management goals to address more contemporary issues at that time.

In more specific terms, this strategy will:

- Outline water management and development goals for activities pursued by the RRJWRD.
- Provide an inventory of specific actions (projects, programs, and studies) that will help the RRJWRD meet its water management and development goals.
- Outline target timeframes for the completion of actions pursued by the RRJWRD, providing a gauge for measuring performance and success.
- Continue relationships with North Dakota, South Dakota, Minnesota, and Manitoba to further flood damage reduction efforts within the Red River Watershed of the North.

What the Strategy Will Not Provide

Typically, when a water resource management plan or strategy is developed, no matter the scope of the planning area, an inventory of the current condition of the resources being managed is almost always provided. However, because of the extensive amount of studies and planning efforts that have historically occurred or are currently taking place, covering all corners of the Red River Basin, it was determined to be unnecessary to include that type of information in this strategy. As such, the RRJWRD members, directors, and technical advisors, are aware of the many resources that have been produced to date. Thus, the information and recommendations produced as a part of those efforts have been considered in developing this strategy, but they will not be presented.

RRJWRD WATER MANAGEMENT GOALS

Though the primary focus of the RRJWRD is to reduce flood damages in member counties, the District also recognizes the importance of managing water resources in a more comprehensive manner. As a result, the RRJWRD's water management goals reflect not only their desire to relieve areas of flood damages, but also how they would like to improve the water resources of the Red River Valley by more holistic means. The following goals attempt to address that philosophy.

Therefore, to improve the lives of citizens living within the member districts, it is the goal of the RRJWRD to:

- Reduce the threat of flooding for current and future generations through the use of structural and non-structural means;
- Improve coordination among member districts, government agencies, and other entities involved in managing the water resources of the Red River Basin.
- Educate the public, member districts, government agencies, and other entities involved in managing the water resources of the Red River Basin, about RRJWRD efforts and activities;
- Collect, manage, and distribute information to facilitate improved management of water resources within member counties, and in areas affecting, or affected by, member counties;

- Encourage the development of water management projects, programs, and studies that have the potential to improve the economic viability of the region and the quality of life for our citizens;
    - This would include surface / subsurface drainage. Structures that will reduce and/or eliminate downstream impacts, while still maximizing economic impacts of the projects, are encouraged to be installed on these projects
- Monitor, where appropriate, the development of water projects in member counties, to avoid potential negative impacts that may result;
- Support water management and development efforts that improve water quality, and/or provide benefits for fish, wildlife, and recreation.

A Basin Perspective

The RRJWRD recognizes the importance of managing water resources in the context of a basin-wide perspective. In this case, the entire Red River Basin, particularly areas downstream, are an important consideration in any water management decisions made by the RRJWRD.

The RRJWRD has made an effort to stay involved with the Red River Basin Commission (RRBC) – an organization that includes representation from all parts of the Red River Basin and envisions "A Red River Basin where residents, organizations and governments work together to achieve basin-wide commitment to comprehensive integrated watershed stewardship and management." Their Mission is "To develop a Red River Basin integrated Natural Resources Framework Plan; to achieve commitment to implement the framework plan; and to work toward a unified voice for the Red River Basin."

In 2005, the RRBC completed a Natural Resources Framework Plan (NRFP) that includes 13 basin-wide goals and objectives (see Appendix). The RRJWRD supports the efforts of the RRBC and will strive to make special considerations of the 13 goals and objectives contained in the NRFP when making water management decisions and funding projects in the Red River Watershed of North Dakota.

RRBC completed the Long Term Flood Solutions (LTFS) Study in 2011. Stakeholders, including the RRJWRD, were very involved with the development of this comprehensive plan to address flooding in the Red River watershed. Among other output, a level of flood protection goal was established for various types of areas to be protected. Analysis was also done to determine the extent of temporary storage that would be required to reduce the peak of the 1997 flood on the Red River by 20 percent. Various recommendations were provided for flood damage reduction proposals. Rough cost estimates and proposed timelines were also developed.

