

1997 Project Abstract

For the Period Ending June 30, 1999

This project was supported by the Environment and Natural Resources Trust Fund (MS 116P.03)

TITLE: Red River Valley Planning and Management B-18
PROJECT MANAGER: Nolan Baratono
ORGANIZATION: Pollution Control Agency
ADDRESS: 714 Lake Avenue, Detroit Lakes, Minnesota 56501
WEB SITE ADDRESS: www.pca.state.mn.us
LEGAL CITATION: ML 1997, Ch. 216. Sec. 15, Subd. 6(E).
APPROPRIATION AMOUNT: \$375,000

Statement of Objectives

- Establish a locally driven planning organization for the Red River Basin representing all interests within the basin, including: international (International Joint Commission), federal (Canada and U.S.), state (MN, ND & SD) and provincial (Manitoba), and local (watershed district, county, township & city).
- Determine the causes and processes of erosion and sedimentation in the Wild Rice Watershed of the Red River Basin.
- Establish an organization to coordinate Minnesota DNR and PCA efforts for managing land and water resources in the Red River Basin. Begin development of a water quality plan for the Basin. Coordinate with the basin-wide planning organization described above.

Overall Project Results

- Basin-wide planning organization:
 - Create the Red River Basin Board, including development of Bylaws and Articles of Incorporation.
 - Develop guiding principles for the Board.
 - Establish a separate task force to address each of the following issues: sector activation, inventory, information/education, plan management, Devils Lake, Lake Traverse and the Pembina River.
- Sediment source study:
 - USGS and U of M developed methodology appropriate to the Red River Basin, performed field and lab work necessary to determine the sources of sediment, and sediment transfer, in the Wild Rice River. Analysis is currently underway.
 - Report to be published in October 1999 (copy will be sent to the LCMR).
- Minnesota agency coordination:
 - Establishment of the Basin Interagency Team (BWSR, DNR, MDH & PCA).
 - Assist with Flood Damage Reduction Mediation and implementation of Mediation Agreement.
 - Develop a water quality plan for the Minnesota portion of the Basin. Plan will be published in October 1999 (copy will be sent to the LCMR).

Project Results Use and Dissemination

- Sediment source study report will be disseminated to resource managers throughout the Red River Basin, and will be posted on the USGS Internet site. Report will be useful to resource managers seeking ways to reduce sedimentation in rivers, streams and lakes of the Red River Basin
- Minn. Basin Water Quality Plan will be disseminated to resource managers throughout the Red River Basin and will be posted on the MPCA Internet site. The plan will be incorporated into the comprehensive water plan under development by the Red River Basin Board. The plan will guide Minn. agency resource management for the Red River Basin.

Date of Report: July 1, 1999

LCMR Final Work Program Update Report

I. PROJECT TITLE: Red River Valley Planning and Management B - 18

Project Manager: Nolan Baratono
Affiliation: Pollution Control Agency
Mailing address: 714 Lake Avenue
Detroit Lakes, Minnesota 56501

Telephone Number: (218) 846-7385 **E-Mail:** nolan.baratono@pca.state.mn.us
Fax: (218) 846-0719 **Web site address:** www.pca.state.mn.us

A. Legal Citation: ML 97, Chap. 216, Sec. 15, Subd. 6(E).

Appropriation Language: RED RIVER VALLEY PLANNING AND MANAGEMENT (\$375,000): This appropriation is from the trust fund to the Pollution Control Agency to create an ecosystem plan for the Red River Valley integrating land and water basin management strategies in cooperation with interstate and international organizations.

