

Date of Report: July 1, 1997
LCMR Final Work Program Update Report

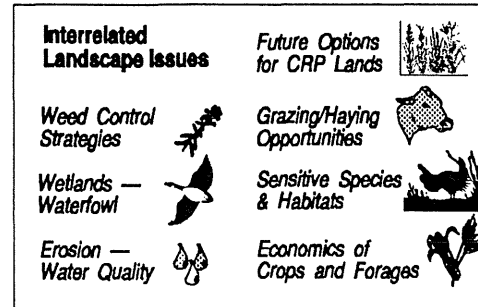
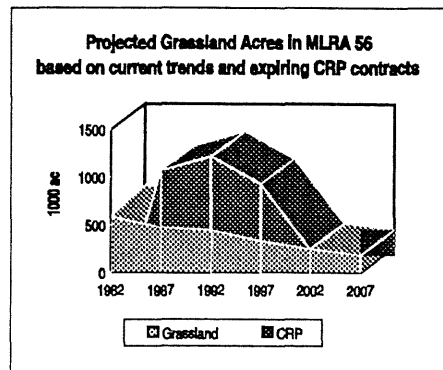
I. Project Title and Project Number: Sustainable Grassland Conservation & Utilization, H11
Program Manager: Peter Buesseler
Agency Affiliation: Prairie Biologist, MN DNR
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A. **Legal Citation:** ML 95 Chp. 220, Sec. 19, Subd. 5q
Total Biennial Budget: \$125,000
Balance: \$0

Appropriation Language: This appropriation is from the Future Resources Fund to the commissioner of natural resources to develop integrated grassland projects in northwest Minnesota and to evaluate different management strategies.

B. **Status of Match Requirement:** N/A

II. **Project Summary:** What will happen to CRP lands? How can we save our native prairie lands and species before they're gone forever? Can we increase profitability for forage/grassland based agriculture and achieve environmental goals as well?
This project offers an opportunity to let landowners and communities put "sustainable development" into operation—and learn how agencies and programs can best assist them in that effort. It targets a priority landscape area, the Glacial Lake Agassiz Beach Ridges, and will develop specific sustainability goals and strategies for that area's interrelated agricultural and environmental values, needs and uses.



seeps, springs, and fens, as well as groundwater quality issues. Encroachment of exotic plant species (leafy spurge, smooth brome, Canada thistle, etc.) is a significant problem. Herbicide spraying to control spurge and other noxious weeds adds to farm operation costs and further reduces diversity.

One result of these trends has been an accelerating loss of the region's biological diversity. Grasslands in the Glacial Lake Agassiz Beach Ridges harbor two federally protected and two federal candidate species; as well as 34 state listed rare plant and 23 rare animal species. The continuing decline of grass and forage based agriculture in the region, upcoming end of CRP, and other major changes has brought us to a crossroads in the future of this ecosystem.

III. **Work Program Summary:**

Obj. A: This project involved a 25 member steering group and 4 citizen panels — three in small towns around the edges of the Red River Valley (the Interbeach Area), and one in the Fargo/Moorhead urban center. A report "Two Futures: Citizens Define Ways to Manage Glacial Lake Agassiz Ecosystems" has been completed. A discussion guide and moderator's handbook has been developed and tested for use by other communities and organizations involved in addressing similar issues.

Obj. B: This objective was delivered through a partnership with the Resource Conservation and Development Councils (RC&Ds) serving the area. The LCMR funds for this activity leveraged an additional \$50,000 from USDA/NRCS to the RC&Ds for these projects in federal FY '96. Nineteen separate projects were completed:

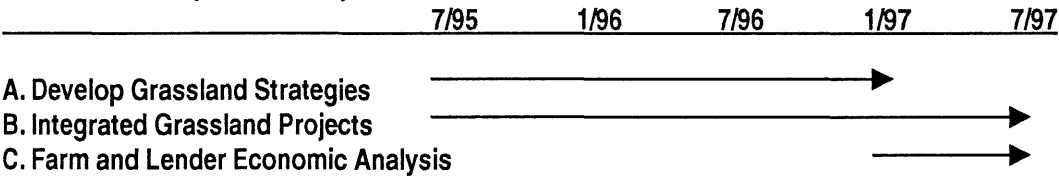
- Landowner workshops and field tours (6)
- Improved technical assistance tools (1)
- On-farm demonstrations (2)
- Community education activities (2)
- Cooperative resource assessments (1)
- Multi-agency/stakeholder training opportunities (2)
- Information brochures and booklets (4)
- Internet information network (1)

