

FINAL REPORT

To Wisconsin Department of Natural Resources Lake Planning Grant Number 795-02

CONSERVATION RESERVE ENHANCEMENT PROGRAM (CREP) AND WETLAND RESERVE PROGRAM (WRP) PLANNING PROJECT – BEAVER DAM LAKE WATERSHED

Submitted by

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Final Report Lake Planning Grant No. 795-02

Beaver Dam Lake Improvement Association Beaver Dam, Dodge County, Wisconsin

Conservation Reserve Enhancement Program (CREP) and Wetland Reserve Program (WRP) Planning Project – Beaver Dam Lake Watershed

Executive Summary

The U.S. Department of Agriculture, Wisconsin Department of Agriculture, Trade and Consumer Protection and Wisconsin Department of Natural Resources are implementing a version of the Conservation Reserve Program known as the Conservation Reserve Enhancement Program. The objectives of CREP include protection and improvement of water quality by reducing sediment and nutrient runoff and enhancement of wildlife.

In order to maximize landowner participation in the Beaver Dam Lake watershed during the original sign-up period, there was a need to provide additional resources to ensure that requirements of program planning, implementation and delivery were met. DNR Lake Planning Grant No. LPL 795-02 was awarded to the Beaver Dam Lake Improvement Association (Lake Association) November 2001 for this purpose.

Subsequent to commencement of the grant work, the objective to hire a staff person at USDA Natural Resources Conservation Service proved to be untenable. In addition, landowner and farmer interest in CREP and program sign-up developed more slowly than anticipated and, thus, the existing NRCS staff was capable of handling the CREP contacts.

A major challenge to effective landowner and farmer participation in CREP was determined to be limited education and program promotion. Therefore, the Lake

Association, with the concurrence of DNR, worked cooperatively with two other CREP lake planning grantees in Dodge County (Fox Lake Inland Lake Protection and Rehabilitation District and Lake Sinissippi Improvement District) to provide a limited education and promotion program and establish landowner contacts, targeted within the Beaver Dam Lake watershed.

Introduction

Beginning in the fall of 2001 the U.S. Department of Agriculture (USDA), Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and Wisconsin Department of Natural Resources (DNR) began implementing a version of the Conservation Reserve Program known as the Conservation Reserve Enhancement Program (CREP). The objectives of CREP include protection and improvement of water quality by reducing sediment and nutrient runoff and enhancement of wildlife. The program is funded by both federal and state sources and the sign-up period was originally established from October 1, 2001, to December 31, 2002 [subsequently extended]. CREP offers incentive and cost-share payments to landowners who voluntarily enroll agricultural lands adjacent to surface waters, sinkholes and wetlands into conservation practices.

Conservation practices eligible for CREP include riparian buffers, filter strips, wetland restorations and grassed waterways. In riparian project areas, eligible lands must be within 150 feet of a stream or water body. Farmlands enrolled in the program must meet USDA requirements for cropping history (a commodity crop must have been planted in 2 out of the last 5 years) or pasturing, and lands currently enrolled in CRP are not eligible for CREP. Enrollment options for the landowner include both a 15-year contract agreement and a permanent conservation easement.

On July 9, 2001, a meeting was held to discuss the anticipated CREP program and implementation within watersheds of Dodge County. In attendance were representatives of the Lake Association, Fox Lake and Lake Sinissippi lake groups, Pheasants Forever,

University of Wisconsin-Extension, two Dodge County supervisors and various county, state and federal agencies (Appendix A). One of the key issues discussed at the meeting was the role(s) of lake organizations to support CREP implementation. The Lake Association and three other lake organizations had previously pledged \$4,000 each to support buffer internships through Pheasants Forever. It was also decided that the Lake Association and the Fox Lake and Lake Sinissippi lake districts would each apply for DNR lake planning grants to provide funds for implementation of CREP.

Responsibility for planning, implementation and delivery of CREP in Dodge County is with the Dodge County Land Conservation Department (LCD), the USDA Natural Resources Conservation Service (NRCS) and the USDA Farm Service Agency (FSA). DATCP and DNR personnel are also involved in parts of program implementation. While state and federal funding provides resources for incentive and cost-share payments to landowners, there are only limited resources available for program planning, implementation and delivery. In order to maximize landowner participation in the Beaver Dam Lake watershed during the original sign-up period, there was a need to provide additional resources to ensure that requirements of program planning, implementation and delivery were met. Therefore, the original purpose of this project was to assist LCD and NRCS with personnel and services during the CREP sign-up and ongoing WRP sign-up periods.