Total Biennial Project Budget:	
\$ LCMR:	\$375,000
- \$ LCMR Amount Spent:	\$332,000
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= \$ LCMR Balance:	\$43,000

B. Status of Match Requirement: N/A

II. PROJECT SUMMARY AND RESULTS:

This project seeks to promote local action and interagency cooperation to develop holistic land and water management strategies in the Red River Basin through three mechanisms:

- **Bolster Locally-driven Water Planning Organization:** This project would help to support a planning group representing all interests in the Red River Basin, the Red River Basin Board. The International Coalition for Land and Water Stewardship (TIC) has coordinated initial efforts to form the Board, and this project will help sustain this group during the early stages of its development. Funding this portion of the proposal will help leverage additional funding for the group, and concretely demonstrate that state government is interested in supporting local interests and concerns.

- **PCA/DNR Interagency Coordination:** This project will promote collaboration between the PCA and DNR in the development of their Basin and Ecosystem Management strategies. Using the Red River Basin as a pilot for this cooperative effort, the project would fund one temporary regional position in the PCA. This position would be responsible for participating in the aforementioned basin planning group, and for investigating methods for the PCA and DNR to build on each others efforts for managing land and water resources in the Red River Basin. This position will also be responsible for coordinating the PCA basin planning outreach process in the Red River Basin.
- **Research Erosion and Sedimentation Processes:** This proposal would fund important research by the U.S. Geological Survey (USGS) into the causes and processes of erosion and sedimentation in the Red River Basin. Sediment is regarded as a major water pollutant in the Red River Basin, and understanding its sources and its transport will be key to efforts aimed at reducing its effect on surface water.

III. PROGRESS SUMMARY:

The Red River Basin Board

On July 24, 1997, the Red River Basin Board (RRBB) held its charter meeting in Pembina, North Dakota. Articles of Incorporation and Bylaws were approved. Officers were elected. The Board established the first Thursday of each month as the regular meeting date. Agencies and groups responsible for, or involved in, water management were asked to provide the Board with activity briefings at the monthly meetings.

The RRBB arranged for The International Coalition (TIC) to provide administrative functions through June 30, 1998. This arrangement was extended through October 1998. In November 1998, the RRBB established an independent office. The RRBB will continue to rent office space in the same building, but TIC and the RRBB will have separate operations. The RRBB has hired clerical and planning staff. The RRBB is in the process of creating a position of executive director. The director will be hired in 1999.

The RRBB has contracted with Gene Krentz to coordinate the development of the Red River Basin Plan. The contract calls for delivery of a complete plan by June of 2000. The following planning activities have been accomplished:

- The Sector Activation Group was appointed by Chair Lanning and held its first meeting in January 1998. The Group has established time lines for completion of tasks and activation of specific sector groups. This initiative is approximately 70 percent complete. Sector activation teams are organizing eight individual sectors. Sectors include local units of government, agricultural production and marketing, and environmental. Sector groups will designate individuals from within their group to

participate in the planning process and provide the broadest opportunity for public involvement.

- The Guiding Principals Task Force was created in January 1998. The Task Force has held several meetings and created a sub-committee to aid in the development and review of the guiding principals for submission to the RRBB. Development of the draft guiding principals is fundamentally complete. Draft guiding principals have been developed for the following areas: General, Water Supply, Water Quality, Flood Damage Reduction, Drainage and Conservation. The public comment period for the Guiding Principals began in September 1998 and continued until mid-January. The final public comment was received at the TIC Conference in Fargo on January 14, 1999. The draft Guiding Principals have been reviewed by the Task Force and a final draft, reflecting the comments received from the public, will be presented to the RRBB in March 1999. A second sub-committee has been formed with the task of developing a strategy to ensure good communication with residents of the basin, local government, and state and federal agencies. The RRBB has also assigned the Task Force the responsibility to develop operating procedures for the Board.
- The Inventory Process Task Force began meeting in June 1998. The charge of this task force is to determine baseline conditions for each of the nine functional water use/management categories in order to provide a basis for measuring the effectiveness of programs implemented by the RRBB. The work of this task force will be accomplished primarily through the in-kind services of various agency representatives and the coordinating efforts of the RRBB staff.
- The Information - Education Task Force began meeting in June 1998. The purpose of the meeting was to begin the process of selecting strategies for meeting the public-information needs related to flood damage reduction, water quality, water supply and other issues to be covered in the Plan.
- The Plan Management Committee was created by the RRBB in late summer 1998 to: facilitate coordination with agency representatives and others, assist in development of the planning process, assist in the development of proposals for the RRBB's consideration and provide RRBB spokespersons when requested.
- The RRBB has received requests for action or involvement in various specific issues. To date the most notable are Devils Lake, Lake Traverse and the Pembina River flooding issues. The Board realized that these were highly volatile issues. At a retreat for board members and alternates, the RRBB began development of guidelines for special task forces. The Board has decided that special task forces are to determine if the RRBB has a role to play in dispute resolution, or due to time constraints, the Board is