Obj. C: The University of Minnesota's Department of Applied Economics was contracted to evaluate the financial implications of individual farming operations shifting to the use of grass, whether for haying or grazing. A standard financial analysis tool was (FINPACK) was used to evaluate plausible grass-based systems on three farms in the Northern Tallgrass Prairie region of northwest Minnesota and North Dakota. The study found none of the selected grass-based farming systems significantly outperformed current operations on the three test farms from a financial standpoint. Nor did any score particularly well under one bank's credit rating process. There may be farm-specific grass-based systems that are financially superior to current management returns, but this study suggests that expansion of grass-based systems will remain particular to individual farms. A one-size-fits-all system is unlikely to be found.

IV. Statement of Objectives:

- A. **Develop Integrated Grassland Strategies for the *Lake Agassiz Beach Ridges***
Organize local landscape workgroups to explore and develop integrated strategies for addressing key issues such as “the future of CRP lands”, and “protection of biodiversity”. An interagency liaison team will assist the workgroups leverage existing programs and resources.
- B. **Initiate Integrated Grassland Projects:** Implement integrated, cooperative projects targeted to the specific needs of the pilot prairie/farmland landscape.
- C. **Farm and Lender Economic Analysis:** Evaluate both individual landowner and lender implications of post-CRP and other grassland management decisions.

Timeline for completion of Objectives:



V. Objectives

A. Develop Integrated Grassland Strategies for the Lake Agassiz Beach Ridges

A.1 Activity: Prepare landscape-wide strategies

A.1.a. Context: Use of landscape workgroups gives ownership and responsibility of the project to those closest to the real needs. These are the landowners; but also the many public and private programs and services these landowners turn to for help. If successful, the project will create a climate of dynamic collaboration and enthusiasm among these diverse stakeholders, and develop the local leadership to address needs into the future

A.1.b. Methods: Organize local landscape workgroups (including landowners, government agencies, Extension, farm consultants, agribusiness, credit lenders, conservation and agricultural organizations). The workgroups will explore and develop integrated strategies for addressing key issues such as “the future of CRP lands”, and “protection of biodiversity”. An Regional liaison team will assist the workgroups leverage existing agency and organization programs and resources. Participating agencies and organizations will then develop individual or joint action plans to carry out the strategies.

A.1.c. Materials: These funds will be spent on contracts for planning consultant and support services. No separate material costs are anticipated.

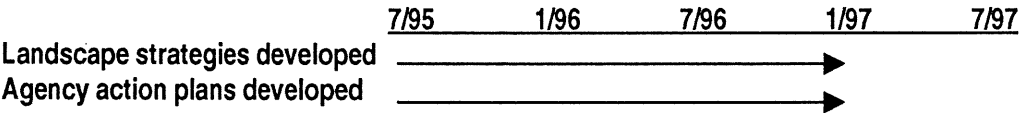
A.1.d. Budget

Total Biennial LCMR Budget: \$35,000

LCMR Balance: \$ 0

Match: N/A

A.1.e. Timeline:



A.1.f. Workprogram Update

As described in the January '96 work plan update, this activity leveraged additional funding from USDA/NRCS, the US Fish and Wildlife Service, and US Forest Service. The purpose of the “Glacial Lake Agassiz Citizen Forums” project was to learn from citizens, agencies, and organizations, about *the balance* people seek when it comes to improving ecosystem stewardship in our region. The project included 5 groups:

- A steering group of 25 people from the region who already had strong expertise and interest in ecosystem-management issues.

- 4 citizen groups — three in small towns around the edges of the Red River Valley (Karlstad, Twin Valley, Lisbon) and one in the Fargo/Moorhead urban center. Each included 16 demographically representative, randomly selected citizens.