Corps of Engineers Comprehensive Watershed Plan

The RRJWRD of North Dakota and the RRWMB of Minnesota are co-sponsors for the Corps of Engineers' (COE) Red River Watershed Feasibility Study. This $18 million study has provided an opportunity to obtain valuable tools, including the LiDAR data, various hydrology and hydraulic

models, and other decision support tools. The COE will also be overseeing a comprehensive watershed plan. Much of this effort will involve updating the RRBC's NRFP and reviewing information in the LTFS. Various subcommittees have been formed in early 2014 to achieve this goal. Members of the RRJWRD are involved with this process.

Achieving Goals through Action

The main goal of the RRJWRD is to provide assistance for the study and eventual construction of detention structures for the purpose of flood damage reduction. Updated hydrology studies have been completed for most of the watersheds in the Red River watershed in North Dakota (the Park River and Pembina River are underway, but not yet completed). With this new tool, detention studies have been conducted for these same watersheds (with the Park River and Pembina River watersheds to be completed as soon as the hydrology models are competed). Each study report includes various possible detention strategies to reduce downstream flooding impacts. The local benefits as well as the Red River mainstem benefits will be included in the analysis. A comparison will be made to the LTFS interim goal of 20 percent reduction in peak flow on the Red River.

Table 1: Obligated Projects

RED RIVER JOINT WATER RESOURCE DISTRICT
OBLIGATED FUNDING

PROJECT	ESTIMATED TOTAL COST	RRJWRB OBLIGATION	DATE APPROVED	AMOUNT PAID ON OBLIGATION	BALANCE ON OBLIGATION
1. Corps' FM and Upstream Study (Note 1)	$1,092,422	$79,000	July 24, 2002	31,187.50	47,812.50
2. McVille Dam - Phase 1 (low drawdown)	125,000	20,833	April 9, 2003	4,166.67	16,666.66
Phase 2 (Apron & spillway) (Note 8)					
3. Manitoba Border Dike - legal fees (Notes 2, 3 and 9)	600,000	250,000	April 14, 2004	219,243.93	30,756.07
4. Michigan Flood Reduction Project (Note 7, 12)	4,041,086	630,000	Sept. 14, 2005	198,961.08	431,038.92
5. Renwick (Tongue River) Dam Renovation (Note 4)	9,196,863	804,725	April 10, 2007	280,185.15	524,539.85
6. USGS - Stream Stats (Note 10)		41,000	April 9, 2008	22,238.00	18,762.00
7. Study of Dams Upstream of Fargo (3)	120,000	30,000	Sept. 10, 2008	0.00	30,000.00
8. Study of Impact of Wild Rice Dams	85,000	42,500	Sept. 10, 2008	57,896.00	-15,396.00
9. Emergency Action Plan for Dams (Note 5)			April 22, 2009	34,877.49	4,904.05
10. Dam repairs (Note 6) (Note 14)		100,000	April 22, 2009	13,755.16	86,244.84
11. Wild Rice River Dam Study	260,000	65,000	Sept. 9, 2009	0.00	65,000.00
12. BTSAC Study (tile drainage impacts) (Note 11)	110,000	45,126	April 12, 2011	38,239.57	6,885.97
13. Maple River Watershed Retention Plan	165,000	42,900	May 11, 2011	0.00	42,900.00
14. HMS Modeling (Note 15)	120,000	60,000	May 11, 2011	71,159.65	-11,159.65
15. Rush River Watershed Retention Plan	135,000	43,875	July 11, 2012	0.00	43,875.00
16. Elm River Watershed Retention Study	150,000	48,750	July 11, 2012	40,541.03	8,208.97
18. Lower Sheyenne Watershed Retention Plan	160,000	52,000	July 19, 2012	0.00	52,000.00
18. Upper Maple R Dam: EA - Phase II	230,000	76,375	April 11, 2012	0.00	76,375.00
19. Shortfoot Creek Watershed Detention Study	95,000	30,875	April 11, 2012	14,949.38	15,925.62
20. Wild Rice Watershed Retention Plan	180,000	58,500	September 11, 2012	0.00	58,500.00
21. Baldhill Creek Dam Phase II: Prelim Geotech Invest	110,000	35,750	September 11, 2012	0.00	35,750.00
22. USGS Streamgage on Rush River near Amenia	45,000	19,500	August 8, 2012	0.00	19,500.00
23. Rush River Watershed Retention Plan-Phase II	410,000	133,250	November 13, 2012	0.00	133,250.00
24. Frenier Dam Improvements	335,000	113,878	November 13, 2012	51,197.97	62,680.03
25. Red River Basiin Distributed Detention Plan Study (Note 16)	1,120,000	560,000	January 8, 2013	666,733.44	-106,733.44
26. Forest River Flood Control Feasibility Study	160,000	52,000	July 9, 2013	11,605.00	40,395.00
27. Upper Maple River Dam Prelim Design/Const (Note 13)	7,925,000	2,320,000	August 7, 2013	0.00	2,320,000.00
28. Red River Watershed Comp Detention Plan	60,000	19,500	November 12, 2013	0.00	19,500.00
29. Cavalier-Hamilton-Carlisle Feasibility Study	77,000	25,025	December 12, 2013	0.00	25,025.00
30. North Branch Park River Watershed Comp Feas Study	280,000	98,800	December 12, 2013	16,146.00	82,654.00
31. Hazen Brook Detention Site Study	60,000	19,500	March 12, 2014	0.00	19,500.00
TOTALS	$16,685,371	$5,918,662		$1,773,083	$4,185,360

