

Red River Joint Water Resource District **2007-2009** **Water Management Strategy**



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

Prepared by the
Red River Joint Water Resource District
In cooperation with the
North Dakota State Water Commission

Table of Contents

About the Red River Joint Water Resource District.....	1
Background	1
Membership and Structure.....	1
Authority.....	2
Funding	3
Purpose of the Strategy	3
What the Strategy Will Provide	3
What the Strategy Will Not Provide.....	3
RRJWRB Water Management Goals.....	4
A Basin Perspective	5
Achieving Goals Through Action	6
Appendix A: Powers of the RRJWRB	9
Appendix B: RRBC, NRFP Goals & Objectives	13

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 joint 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

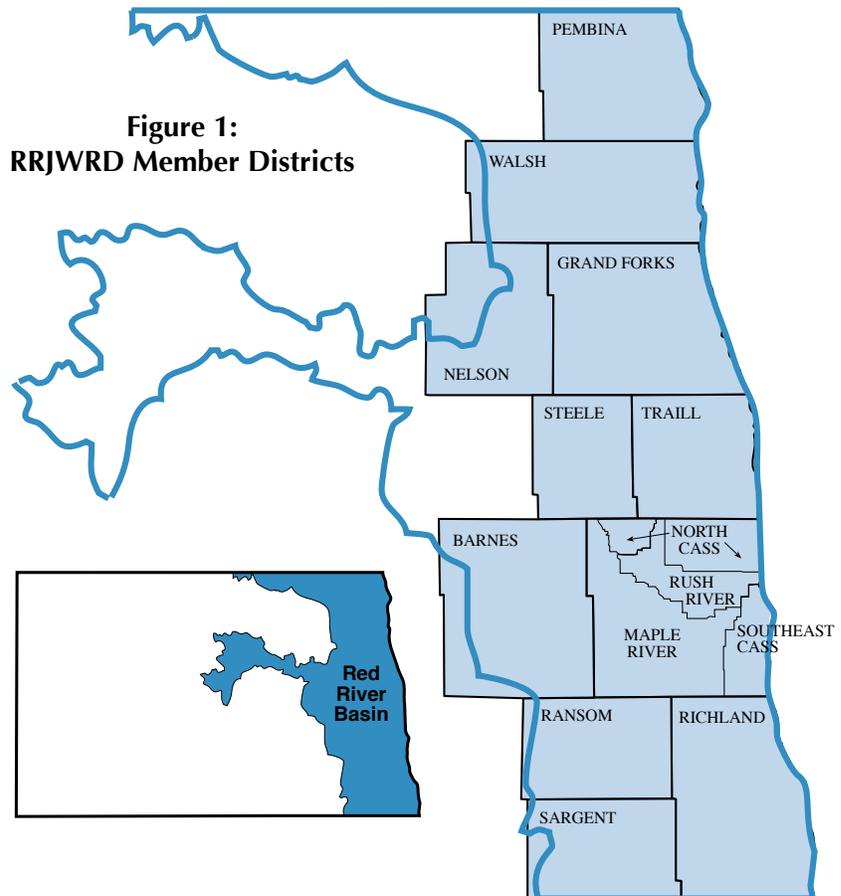
to establish an entity that could address the Red River Valley's flooding problems.

However, beyond 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, and state and federal agencies.

Membership and Structure

The RRJWRD is made up of 14 individual water resource districts (WRDs), covering 11 counties and the entire Red River Valley portion of North Dakota (See Figure 1). The 14-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 11 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.

In addition to the Board of Directors, an Executive Com-

mittee of five members is also elected from the 11-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, who is located in the Commission's Red River Office in West Fargo. The full-time engineer serves the RRJWRD in a technical capacity, attending meetings on behalf of the district, and providing expertise as necessary.