compelled to provide input prior to completion of the basin plan. The Board has activated a special task force for Devils Lake, Lake Traverse and the Pembina River. These task forces have been meeting and gathering information and public input since the summer of 1998.

Interagency Collaboration

In November 1997 the Board of Water and Soil Resources, the Department of Natural Resources and the Pollution Control Agency agreed to a Memorandum of Understanding (MOU) that is designed to “coordinate the delivery of interdisciplinary and interagency information and technical assistance to communities, other agencies, local units of government, special units of government and international agencies, private landowners, and special interest groups in the Red River Basin.” In addition, the MOU specified that the three agencies will jointly participate in agency planning processes.

Also in November 1997, the PCA hired a Red River Basin Coordinator. The coordinator’s responsibilities include implementation of the MOU and development of a water quality plan for the Basin. The coordinator has been working with various groups (Red River Basin Board, Red River Watershed Management Board, Local Water Planning Joint Powers Board, etc.) to provide technical assistance and coordination as appropriate.

As specified in the Memorandum of Understanding, BWSR, DNR and the PCA have appointed staff to the Basin Team. The Minnesota Department of Health, while not a signatory of the MOU, also participates in the Team meetings. The Team began meeting in February 1998, and continue to meet every other month, or more often as necessary. At the February 1998 meeting, Team members determined that they would concentrate on the following activities:

1. The Red River Basin Board

The Team will provide necessary support to Minnesota’s representatives to the RRBB, and will participate in RRBB activities as appropriate.

2. Basin Water Quality Plan

The Team will aid the MPCA in development of the water quality plan for the Basin.

3. Basin Coordination Team

The Team will work to establish, and participate with, a team composed of organizations having water quality and land use responsibilities within the Basin.

4. Communications and Technical Assistance

The Team will provide a forum for communication and information sharing for all entities and residents of the Basin.

Much of the Team's efforts in 1998 concentrated on providing technical assistance to the Red River Valley Flood Damage Reduction Mediation. It is anticipated that the Team will continue to be actively involved in implementation of the Flood Damage Reduction Mediation Agreement.

The coordinator is working with agency representatives from North and South Dakota and Manitoba, and the RRBB planning coordinator to ensure the water quality plan being developed for the Minnesota portion of the basin will be compatible with the products anticipated by the other jurisdictions.

The coordinator developed a workplan and planning process for development of the Minnesota Red River Basin water quality plan in conjunction with the RRBB planning team and the Basin Team specified in the MOU. The planning process is a hybrid of the inclusive, local processes utilized by cities and counties, and the representative planning processes of regional scope. The process is designed to be inclusive. A significant effort is being made to include all interest groups and to keep people informed.

To ensure that the plan is developed from the bottom-up, the foundation is the four local committees. Local committees are representative of the local planning area. The local committees determine issues, goals, priorities and strategies appropriate to their planning area. At this time, local committees are organized by counties not watersheds. Communication amongst local committees, for common issues, is crucial. This communication is accomplished through distribution of all local committee advance packets and special mailings to local staff whose area of responsibility may be impacted and to anyone who asks to receive information.