Notes:

1. RRJWRB share increased from $70,000 to $79,000 at April 9, 2003 meeting. **(No Cost Share requests since 2004?)**
2. RRJWRB share increased from $100,000 to $150,000 at April 12, 2006 meeting. Total possible cost increased from $400,000 to $600,000.
3. RRJWRB also pledged 25% cost of potential liability for purpose of "letter of undertaking", up to $87,500.
4. Approved additional $115,595 on July 15, 2008. Additional $115,630 approved July 9, 2013.
5. Per dam. At the May 11, 2011, meeting, the RRJWRD approved removing the cap and increasing the cost share to 65%.
6. Per dam.
7. At their April 14, 2010 meeting, the RRJWRD approved motion to increase their share of 50% non-federal, non-state; not to exceed $350,000. Total estimated cost also increased. (No cost share request since April 2011-Project ongoing per Nelson County, email in file.)
8. McVille Dam - Phase 2 - Project has not yet started, Nelson County in contact with the SWC on this project.
9. RRJWRD approved another $100,000 at September 11, 2012 meeting.
10. Spoke with Doug VerDouw at USGS, the project is almost complete. Final invoice should be around $8792.50 in Sep/Oct 2013.
11. Approved $50,000 for BTSAC Surface Drainage Study ($25,000 for RRJT, $9874.46 left from prior study included) Sep 2013
12. At their December 12, 2013 meeting, the RRJWRD approved motion to increase their share to 60%; not to exceed $630,000.
13. At their December 12, 2013 meeting, the RRJWRD approved motion to increase their share of 65% non-federal, non-state; not to exceed $3,375,000 except if SWC cost shares on Right-of-way their share will be $2,320,000.00
14. At their April 9, 2014 meeting, the RRJWRD approved $86,242 for the Bourbanis and Olson Dam repairs.
15. The balance is negative due to the fact SWC cost share is pending.
16. The balance is negative due to the fact SWC cost share is pending.

The RRJWRD currently has a list of obligated projects (shown in **Table 1**). These projects (approved prior to completion of the detention studies) partially address the flood damage reduction aspect of a comprehensive plan, which is the main type of project that the RRJWRD will provide cost-sharing.

Many potential projects were described in the detention studies. **Table 2** includes a list of a portion of those potential projects that are expected to be studied in more detail in the near future. These projects would also help to address the flood damage reduction aspect of a comprehensive plan. An inventory of activities or actions, (including projects, programs, and studies), has been established to help the RRJWRD and its member districts achieve their water management and development goals. In addition, to help the RRJWRD more effectively

measure performance in the future, general timeframes for the completion of those activities have also been established.