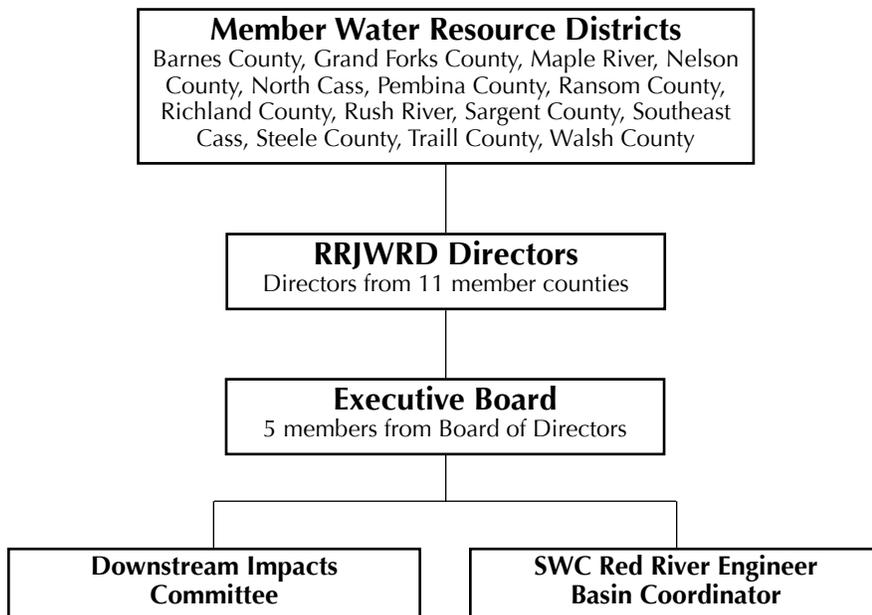
The RRJWRD also cost-shares with the State Water Commission for a full-time Basin Coordinator. The joint district's

Basin Coordinator is 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.

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 benefit, or be negatively impacted, by a given action (project or program). The specific powers of the RRJWRD are provided in Appendix A.

Figure 2: RRJWRD Organizational Structure



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 mil 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. And, in all cases, levees must be approved by the respective county commissioners.

When the RRJWRD was initially formed, member counties were simply 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. It was not until 1985 that the RRJWRD began to use its authority to levy mils to pay for more extensive activities and district operations. And, although the RRJWRD has the authority (with county commission approval) to levy up to two mils, they have never historically exceeded one mil (Table 1).

Table 1: RRJWRD Mil Levy History & Revenue Generated

TAX YEAR	RRJWRD MIL LEVY	REVENUE GENERATED
1985	1 mil	\$314,579
1986	1 mil	\$320,741
1991	1 mil	\$332,536
1995	1 mil	\$384,390
1996	1 mil	\$404,256
1999	1 mil	\$533,803
2004	1 mil	\$633,069
2005	1 mil	\$704,769
2006	1 mil	\$756,534

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 them to more efficiently achieve their water management and development goals. And, 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 2007-2009. Thus, 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.

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 unnecessarily redundant 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:

1. Reduce the threat of flooding for current and future generations through the use of structural and non-structural means.
2. Improve coordination among member districts, government agencies, and other entities involved in managing the water resources of the Red River Basin.
3. 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.
4. Collect, manage, and distribute information to facilitate

improved management of water resources within member counties, and in areas affecting, or affected by, member counties.

5. Encourage the development of water management projects, programs, and studies that have the potential to improve the economic viability of the region.

6. Monitor, where appropriate, the development of water projects in member counties, to avoid potential negative impacts that may result.

7. 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, and particularly areas downstream, must be an important consideration in any water management decisions made by the RRJWRD.

With that spirit in mind, 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 that 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 B). The RRJWRD supports the efforts of the RRBC, and as such, 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 North Dakota.



ACHIEVING GOALS THROUGH ACTION

An inventory of activities or actions, (including projects, programs, and studies), has been established (Table 2) 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 this inventory of projects, programs, and studies, there are also other activities be-

ing pursued by outside interests that impact water management in member districts. 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: Inventory of Potential RRJWRD and Member District Activities Through 2011