The local committees sent their plans, consisting of issues, goals, priorities and strategies, priority waters and projects to the Basin Committee. The Basin Committee is developing the Basin Plan using the information provided by the local committees. The Basin Committee has the challenge of putting everything into a cohesive whole that represents the needs of the entire Basin, yet addresses the needs identified by local committees. The Basin Committee will review and approve the entire final plan.

MPCA staff, with assistance from Team members, have the responsibility for committee facilitation and drafting the plan components for approval by the Basin Committee. MPCA staff and Team members also have the responsibility of making sure their respective agency agrees with the plan as it is being developed. For basin

management to succeed state agencies must make sure that they accomplish what they agree to in the plan.

Formulation of the planning committees was completed during the summer of 1998. The committees began meeting in September 1998 and the planning process is well underway. The water quality plan will be complete and ready for implementation in September 1999.

The plan, as developed by the local committees and the Basin Committee, addresses the following areas:

- Basin Organization
- Drainage
- Education/Information
- Erosion/Run-off
- Flooding
- Funding
- Groundwater
- Lakes
- Monitoring/Assessment
- Municipal Source Water Supply
- Recreation
- Solid Waste
- Streams and Rivers
- Wetlands
- General

USGS Sediment Study

The USGS has completed an analysis of historical data, including suspended sediment data for the Wild Rice River at Twin Valley. Researchers have observed a regression of mean daily sediment concentrations verses mean daily flow residuals that tend to decrease throughout the year (i.e. early in the year [spring] suspended sediment exceeds predicted values, later in the year [late summer and fall] suspended sediment is less than predicted values.) This may have implications for sediment sources in that transport of eroded sediment may be greatest during spring when bare soils combined with runoff are most prevalent. Researchers believe this and other features of the data are worth exploring and documenting. However, an accurate analysis of data will require extracting raw sediment concentration and flow (stage) data from paper records (a time-consuming process) rather than relying on interpolated "mean daily" values stored in electronic data bases.

USGS researchers have completed development of the database containing the data from the measured concentrations of the samples collected over the past year. Researchers have begun statistical analysis of the data. Researchers, in cooperation with the University of Minnesota, Department of Soil, Water and Climate, continue

development of a GIS overlay to help assess and map potential soil erodibility in the Basin.

Other work includes continued interaction with the Wild Rice River Technical Advisory Committee, and SWCDs within the WRWD, to keep in touch with their sediment related activities, development of contracts with an analytical laboratory and the Department of Soil, Water and Climate at the University of Minnesota, and hiring of a graduate student as a research assistant for this project.

IV. OUTLINE OF PROJECT RESULTS:

- **Result 1:** Funding of basin planning entity, the Red River Basin Board, overseeing water quality and quantity planning and management in the Basin. The Board is made up of representatives of all interests of the Basin and seeks to unite them in resolving water quality and quantity issues. TIC supported the Board's planing efforts and other functions. The Board will exist indefinitely, but has completed many specific accomplishments during the project period. The group developed a set of guiding principles to be used in evaluating water issues. The group is overseeing the development of a water budget for the entire Red River Basin. The primary water management concerns to be addressed are being identified, and information on water and land resources and uses are being inventoried to serve as a basis for decision making. A plan for managing land and water resources will ultimately be developed, though not completed during the project period. The money allocated by LCMR to this planning effort represents about one-tenth of the money it is projected will take to support it.

LCMR Budget:	\$100,000	Balance:	0
Match:	0	Match Balance:	0

Completion Date: The Board will exist indefinitely, but intends to have set up a mechanism of local funding by June, 1999.