Because of the unpredictable nature of water management, it is expected that a number of activities will surface after this strategy is printed. In addition, it is also anticipated that some of the timeframes listed will encounter delays as a result of construction problems, permitting issues, and other environmental concerns, which are all typical of water management efforts.

In addition to specific actions that the RRJWRD will take involving the above inventory of projects, programs, and studies, there are also other activities being pursued by outside interests that impact water management in member districts. Many of these activities include other aspects of a comprehensive plan, beyond flood damage reduction. As such, it is necessary that the RRJWRD participate in, and/or support those activities, when they compliment the joint district's water management philosophies. Conversely, it may also be necessary for the RRJWRD to formally oppose activities of outside interests that directly contradict the interests of member districts. The RRJWRD will take positions on those types of efforts on a case-by-case basis, as needed in the future.

Table 2: Preliminary Inventory of Potential RRJWRD and Member District Activities 2014-2017

Sponsoring Water Resource District	Project, Program, or Study	Target Timeframe for FUNDING		
		2015	2016	2017
Barnes	Upper Maple River Area Detention Site	X	X	X
Barnes	Silver Creek Retention		X	X
Barnes	Hobart Retention Controls	X		
Barnes	Retention water level controls		X	X
CCJWRD	Wheatland Channel Detention Project		X	X
CCJWRD	Lynchburg Channel Detention Project	X	X	X
CCJWRD	Swan Creek Watershed Floodwater Retention	X	X	X
CCJWRD	Buffalo Creek Watershed Floodwater Storage	X	X	X
CCJWRD	Upper Maple River Flood Damage Reduction-2		X	X
CCJWRD	Upper Maple River Flood Damage Reduction-3		X	X
CCJWRD	Rush River Detention Sites 3b - 3c/Cass County Jnt Board		X	X
CCJWRD	Lower Rush Detention Site - Site 1/Cass County Jnt Board	X	X	X
Grand Forks	Hazen Brook Subwatershed Project	X	X	X
Grand Forks	Dam Site #10		X	X
Nelson	Middle Branch of the Goose - with Traill and Steele WRD's	X	X	X
Nelson	Michigan Spillway/FDR Project	X	X	
Nelson	McVille Dam Rehab	X	X	X
Nelson	Turtle River Detention - with GFK WRD		X	X
Nelson	Goose River Detention - with Traill & Steele WRD's		X	X
Pembina	Hamilton Retention Area	X	X	X
Pembina	Olson & Bourbanis Dam Rehab	X		
Pembina	Senator Young Dam - Rehab		X	X
Pembina	Pembina River area Detention		X	X
Pembina	Tongue River area Detention		X	X
Red River Joint	RRJWRD-RRRA Coordination	X	X	X
Red River Joint	Mainstem Detention Modeling-RAS model downstream	X	X	X
Richland	Antelope Creek Watershed Retention Project	X	X	X
Richland	Wild Rice River Watershed Retention Project	X	X	X
Richland	Bois De Sioux River Watershed Retention Project		X	X

Sargent	Subwatershed Detention - 1		X	X
Sargent	Subwatershed Detention - 2		X	X
Steele	Goose River Site 16	X		X
Steele	Goose River Site 17		X	X
Steele	Elm River Site 5			X
Steele	Greenville Dam-Sheyenne		X	X
Steele	Section 31 Carpenter Township - Maple			X
Traill	North Branch Goose Detention Site - #1	X	X	X
Traill	North Branch Goose Detention Site - #2		X	X
Walsh	Forest River Flood Control - Detention	X	X	X
Walsh	Matejcek Dam Rehab - Increase Storage (+Nelson Co.)		X	X
Walsh	Wetland-Retention-Drain 70		X	X
Walsh/Pembina Joint	North Branch Park River Flood Control-Retention	X	X	X

APPENDIX A

To view the Powers and Duties of the RRJWRD, please visit our website - www.redriverjointwrd.org.