Statement of Need

Within the Beaver Dam Lake watershed soil erosion from cropland has been identified as the largest source of sediment and nutrients to local waterways. The magnitude and impacts of cropland erosion in the study area has been documented in <u>A Nonpoint Source Control Plan for the Beaver Dam Priority Waters Project</u> (DNR, 1993), <u>Upper Rock River Water Quality Management Plan</u> (DNR, 1995), <u>Prediction of Phosphorus Loads in the Rock River Basin, Wisconsin</u> (Earth Tech, 2000), <u>Dodge County Land and Water Resources Management Plan</u> (LCD, 1999) and <u>Rock River State of the Basin Report</u> (DNR, 2002).

Many of the water resources in the Beaver Dam Lake/River watershed area are listed on the State of Wisconsin's Clean Water Act 303(d) list of impaired water bodies. Table 1 summarizes the water bodies in the study area on the 303(d) list. The DNR has designated the Beaver Dam Lake/River watershed as a Priority Watershed under the Wisconsin Nonpoint Source Pollutant Abatement Program, ending December 2005.

Table 1
Beaver Dam River Watershed Water Bodies on State and
Federal 303(d) List of Impaired Water Bodies

Water Body Name	Impact	Source
Alto Creek	Excessive sedimentation,	Point and nonpoint source,
	turbidity problems	cropland erosion
Beaver Dam River	Excessive sedimentation, low	Nonpoint source, cropland
	dissolved oxygen, nutrient	erosion, barnyard runoff
	enrichment, turbidity problems	
Casper Creek	Excessive sedimentation,	Nonpoint source, cropland
	nutrient enrichment	erosion

Project Goal

The goal of the project is to reduce soil erosion and runoff from agricultural fields within the Beaver Dam Lake/River watershed, thereby contributing to an improvement of water quality. To accomplish this goal the project will assist farmers and other landowners in understanding how they can take advantage of CREP and other existing state and federal conservation programs, such as WRP. These programs will help landowners to convert highly erodable lands and lands adjacent to waterways and wetlands to long-term or permanent cover.

Environmental benefits of the project include:

Reduce soil erosion

- Reduced sediment and nutrient inputs to waterways and lakes
- Improved water clarity
- Improved aquatic habitat
- Improved wildlife habitat

Lake and Watershed Description

The Beaver Dam River watershed is located primarily in Dodge County, with small segments in Columbia, Green Lake and Fond du Lac Counties. Beaver Dam Lake is a drainage lake in the northwest quadrant of Dodge County, lying within the townships of Beaver Dam, Calamus, Fox Lake, Trenton and Westford. It is the largest lake in the county with a surface area of over 6,000 acres. Table 2 outlines the physical characteristics of Beaver Dam Lake.

Table 2
Physical Characteristics of Beaver Dam Lake

Parameter	Dimension
Surface Area (open water)	6,542 acres
Maximum Depth	7 feet
Mean Depth	5 feet
Volume	30,677 acre-feet
Shoreline Length	41.2 miles
Watershed Area	88,000 acres

Beaver Creek, Mill Creek (the outlet stream from Fox Lake) and the outlet stream from Lost Lake are main tributaries of Beaver Dam Lake. Water quality monitoring indicates that polluted runoff effects are severe on most streams and lakes in the watershed. Most streams are affected by nonpoint pollution from animal feedlots and barnyards, cropland soil erosion and residential and commercial construction site erosion, as well as other urban runoff from the cities of Beaver Dam and Fox Lake.

Most of the 88,000 acres of watershed for Beaver Dam Lake is agriculture: cropland for corn, soybeans and hay, and land for livestock of cattle and hogs. Much of the cropland is ditched, tiled and channeled to improve land drainage characteristics. According to LCD information, sediment delivery to the Beaver Dam River is estimated to exceed 27,000 tons per year (equivalent to 2,700 10-ton truckloads of soil entering the wetlands and waterways annually). An estimate of 1.21 pounds of phosphorus is added to the already nutrient-rich lake water for every ton of sediment delivered to the lake. Total phosphorus loading to Beaver Dam Lake from cropland runoff is in excess of 30,000 pounds per year.

The water quality of Beaver Dam Lake is poor. Nonpoint source pollution and cropland erosion are main contributors to the eutrophic condition of the lake. Excessive sedimentation, excessive nutrient enrichment, low dissolved oxygen and turbidity problems are common lake characteristics.