- **Result 2:** A report on methods of collaboration between the PCA and DNR in implementing Basin and Ecosystem Management strategies, and implementation of the PCA basin planning process. As the PCA and DNR develop their respective geographic management strategies, it is imperative that they be developed with close coordination to ensure that efforts are not duplicated between agencies, and that they are developed to include input from local resource managers. Funding for this portion of the project funded PCA staff efforts in the Detroit Lakes Regional Office. This position is responsible for identifying and developing opportunities for the 2 agencies to leverage resources and share information and expertise, in areas such as monitoring, GIS, and other scientific disciplines. This position works to develop mechanisms for connecting land stewardship projects with water quality projects. This position works closely with the basin planning entity described in Result 1 to ensure collaboration between the entity and the state agencies is fostered. This position also coordinates the outreach phase of the PCA basin planning process, to learn from local resource managers and interests what their water management priorities are, what specific water resources should be focused on, and what strategies should be used to address them.

LCMR Budget:	\$125,000	Balance:	0
Match:	0	Match Balance:	0
Completion Date: staff hired - November, 1997 report - June 1999			

- **Result 3:** A report by the USGS on sediment sources in the Red River Basin, based on USGS research and field work. This includes an extensive literature search of previously completed work on this issue to prevent duplication of effort and advance the progress of this study. In addition, fieldwork is being performed to gather additional data needed to draw conclusions about sediment sources. Evaluation of streambank erosion and places where ditches and tributaries are supplying large quantities of sediment is being performed on representative streams of the Red River basin. Rates of streambank and streambed erosion are being determined. Samples of erodible soils, material from areas of active streambank erosion, and suspended and streambed sediments were collected and analyzed to determine the source of sediments to streams. Although no match is required, the USGS is contributing a matching \$150,000 to the funding of this study.

LCMR Budget:	\$150,000	Balance:	\$23,000
Match:	0	Match Balance:	0
Completion Date: literature search - November 1996 field work - end of 1998 field season report - June, 1999			

Note: Due to weather and staffing difficulties, the USGS was not able to complete fieldwork anticipated for 1998, thus not all of the money appropriated for this project was used. As indicated elsewhere in this report, the final report will be delayed until October 1999.

V. DISSEMINATION:

Each component of the project will result in information that will need to be shared. The progress of the Red River Basin Board, including any resolutions, recommendations, and plans will continue to be communicated by TIC to all interested and affected parties via the TIC mailing list. Also, progress of the group will be posted on either the Red River Basin Information Network Internet homepage (<http://rrbin.cfa.org/rrbin/>), or possibly the Environment and Energy Research Center homepage (<http://www.eerc.und.nodak.edu/>). The report on interagency collaboration between the PCA and DNR will be disseminated to all affected staff of the agencies, electronically whenever possible. Copies of the report will be made available to any other interested parties. The USGS report on sedimentation will be disseminated primarily through the USGS, as a USGS publication. A summary of the report will be made available to all interested parties with responsibility for land and water management in the Red River Basin. The PCA will assist in dissemination of the report at the request of the USGS. The report, a summary of the report, or notice of the availability of the report will be posted on the USGS website (<http://h2o.er.usgs.gov/>) and on the PCA website (<http://www.pca.state.mn.us/>)

VI. CONTEXT:

A. Significance: TIC has been shepherding a basin coordination effort since fall of 1995. At TIC's November 1995 Annual Conference, plans for an international summit meeting were announced, and the summit was held in February, 1996. Attendees at the summit, from all sectors involved in and affected by land and water management, decided that a Red River Basin planning organization should be formed, representing all political jurisdictions, all levels of government, and all members of the private sector. Since the summit, an interim-planning group made up of representatives of all sectors has been meeting to determine the organizational structure of the group, the type of planning it should undertake, and funding options. The proposed group, the Red River Basin Board, was unveiled and voted upon at the 14th Annual TIC Conference in November 1996. Agreement was reached on the structure, operations, and function of the group, and the group will be officially formed and begin meeting in July 1997.