SPONSORING WATER RESOURCE DISTRICT	PROJECT, PROGRAM, OR STUDY	TARGET TIMEFRAME FOR COMMITMENT		
		2007	2009	2011
Barnes	Brown Dam Repairs			X
Barnes	Clausen Springs Dam Repairs			X
Barnes	Kathryn Dam Downstream Erosion Control		X	
Barnes	Sheyenne River Snagging and Clearing	X		
Grand Forks	Cole Creek Channelization		X	
Grand Forks	English Coulee Dam Tree Removal		X	
Grand Forks	Hazenbrook Channel and Erosion Control Structure		X	
Grand Forks	Niagara Township Dam #2 Repairs			X
Grand Forks	Turtle River Snagging and Clearing	X		
Grand Forks	Upper Turtle River Dam #9 Tree Removal			X
Maple River	Cass County Drain #14		X	
Maple River	Upper Maple River Watershed Floodwater Retention	X	X	
Maple River	Buffalo Creek Snagging and Clearing		X	
Maple River	Maple River Snagging and Clearing		X	
Maple River	Swan Creek Watershed Floodwater Retention		X	
Maple River	Swan Creek Diversion Reconstruction	X		
Nelson	Middle Branch Goose River Snagging and Clearing	X		
Nelson	Kloten Flood Control		X	
Nelson	McVile Railroad Dam Repairs		X	
Nelson	Tolna Dam Repairs			X
North Cass	Cass County Drain #NC-1		X	
North Cass	Cass County Drain #NC-2	X		
Pembina	Renwick Dam Repairs		X	
Pembina	Olson Dam Repairs			X
Pembina	Senator Young Dam Repairs			X

Table 2: (Continued)

SPONSORING WATER RESOURCE DISTRICT	PROJECT, PROGRAM, OR STUDY	TARGET TIMEFRAME FOR COMMITMENT		
		2007	2009	2011
Pembina	Pembina River Setback Dike System		X	
Pembina	Tongue River Cutoff		X	
Pembina	Drain #64 Reconstruction and Drop Structure	X	X	
Pembina	Drain #66 Outlet		X	
Pembina	Drain #42 Reconstruction	X		
Pembina	Drain #71 Reconstruction	X		
Pembina	Drain #73 Reconstruction	X		
Pembina	Pembina County Water Management Plan			X
Pembina	Canadian Road/Dike Lawsuit	X		
Pembina	Cart Creek Riparian Project	X		
Pembina	Cavalier Township Drain	X		
Pembina	Kippen Coulee Improvement Project	X		
Pembina	Drayton Dam Upstream Red River Channel Landslide	X	X	
Pembina	Herzog Dam Repairs			X
Ransom	Dead Colt Reservoir Milfoil Monitoring & Eradication			
Ransom	Dead Colt Creek Dam Repairs			X
Ransom	Fort Ransom Dam Repairs			X
Ransom	Soldiers Home Dam Repairs			X
Ransom-Maple River	Coburn Township Drain #2	X		
Red River Joint	Maple River Dam	X		
Red River Joint	RRJWRD Coordinator: Info., Educ., and Coord.	X	X	X
Red River Joint	Red River Basin Commission	X	X	X
Richland	Wahpeton Flood Control	X	X	X
Richland	Drain #14 Reconstruction		X	
Richland	Drain #10 Reconstruction		X	
Richland	Wild Rice River Snagging and Clearing			X
Rush River	Erie Dam Repairs			X
Rush River	Rush River Channel Reconstruction		X	
Rush River	Rush River Snagging and Clearing		X	
Rush River	Cass County Drain #13	X		
Sargent	Silver Lake Dam Seepage Repair and Tree Removal			X
Sheyenne River Joint	Baldhill Dam Pool Raise	X		
Southeast Cass	Cass County Drain #21	X		
Southeast Cass	Cass County Drain #21C	X		
Southeast Cass	Cass County Drain #27	X	X	
Southeast Cass	Cass County Drain #40	X		
Southeast Cass	Cass County Drain #45	X		
Southeast Cass	Wild Rice River Floodwater Retention Study	X		
Southeast Cass	Red River and Wild Rice River Farmstead Ringdikes			X
Southeast Cass	Harwood Township Improvement District #65	X		
Southeast Cass	Mapleton Township Improvement District #66	X		
Southeast Cass	Sheyenne River Snagging and Clearing	X	X	
Southeast Cass	Wild Rice River Snagging and Clearing	X	X	
Southeast Cass	Red River Snagging and Clearing			X
Southeast Cass	Riverkeepers Operations and Water Education	X	X	X
Southeast Cass	Red River Basin Mapping Initiative	X	X	
Southeast Cass	Wild Rice Dam Repairs			X
Steele	Beaver Creek Dam Repairs			X
Steele	Golden Lake Dam Inlet Cleanout		X	
Steele	Sussex Dam Repairs			X
Walsh	Grafton Flood Control			X
Walsh	Bylin Dam Repair		X	
Walsh	Matejcek Dam Repair		X	
Walsh	Drain #67A Reconstruction		X	
Walsh	Drain #4A	X		
Walsh	Drain #10	X		
Walsh	Channel 3 Lower Forest River			X