The role of the steering group in this process was primarily to frame questions, clarify issues, and provide expert advice. The decisions and directions for action described in the report were driven primarily by the citizen participants rather than the steering group.

This activity took place in five stages:

1. The Steering group met in February of 1996 to frame issues and develop issue drive scenarios for citizens to consider
2. The citizen groups assembled in March in the four towns listed above. In three-hour sessions, they discussed the scenarios outlined by the steering group and worked to agree on basic values and principles for action on ecosystems issues. They also identified key tensions, concerns, and questions for the steering group to consider.
3. The steering group met again in April to reflect on the findings from the first round of citizen discussions, frame a specific set of choices, and identify benefits and trade-offs involved in those choices.
4. The same four groups of 16 citizens, with 2-4 additional participants in each town to replace drop-outs, were re-assembled in early May for day-long Citizen Panels™, which deliberated over the policy choices developed by the steering group.
5. The steering group held a third meeting in late May to discuss the citizens' recommendations for action and provide additional input for the final report *“Two Futures: Citizens Define Ways to Manage Glacial Lake Agassiz Ecosystems”*. (copies included for Commission members & staff)

In addition to the report, a discussion guide and moderator's handbook, *“Lets Get To It: getting beneath current environmental resource debates”*, was developed and piloted for use by other communities and organizations within the region and beyond. This discussion tool is designed to help people break out of old ways of talking about issues relating to managing environmental resources and take the first steps toward developing a new approach. It is intended to help people and groups explore questions such as: What do we value most about the place we are focusing on? What is important about the issue we are concerned about – not in terms of specific solutions, but what we are really trying to achieve? What tensions exist between the range of things we value? What might it take to balance all we want? What should we expect of one another when it comes to this issue? What are each of our roles and responsibilities – or what compacts should guide us in working on this issue?

Glacial Lake Agassiz Citizen Forum Project Steering Group/Organizations:

Al Gustafson, Pembina Trail RC&D	Bill Pietch, North Dakota Farm Bureau
Leonard Skaar, Pennington Co. SWCD Spvr	Lynn Wolff, Sheyenne Grazing Association
Greg Hilgeman, NW Cattleman's Association	Jay Mar, Lake Agassiz RC&D
Willis Eken, Rep. Collin Peterson's Office	Roman Berg, Richland Co. Commissioner
Greg Larson, WesMin RC&D	Jeff Dick, Farmer, Richland Co. SCD Spvr
Alan Melby, Clay Co. Commissioner	Paul Wellman, Red River RC&D
Gill Voss, Wilkin Co. Commissioner	Mike Kotchman, Farmer, Pembina Co.SCD Spvr
Glen Kajewski, Area Conservationist, NRCS	Oliver Johnson, Pembina Co. Commissioner
Glen Skuta, MN Pollution Control Agency	Thomas E. Coleman, Area Conservationist, NRCS
Rollin Sigfried, Complex Manager, USFWS	Brian Stotts, , USFS, Sheyenne District
Steve Mikkelson, The International Coalition	Bernadette Braun, USFS, Sheyenne District
Paul Swenson, Regional Administrator, MN DNR	Joe Satrom, TNC Dakota Office
Peter Buesseler, State Prairie Biologist, MN DNR	

B. Initiate Integrated Grassland Projects

B.1 Activity: Implement integrated, cooperative projects targeted to the specific needs of the Glacial Lake Agassiz Beach Ridges.

B.1.a. Context: The primary purpose is to provide stakeholders within the local area an opportunity to cooperatively design and implement innovative projects to enhance grass and forage lands. The work groups will have the flexibility, and accountability, of looking at all aspects of the economic, social, and environmental system and targeting what they feel are the best opportunities for improving the situation. Projects will help prepare both individuals and local institutions for future sustainable grassland utilization and conservation within the landscape.