The PCA and DNR are in the early stages of developing and implementing new management strategies - Basin Management and Ecosystem Management. Though somewhat different from each other, both are geographic based approaches, and are complimentary. However, it will be worthwhile and necessary to ensure that these efforts build upon a consensus to avoid conflict. The position funded through this project will be responsible for taking stock of agency programs and determining ways that the agencies can work together more effectively and efficiently. The PCA initiated its basin planning efforts for the Red River Basin in late 1995, and has completed an inventory of relevant information to be used in the planning process. The PCA has begun to initiate the public participation phase of the planning process designed to give local interests the opportunity to determine water management priorities, targets and strategies. This position will coordinate this outreach phase of the basin planning process for the Red River Basin.

The USGS completed its preliminary field study of the Red River Basin of the North as a part of its National Water Quality Assessment (NAWQA) program in 1995. This project will build upon the work already performed to determine the sources of sediment in the Basin, providing resource managers vital information on how to protect water quality from the effects of erosion. A smaller scale study completed by the Natural Resources Conservation Service in early 1996 on two subbasins within the Basin will also provide background information for the study.

B. Time: Fieldwork for the USGS sediment study is scheduled to take place during the summers of 1997 and 1998. However, it was necessary to perform fieldwork in the spring of 1999, thus delaying submission of the final report until October 1999. No additional funding would be needed to support this fieldwork.

C. Budget Context: The Red River Basin Board development has been funded by various organizations since the concept was first proposed in November 1995. Since then, as the budget for the Board has been developed, funding needs have become better defined. In addition to the \$100,000 LCMR allocation for the project period, the Board sought and secured a \$200,000 one-time appropriation for fiscal years 1998 and 1999 from the Minnesota

State Legislature during the 1997 session to support its efforts. The funding will pass through the Minnesota Pollution Control Agency, but does not fund any portion of the Agency. The appropriation is contingent upon the State of North Dakota providing matching funding to the Board.

The interagency collaboration effort between PCA and DNR has not been directly funded in the past. The PCA basin planning effort for the Red River Basin has been supported by federal funding of one basin planner position since November 1995.

A USGS letter of February 20, 1996, indicates that the USGS will match funds appropriated from the state legislature applied to the erosion and sedimentation study portion of the project (\$150,000). The USGS sediment study will build on past research performed by USGS in their Red River Basin NAWQA study, and other available information.

	<u>July 1995 - June 1997</u>	<u>July 1997 - June 1999</u>	<u>July 1999-June 2001</u>
	Prior expenditures on this project	Proposed expenditures on this project	Anticipated future expenditures on this project
1. LCMR		\$375,000	
2. Other State	\$10,000	\$200,000	
3. Non State	\$300,000	\$700,000 TIC	\$1,000,000 TIC
Cash		\$150,000 USGS	
Total	\$310,000	\$1,425,000	\$1,000,000

Budget:

Personnel:	\$195,000	(((\$125,000 PCA; \$70,000 TIC)
Equipment:	\$0	
Acquisition:	\$0	
Development:	\$0	
Other:		
USGS field and lab work:	\$150,000	
<u>basin and related costs (TIC):</u>	<u>\$30,000</u>	
Total:	\$375,000	

- VII. Cooperation:** TIC - Paul Suomala (30% of time), Julie Goehring, and other staff of TIC; \$100,000 LCMR for staff costs and basin planning entity operations.
DNR - Paul Swenson (5% of time) and other DNR staff time as needed; no LCMR associated.
USGS - Mark Brigham (30% of time), Greg Payne (15% of time) and 2 other USGS field technicians (up to 20% of time); \$150,000 LCMR for field and lab work.

VIII. Location:

A map of the Red River Basin and its location in the state is attached. The map shows the major watersheds, tributaries and counties located in the Red River Basin.

IX. Reporting Requirements:

Periodic workprogram progress reports will be submitted not later than April 1, 1998 and February 1, 1999. A final workprogram report and associated products will be submitted by June 30, 1999 or by October 31, 1999 if circumstances dictate, as specified in VI.B above regarding completion of the USGS fieldwork and report.

The MPCA will provide copies of the USGS report and Red River Basin Plan to the LCMR following publication in October 1999.

Red River Basin