APPENDIX A: Powers of the RRJWRB

The Red River Joint Water Resource District shall have all powers available to it pursuant to Chapter 61-16.1 of the North Dakota Century Code, including but not limited to, the power and authority to:

1. Sue and be sued in the name of the district.

2. Exercise the power of eminent domain in the manner provided by title 32 for the purpose of acquiring and securing any rights, titles, interests, estates, or easements necessary or proper to carry out the duties imposed by this chapter, and particularly to acquire the necessary rights in land for the construction of dams, flood control projects, and other water conservation, distribution, and supply works of any nature and to permit the flooding of lands, and to secure the right of access to such dams and other devices and the right of public access to any waters impounded thereby. Provided, however, that when the interest sought to be acquired is a right of way for any project authorized in this chapter for which federal funds have been appropriated, the district, after making a written offer to purchase the right of way and depositing the amount of the offer with the clerk of the district court of the county wherein the right of way, as authorized by section 16 of article I of the Constitution of North Dakota. Within thirty days after notice has been given in writing to the landowner by the clerk of the district court that a deposit has been made for the taking of a right of way as authorized in this subsection, the owner of the property taken may appeal to the district court by serving a notice of appeal upon the acquiring agency, and the matter must be tried at the next regular or special term of court with a jury unless a jury be waived, in the manner prescribed for trials under chapter 32-15.

3. Accept funds and property or other assistance, financial or otherwise, from federal state, and other public or private sources for the purposes of aiding the construction or maintenance of water conservation, and flood control projects; and cooperate and contract with the state or federal government, or any department or agency thereof, or any municipality within the district, in furnishing assurances and meeting local cooperative requirements of any project involving control, conservation, distribution, and use of water.

4. Procure the services of engineers and other technical experts, and employ an attorney or attorneys to assist, advise, and act for it in its proceedings.

5. Plan, locate, relocate, construct, reconstruct, modify, maintain, repair, and control all dams and water conservation and management devices of every nature and water channels, and to control and regulate the same and all reservoirs, artificial lakes, and other water storage devices within the district.

6. Maintain and control the water levels and the flow of water in the bodies of water and streams involved in water conservation and flood control projects within the district and regulate streams, channels, or watercourses and the flow of water therein by changing, widening, deepening, or straightening the same, or otherwise improving the use and capacity thereof.

7. Regulate and control water for the prevention of floods and flood damages by deepening, widening, straightening, or diking the channels or floodplains of any stream or watercourse within the district, and construct reservoirs or other structures to impound and regulate such waters.

8. Make rules and regulations concerning the management, control, regulation, and conservation of waters and prevent the pollution, contamination, or other misuse of the water resources, streams, or bodies of water included within the district.

9. Do all things reasonably necessary and proper to preserve the benefits to be derived from the conservation, control, and regulation of the water resources of this state.

10. Construct, operate, and maintain recreational facilities, including beaches, swimming areas, boat docking and landing facilities, toilets, wells, picnic tables, trash receptacles, and parking areas, and to establish and enforce rules and regulations for the use thereof.

11. Have, in addition to any powers provided in this chapter, the authority to construct an assessment drain in accordance with the procedures and provisions of chapter 61-21.

12. Acquire by lease, purchase, gift, condemnation, or other lawful means and to hold in its corporate name for its use and control both real and personal property and easements and rights of way within or without the limits of the district for all purposes authorized by law or necessary to the exercise of any other stated power.

13. Convey, sell, dispose of, or lease personal and real property of the district as provided by this chapter.

14. Authorize and issue warrants to finance construction of water conservation and flood control projects, assess benefited property for part or all of the cost of such projects, and require appropriations and tax levies to maintain sinking funds for construction warrants on a cash basis at all times.

15. Borrow money within the limitations imposed by this chapter for projects herein authorized and pledge security for the repayment of such loans.

16. Order or initiate appropriate legal action to compel the entity responsible for the maintenance and repair of any bridge or culvert to remove from under, within, and around such bridge or culvert all dirt, rocks, weeds, brush, shrubbery, other debris, and any artificial block which hinders or decreases the flow of water through such bridge or culvert.