Long-Term Project Strategy

The goal of the Lake Association and DNR is to improve the water quality of Beaver Dam Lake by accomplishing the following objectives:

- 1. Removal of carp through commercial fishing operations.
- 2. Installation of aquatic plant plantings in various locations within the lake.
- 3. Analyze, determine and install shoreline barriers to minimize and prevent shoreline erosion.
- Analyze, determine and acquire through easements shoreline buffer zones to minimize and prevent soil erosion and water runoff from rural soils that affect lake water quality.
- 5. Analyze, determine and develop a plan to minimize urban storm water runoff.
- 6. Oxygen level monitoring and winter aeration installations to ensure adequate oxygen levels and reduce winterkill of fish population.

- Continuation of partnership with Beaver Dam Lake watershed stakeholders to control and reduce sediment loss.
- 8. Continued implementation of fish hatcheries, fish stocking, fish cribs and rearing ponds. This is designed to ensure a sufficient game fish population to reduce rough fish that degrade water quality.

Lake Planning Grant Work Plan

Implementation of the CREP and WRP programs involve the following steps:

- 1. Preparation of a master plan to identify targeted and eligible landowners
- 2. Landowner contact
- 3. Ecological and soil survey of the proposed project area
- 4. Preparation of a restoration plan
- 5. Surveying of the contract or easement area
- 6. Assessment of the property value
- 7. Preparation of the easement document or long-term contract
- 8. Presentation and acceptance of offer
- 9. Closing procedures

State and federal funds for CREP provide the financial resources needed for cost-share payments to landowners. However, there are only limited financial resources available through the CREP program for project planning, implementation and delivery. For the program sign-up and participation to be successful, several objectives needed to be met. First, a program promotion strategy was needed on a countywide basis, involving federal, state and county agencies and the lake groups. Second, a landowner education strategy was needed to ensure that appropriate program information was getting to the targeted audience. And, third, NRCS and LCD personnel needed to be trained in CREP specifics

and available on a timely basis so as to expedite the administrative and field-based signup procedures with landowners.

Initial Phase of Work Plan

The determination was made early on by the Lake Association, other lake organizations and federal, state and county agencies that the existing staff at NRCS and LCD was of insufficient size to handle on a timely basis the expected number of information and sign-up requests. Previous experiences of the agencies suggested that delayed or incomplete responses to interested participants resulted in a termination of interest and a rather negative view of the conservation program by the targeted landowner population. The Lake Association and partner lake organizations wanted to avoid, as far as was practicable, a repeat of previous less-than-successful promotions of conservation programs in Dodge County.

The Lake Association and other lake organizations agreed with the agencies that every effort should be made to provide the infrastructure and staff support necessary to maximize CREP participation during the sign-up period that was due to expire December 31, 2002. Therefore, the decision was made by the Lake Association and the other two lake organizations to apply for DNR lake planning grants to provide funds for additional staff support and for subcontracting of certain professional services:

- Certified surveys
- Legal services to review easement agreements
- Ecological assessments
- Preparation of restoration plans

This project was designed to provide funds for the hiring of a limited-term employee of NRCS for a 15-month period (October 1, 2001 to December 31, 2002). The individual was to be technically qualified in one of several natural resource disciplines and have experience in public conservation programs. The employee was to be based at the USDA Farm Service Center, Juneau, Dodge County, to assist with all aspects of CREP and WRP

projects within the Beaver Dam Lake/River watershed, as well as other Dodge County watersheds. The NRCS District Conservationist was to provide training and supervision of the employee.

The NRCS employee was to be responsible for four key activities:

- 1. Help formulate a countywide strategy for landowner education.
- 2. Identify specific lands that meet the criteria of CREP and WRP programs to help target landowners for education.
- Assist NRCS and LCD staff in ecological and soil surveys and field staking of proposed contract and easement areas.
- 4. Work with landowners during the contract negotiation process so that they understand the program and decisions that are being made.

Final Phase of Work Plan

The responsibility for recruitment and hiring of the limited-term employee was with NRCS. Representatives of the Lake Association and other lake organizations met with NRCS personnel a number of times during the fourth quarter 2001 and first half of 2002 to learn the status of the hiring process. Due to administrative difficulties within NRCS, satisfactory progress in hiring a qualified individual was not made. The vacancy announcement and posting of the job did not occur until August 9, 2002 (Appendix B). By the end of summer 2002 the program was still without the designated employee.

During the same time period the level of interest in CREP by farmers and landowners was developing more slowly than originally anticipated. Field reports and anecdotal evidence suggested much uncertainty among dairy farmers. The milk price was low and several large dairy cooperatives were considering large-scale herd buyouts. Many cash crop farmers were reluctant to embrace a new program that would decrease planting acreage. Therefore, the number of landowner requests for program information was at a level that could be handled by existing administrative staff at NRCS and LCD. Additionally, the procedural work of landowner meetings, field and soil surveys,

restoration plans and preparation of documents was being handled adequately by existing technical staff.