B.1.b. Methods:

- a) *Applied research/demonstration projects* will be on-site, participatory projects linking the research team, agency/program staff, and landowner. They will address critical questions relating to grassland use and conservation (e.g. livestock/forage systems, integrated pest management, BMPs for critical species—prairie chicken, white fringed prairie orchid, etc.).
- b) *Targeted projects* will help individuals and local institutions address obstacles or get ready for new opportunities. These might include organizing grazing associations, new market development, coordinating weed control strategies, and piloting new or accelerated services (e.g. grazing plan development, extension programs). The primary purpose is to provide stakeholders within the local area an opportunity to cooperatively design and implement innovative projects to enhance grass and forage lands. The work groups will have the flexibility, and accountability, of looking at all

aspects of the economic, social, and environmental system and targeting what they feel are the best opportunities for improving the situation.

B.1.c. Materials: (use of the project funds to be determined by the workgroups)

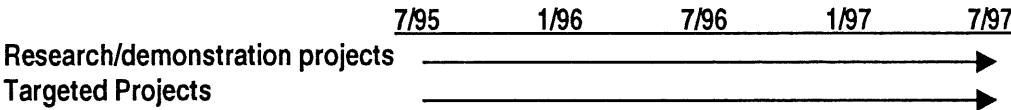
B.1.d. Budget

Total Biennial LCMR Budget: \$75,000

LCMR Balance: \$0

Match: N/A

B.1.e Timeline:



B.1.f. Workprogram Update

This objective was organized and delivered out a unique partnership between the area's 4 Resource Conservation and Development Councils (RC&Ds) and the LCMR project sponsors (MN DNR, MDA, NRCS, MN Forage and Grassland Council, MN Extension Service). RC&Ds help people care for and protect their natural resources in a way that will improve the areas' economy, environment, and living standards. They provide a way for people to initiate, plan and implement projects that will make their area a better place to live. The Glacial Lake Agassiz Interbeach area is served by four RC&D Councils: WesMin and Pembina Trail in MN, Lake Agassiz and Red River in ND. For this project they have formed an informal partnership to focus on innovative projects serving the whole region. The LCMR funds for this activity have leveraged an additional \$50,000 from USDA/NRCS to the RC&Ds for these projects in federal FY '96. Projects completed included:

Landowner Workshops and Field tours

- Introductory Holistic Resource Management workshops held Jan 3-5, 1996; & Feb 27-Mar 1, 1997. 3 day workshops for farmers, ranchers, businesspersons, and agency personnel in the Lake Agassiz Area. The course provides a process of goal setting, decision making, and biological monitoring that assists people of the area enhance the vitality of their communities and natural resources on which they depend.
- Ranchers Workshops held Feb. 6, 1996; & Feb 25, 1997. One-day workshops for ranchers with presentations from area resource professionals and ranchers panels.
- Multi-County Summer Range Tour. July, 1996. One-day summer range tour allowing participants to develop range expertise through observation, field exercises, and informative discussions. Activities for kids and families were also provided.
- Advanced Holistic Resource Management Workshop: Biological Monitoring, July 12-13, 1996. A 2-day advanced HRM course, with fieldwork and special emphasis on biological monitoring.

Improved Technical Assistance Tools

- Grassland Enhancement Project utilizing digitized USDA/FSA slides. This project, being coordinated by the Pembina Trail RC&D, involves the 9 SWCDs in NW MN and one in North Dakota. They will be digitizing 5 years of aerial CFSA slide onto CD-ROM discs and using them to cooperatively design and implement grassland enhancement project in each county.

Grassland Demonstration Projects

- Wild Rice/Grass rotation demonstration project, completed October, 1996. This system will compare using grass in a rotation for weed control, to traditional chemical control methods in wild rice production.
- Dairy Intensive Grazing Demonstration and Education Project, completed October, 1996. Establishment of an intensive grazing system for a dairy operation that also included educational tours for livestock producers from the region, focusing on system design, different grass/legume mixtures, and economics of grazing

Community Education Activities

- Children's Environmental Festival, Apr. 25-26, 1996. Hands-on presentations and topics such as water conservation, wetlands, wildlife, ecosystems, and prairies. The event involved approximately 1000 4th graders from the Grand Forks, East Grand Forks area.
- Women's Ag Night, Mar 18, 1997. A program providing farm and ranch women information about programs and services available from local agricultural and conservation agencies. This group has traditionally not been well served by typical information meetings.