17. Order or initiate appropriate legal action to compel the cessation of the destruction of native woodland bordering within two hundred feet [60.96 meters] of the portion of a riverbank subject to overflow flooding that will cause extensive property damage, or in the alternative, order that, if such destruction is permitted, the party or parties responsible for the destruction must, when the board has determined that such destruction will cause excessive property damage from overflow flooding due to the erosion or blocking of the river channel, plant a shelterbelt which meets the specifications of the board. In the event the native woodland within such area has already been destroyed, the board may, in its discretion, order the planning of a shelterbelt which, in the judgment of the board, will curtail the erosion or blocking of such river channel where overflow flooding has caused extensive property damage. For purposes of this subsection the words "riverbank" and "river channel" relate to river as defined in the United States geological survey base map of North Dakota, edition of 1963. The provisions of this subsection shall not be construed to limit, impair, or abrogate the rights, powers, duties, or functions of any federal, state, or local entity to construct or maintain any flood control, irrigation, recreational, municipal, or industrial water supply project.

18. Petition any zoning authority established pursuant to chapter 11-33, 11-35, or 40-47 or section 58-03-13 to assume jurisdiction over a floodplain for zoning purposes when such zoning is required to regulate and enforce the placement, erection, construction, reconstruction, repair, and use of buildings

and structures to protect and promote the health, safety, and general welfare of the public within a floodplain area. In the event such zoning authority fails to act or does not exist, the board may request the State Water Commission to assist it in a study to determine and delineate the floodplain area. Upon completion of such study, the board shall make suitable recommendations for the establishment of a floodplain zone to all zoning authorities and the governing bodies of all political subdivisions having jurisdiction within the floodplain area.

19. Plan, locate, relocate, construct, reconstruct, modify, extend, improve, operate, maintain, and repair sanitary and storm sewer systems, or combinations thereof, including sewage and water treatment plants, and regulate the quantity of sewage effluent discharged from municipal lagoons; and contract with the United States government, or any department or agency thereof, or any private or public corporation or limited liability company, the government of this state, or any department, agency, or political subdivision thereof, or any municipality or person with respect to any such systems.

20. Develop water supply systems, store and transport water, and provide contract for, and furnish water service for domestic, municipal, and rural water purposes, irrigation, milling, manufacturing, mining, metallurgical, and any and all other beneficial uses, and fix the terms and rates therefore. Each district may acquire, construct, operate, and maintain dams, reservoirs, ground water storage areas, canals, conduits, pipelines, tunnels, and any and all works, facilities, improvements, and property necessary therefore.

21. Coordinate proposals for installation, modification, or construction of culverts and bridges in an effort to achieve appropriate sizing and maximum consistency of road openings. The department of transportation, railroads, counties, and townships shall cooperate with the districts in this effort. Each district shall also consider the possibility of incorporating appropriate water control structures, where appropriate, as a part of such road openings.

22. Plug abandoned water wells and participate in cost-sharing arrangements with water well owners to plug water wells to protect aquifers from pollution or depletion, maintain pressure, and prevent damage to surrounding property.

23. Have, in addition to any powers provided in this chapter, the authority to conduct weather modification operations in accordance with the procedures and provisions of chapter 61-04.1.

This agreement shall in no way limit or restrict the powers and duties of each water resource district which is a party of this agreement pursuant to Section 61-16.1-09 of the North Dakota Century Code, as amended. Nor shall this agreement limit or restrict in any way the regulatory authority and responsibility of each water resource district which is a party to this agreement pursuant to sections 61-16.1-38 and 61-32-03 of the North Dakota Century Code, as amended, for applications which are not of inter-district significance, as determined by the State Engineer.

If any individual water resource district proposes to construct any water resource project or works which is of inter-district significance, as determined by the State Engineer, or if any application pursuant to Section 61-16.1-38 or 61-32-03 of the North Dakota Century Code which is determined by the State Engineer to be of inter-district significance, in accordance with applicable regulations, such matter shall be referred to the Red River Joint Water Resource Board for determination thereon.

APPENDIX B: Red River Basin Commission, Natural Resource Framework Plan Goals & 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 intergrated, 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, 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 stormwater 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 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 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