APPENDIX B

Red River Basin Commission, Natural Resource Framework Plan Goals and Objectives

Red River Basin (RRB)-wide Goals	Objectives
1.0 Manage natural resources in the RRB by watershed boundaries rather than political boundaries	1.1 Raise awareness of the benefits of basin-wide planning for decision makers and the public 1.2 Increase coordinated and comprehensive watershed planning
2.0 Integrate natural resource management	2.1 Conduct integrated, comprehensive, multi-disciplinary planning efforts, policies, projects and programs that accommodate a balance in resource preservation, conservation and consumption 2.2 Apply conservation criteria in the review and approval of all land-use plans, projects and programs
3.0 Increase applied research and data management to support decision-making	3.1 Distribute data and research to decision makers 3.2 Standardize collection, storage and sharing of land and water resource data 3.3 Develop and use standardized technical models to support decision making 3.4 Develop and use Geographic Information Systems for data management and planning
4.0 Improve stakeholder participation and awareness of land and water issues	4.1 Develop a stewardship ethic in the RRB 4.2 Provide comprehensive watershed education and outreach for all audiences/stakeholders 4.3 Provide opportunities for early involvement of project stakeholders 4.4 Increase awareness of the economic and environmental benefits of assistance programs available to landowners and decision-makers in the U.S. and Canada
5.0 Maintain state-of-the-art flood forecasting tools for the RRB	5.1 Increase data availability and level of coordination between jurisdiction for flood forecasting and planning
6.0 Reduce risk of flood damages for people, property and the environment in the mainstem floodplain and in tributary watersheds	6.1 Implement flood mitigation measures that reduce risk to individuals and communities on the mainstem and tributaries 6.2 Implement flood mitigation strategies in the upper basin (escarpment and beach ridges) that reduce risk locally and downstream
7.0 Ensure that flood (natural disaster) response and recovery programs meet the needs of all RRB residents	7.1 Increase availability of response and recovery programs that are adequate and equitable to residents in all jurisdictions
8.0 Maintain urban and agricultural drainage systems to enhance productivity while minimizing impacts to others	8.1 Manage drainage systems to protect agricultural land (using 10 year/24 hour or better criteria) and to minimize environmental impacts 8.2 Design and improve drainage systems with consideration of local, sub-watershed and mainstem effects 8.3 Design and implement urban and rural storm water strategies that minimize environmental impacts
9.0 Maintain. Protect and restore surface and ground water quality in the Red River Basin	9.1 Develop a common approach to defining, setting, monitoring and assessing water quality goals and conditions in the RRB 9.2 Develop scientifically based water quality restoration goals for impaired water bodies in the basin 9.3 Reduce point source and non-point source pollution to protect basin surface and ground water 9.4 Develop coordinated strategies to reduce loadings of nutrients to Lake Winnipeg by 10% within five years to support the recommendations of the International Joint Commission's International Red River Board 9.5 Encourage respect for all existing water quality standards, objectives and guidelines within the basin, including those established by other jurisdictions 9.6 Develop and coordinate programs to prevent the further spread of non-native aquatic species presently within the basin and to prevent the introduction of new species to the basin
10.0 Ensure the appropriate use of sustainability of the basin's surface and ground water	10.1 Develop a basin-wide strategy to meet current and projected water supply needs 10.2 Develop water supply emergency management plans for contamination, drought and flooding 10.3 Develop an understanding of the approaches and differences in the minimum in-stream flow criteria to maintain and protect all users
11.0 Increase soil conservation efforts within the basin	11.1 Increase availability of conservation programs to landowners through establishment of appropriate delivery organizations 11.2 Manage land and land uses to minimize runoff and maintain soil on site (i.e. through the use of best management practices)
12.0 Conserve, manage and restore diversity and viability of native fish and wildlife population and their habitats	12.1 Maintain, enhance and protect aquatic and terrestrial populations 12.2 Enhance, protect or restore natural systems (natural floodplains, stream functions, riparian areas, wetlands, grasslands and woodlands) 12.3 Enhance or develop corridors between habitat blocks 12.4 Identify and protect rare and unique species, habitat types and plant communities
13.0 Enhance and develop recreational infrastructure and access to the basin's natural resources	13.1 Increase awareness and participation in outdoor recreational opportunities by the general public 13.2 Promote unique RRB habitats to enhance economic development and quality of life