Cooperative Resource Assessments

- Red River Water Management Research Consortium. The RC&Ds participated as partners in the establishment of this consortium of municipalities, industry, The Energy and Environmental Research Center (EERC) and others sharing a joint interest in assessing and researching watershed issues in the Red River Basin.

Multi Agency & Stakeholder training Opportunities

- Riparian Management Workshop held Oct. 3-4, 1995. This workshop was designed for resource managers in the Red River Basin. Program highlights included 1) update on the Red River Basin Riparian Demonstration Project for the restoration of riparian areas and improvement of water quality; 2) discussions on issues and techniques for managing forested riparian areas; 3) streambank stabilization bioengineering training session; and 4) a hands-on field demonstration of streambank stabilization techniques using bioengineering practices.
- Riparian Restoration Workshop and Presentation, featuring David Rosgen. June 10-14 (workshop), June 14 (presentation). A 3-day workshop for resource managers on problem solving techniques

for watershed management, stream restoration, non-point source pollution management, and integration of ecosystem concepts in watershed management. A half-day presentation was also provided for the general public.

Information and Education Materials

- "A Natural Heritage: Northern Tallgrass Prairie Flowers and Grasses Guide". The Northwest Gateway communities requested this brochure. These towns want to be able to provide visitors and residents to the area an easy to use guide for identifying native prairie grasses and wildflowers.
- "Range Plant Handbook for the Northern Plains". A handbook for producers showing 115 range plants from North Dakota and Western Minnesota. The handbook provides common and scientific name of the plants, a botanical description, geographic distribution, plant forage values, and wildlife habitat information.
- Spotted Knapweed brochure. An educational initiative to inform and educate farmers and ranchers on how to identify spotted knapweed and control measures. Spotted knapweed has been identified in the region and has the potential to crowd out native plants and "take-over" pastures. Color brochures were distributed at farm producer meetings and during the recent CRP sign-up.
- Native Grasses for Prairie Landscaping in the Northern Plains. A brochure for urban and rural residents on the applicability of native grasses for ground cover and landscaping purposes, and the value of native grass in urban as well as rural areas.

Internet-based Information System

- Red River Basin Information Network. Establishment of an internet website to facilitate information sharing and collaboration in the region <<http://www.eerc.und.nodak.edu/rrbin>>

C. Farm and Community Level Economic Analysis

C.1 Activity: Evaluate both individual and lender implications of post-CRP decisions

C.1.a. Context: Through this analysis, changes at a farm-level will be scaled up to examine community-level implications and effects on financial institutions. Collectively, these results will give a better understanding of the financial implications of "post-CRP" management decisions throughout a community — and hence their likelihood of adoption. Together with existing state and county land resource information and GIS capabilities, participants will learn how to better integrate environmental and economic goals and strategies for the area.

C.1.b. Methods:

1. Generate grassland systems options that show commercial promise in Tallgrass Prairie study area. Emphasis will be on practices that can be added to existing non-grass farm management strategies.
2. Expand scope of existing farm management software (FINPACK) to include grassland budgets and cost structures for study area.
3. Document new FINPACK options for subsequent use by farm management consultants and educators in the study area.
4. Conduct full farm management analyses on ten farms in the study area. For each farm, consider at least three management strategies, including two that involve full or partial conversion to grassland. Additionally examine implications of eligibility for new CRP program, if applicable.
5. Prepare agricultural lender credit scoring system that includes grassland practices not now common in study area. Focus on key financial performance indicators already familiar to lenders.
6. Prepare final report summarizing all activities and recommending future research and education strategies. Discuss short and long run financial feasibility of grassland systems in the study area, paying special attention to implication of initial capital expenditures and chronic product price instability.

C.1.c. Materials: DNR will contract with UofM for this objective. Of the \$15,000 contract, \$4,000 will be used for miscellaneous office supplies, software (copies of FINPAK), etc.; for the research assistant.

C.1.d. Budget

Total Biennial LCMR Budget: \$15,000

LCMR Balance: \$0

Match: N/A

C.1.e. Timeline:

	<u>7/95</u>	<u>1/96</u>	<u>7/96</u>	<u>1/97</u>	<u>7/97</u>
Farm assessment completed				_____	
Lender assessment completed				_____	
Final analysis completed					_____

C.1.f. Workprogram Update

The University of Minnesota's Department of Applied Economics evaluated the financial implications of individual farming operations shifting to the use of grass, whether for haying or grazing. Three levels of analysis were provided:

- Specific farm level budgets were developed for use with the FINPACK financial analysis system. These budgets enable users to examine whole-farm implications of adoption of a variety of grass-based alternatives on all or a portion of a farm. These FINPACK budgets were newly developed for the Northern Tallgrass Prairie study area.
- A number of plausible grass-based alternative systems are applied to each of three representative farms in the study area. These are real farms, although certain features of their operations have been altered to maintain privacy. The alternatives are compared against each other and against a baseline of each farm's current pattern of management. Several financial performance indicators commonly used by farmers and lenders are used to gauge the relative merits of farm operation decisions
- Comparison of grass-based alternatives among all three farms and, by extension, across the entire study area

The study found none of the selected grass-based farming systems significantly outperformed current operations on the three test farms from a financial standpoint. Nor did any score particularly well under one bank's credit rating process. There may be farm-specific grass-based systems that are financially superior to current management returns, but this study suggests that expansion of grass-based systems will remain particular to individual farms. A one-size-fits-all system is unlikely to be found

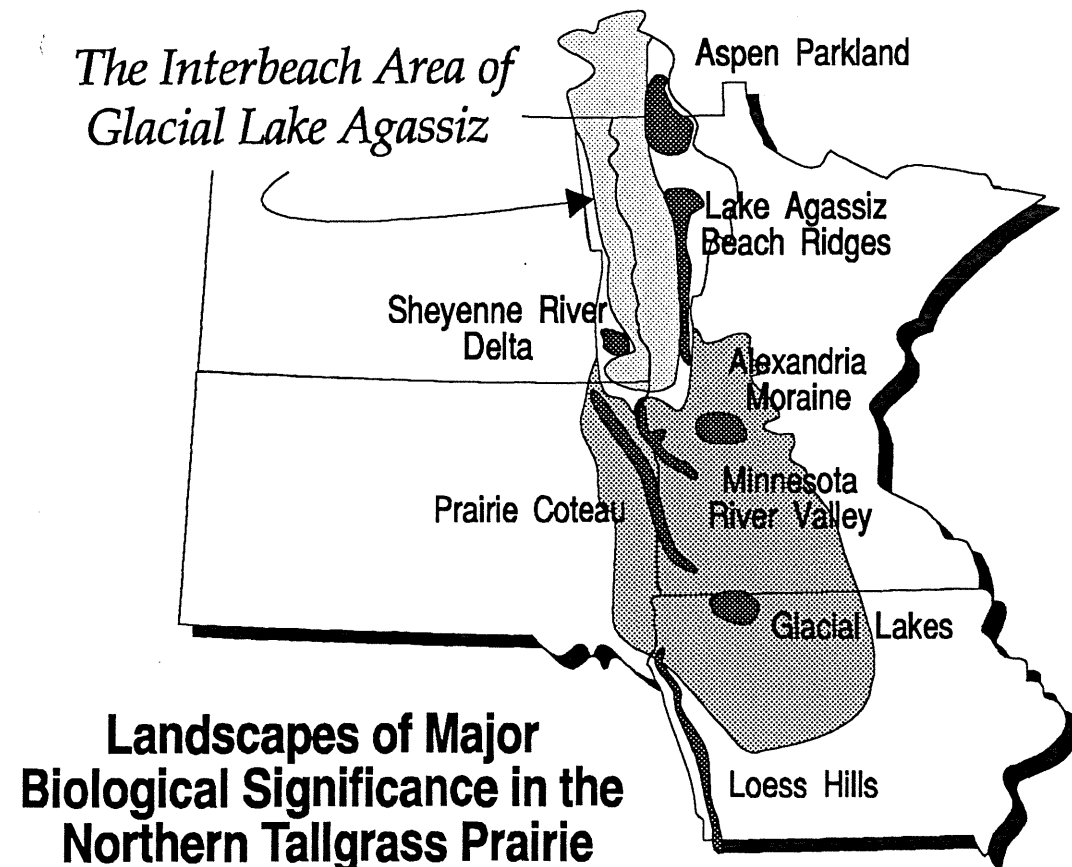
UMES county officials in the project area, plus agronomists and economists from the University of Minnesota and North Dakota State University have evaluated the materials in the report. The newly prepared FINPAK grass-based budgets will be distributed to all University of Minnesota Extension Service and vocational agriculture advisor offices in the study area. The full report will be published as a Department of Applied Economics Staff Paper, and made available on the worldwide web at <http://www.agecon.lib.umn.edu> . It will be distributed to over one hundred libraries and academic institutions throughout the country, as well as to interested parties in Minnesota.

VI. Evaluation: During the first phases of each project component, participants will be assisted in identifying specific decisions they will be making from the results of the project. Then they will develop criteria for evaluating how successful the project meets those decision needs. These will be shared with other participants so all understand what each is looking for from the project.

At the end of the project period, each participant will reevaluate whether they correctly identified their decision needs and criteria. If necessary, these will be revised. Participants will then prepare a final evaluation, recording both the value of the project to them directly (based on their established criteria), and the general value they perceive the project had to others.

VII. Context within the field: The Glacial Lake Agassiz Interbeach Area is an area where proactive, integrated action now could prevent future "environmental trainwrecks". However, two state, an international, and several federal agency boundaries not to mention the large number of county, and local jurisdictions hamper integrated action. Organizations and agencies participating in the Great Plains Partnership (GPP) have identified the Glacial Lake Agassiz Interbeach Area as one of the ten most important areas in the Plains for strengthening coordinated, ecosystem-based management. (*GPP is a voluntary alliance, led by the Western Governors' Association, for conserving biodiversity while enhancing the economic health of the Great Plains. GPP spans thirteen states, Canada, Mexico, and includes federal, state, tribal and local governments, and private organizations*). As a direct result of GPP, the NRCS has proposed the area be designated as a "New Initiative Laboratory" under the President's Interagency Ecosystem Management Initiative. In addition, the USFWS has included this part of the Tallgrass Prairie as one of its top priorities in its Upper Mississippi/Tallgrass Prairie Ecosystem Management Plan.

On a state level, the Glacial Lake Agassiz Beach Ridges has been targeted as one of DNR's Ecosystem-based Management pilot projects. As part of MDA's *CRP Investment Initiative* a number of joint landowner/agency workgroups are developing alternatives for CRP lands in the region. In addition, The Nature Conservancy has identified the area as one of its top three priority areas for landscape conservation.



VIII. Budget Context:

For the 2-year period ending June 30, 1995, DNR committed approximately 30% of the Prairie Biologist's time, and reprogrammed \$24,000 to support some preliminary data and coordination activities for the Sustainable Grassland Utilization and Conservation project. Through the President's *New Initiative Laboratory* program, NRCS has received \$75,000 (FY '95) to broaden the project to the entire Glacial Lake Agassiz Interbeach area (including the Sheyenne Delta area in ND, and Aspen Parklands in southern Manitoba and northwest Minnesota).

IX. Dissemination: Dissemination of project progress and results will be coordinated regionally through the participating agencies, organizations, and workgroups. Data and results will be also be distributed through the Great Plains International Data Network — established by GPP.

X. Time: N/A

XI. Cooperation: Direct cooperators include:

Cooperator	Role	% Time
Peter Buesseler DNR Prairie Biologist	Overall project manager (Obj. A, B, C)	75%
Mary Hanks Spvr, Energy and Sustainable Agriculture Programs, MN Dept of Agriculture	MDA will provide assistance in administration of the research, demonstration, and special projects (Obj. B)	5%
Steve Taff, Assoc. Professor and Extension Economist in the Dept of Agriculture and Applied Economics, UofM)	Steve will supervise the farm and lender economic analysis (Obj. C)	5%
Dennis Goehring, MN Forage and Grassland Council	MFGC will help communicate and organize landowner participation (Obj A, B, C)	volunteer

XII. Reporting Requirements: Semiannual six-month workprogram update reports will be submitted not later than January 1, 1996, July 1, 1996, January 1, 1997, and a final six-month workprogram update and final report by June 30, 1997