The conclusion reached by the Lake Association, lake partners and the agencies was that the major challenge to effective landowner participation in CREP and WRP was limited education and program promotion. Therefore, the decision was made to terminate the original work plan to hire an employee at NRCS and, instead, to refocus and reapply the resources of the DNR lake planning grants to an expanded program of CREP education and promotion. Also at this time the USDA announced that the CREP sign-up period was to be extended for several years. The Lake Association therefore requested an extension of the grant period. The DNR agreed with the change in scope of the grant and the time extension.

Concurrent with the change in scope of the grant work, the DNR announced a new Wisconsin administrative regulation, Chapter NR151 Runoff Management, which became effective October 2002. This regulation establishes runoff pollution performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards. The Lake Association, lake partners and agencies decided that an important part of the promotion program for CREP and WRP could be tied to helping farmers meet the new NR151 requirements. Thus, the program of CREP education and promotion evolved into presenting conservation programs, in part, as important tools to assist farmers and landowners in meeting their obligations under the regulation (Appendix C). The Lake Association and lake partners worked cooperatively with the Rock River Headwaters, Inc. (a 501c3 non-profit conservation organization) to develop and implement the education and promotion program.

CREP Program Promotion

Representatives of the Lake Association worked with partner organizations and agency personnel to develop a CREP promotion program that was administrated during 2001-

2003. The program included the use of print and radio media, farmer publications, mailings and presentations at agricultural organizations and local government meetings. Examples of the promotion program conducted by the lake organizations include:

- An article on CREP sign-up assistance appeared in November 2001 issue of Dodge County Drumlin Rumblings, a publication of the USDA Farm Service Agency, Juneau, for county farmers and landowners (Appendix D)
- News release January 28, 2002, regarding CREP support by lake organizations provided to eight Dodge County newspapers (Appendix E)
- Appearance February 8, 2002, on Community Comment talk show, WBEV AM radio station, Beaver Dam, with lake representative and agency representatives from NRCS, FSA and LCD
- Presentation at a board meeting of Dodge County Farm Bureau, county affiliate of the
 Wisconsin Farm Bureau Federation (Appendix F)
- Presentations at several high school FFA (Future Farmers of America) meetings
- Presentations at meetings of the town boards of Beaver Dam, Westford and Trenton
- Distributed fact sheets of Dodge County Conservation Reserve Enhancement Program to farm cooperative offices, feed mills, town halls, farm implement dealers, etc within the watershed (Appendix G)

Community Dinner

Another effective form of program communication has been an invitation dinner within a local community. The Lake Association and partner organizations decided to sponsor at least one farmer outreach, community dinner within their respective watersheds.

The Lake Association held a community dinner on December 4, 2003, in Beaver Dam for invited farmers and landowners within the Beaver Dam Lake watershed (Appendix H). A mailing list of 260 invitations was prepared from:

LCD list of Conservation Reserve Program participants in Towns of Beaver Dam,
 Calamus and Westford

 List of landowners adjacent to Beaver Dam Lake and main tributaries from township plat maps

Invitations were also mailed to the town boards of Beaver Dam, Calamus and Westford and Dodge County supervisors representing the watershed.

About 60 farmers/landowners attended the community dinner. Speakers included David Ryden, Research Director, Jung Seed Genetics; Norb Wozniak, District Conservationist, NRCS; and, James Fanta, Crops and Soils Agent, UW-Extension. A landowner who had recently enrolled acreage in CREP also shared with attendees his experiences with the program. A question-and-answer period covered diverse topics of conservation buffers, no-till farming, CREP and WRP sign-up procedures, NR151 runoff regulations and wetlands protection. Information brochures and supplies from NRCS and LCD were also available for the dinner attendees. A list of attendees was compiled for follow-up by Lake Association representatives.

Landowner Contact

The third leg of the stool of program promotion and education was direct contact with landowners and farmers. Promotion and community education are important elements of the CREP/WRP plan to communicate information about the conservation programs. However, several marketing sources recommended to the Lake Association and lake groups that one-on-one contact with the landowner was often a critical element in ensuring that appropriate information is made available. Many times more than one contact is necessary to develop the trust needed to assure a landowner that he/she has the information necessary to make a sound decision.

The Lake Association therefore decided to devote volunteer time to initiate the process of identifying specific lands that appeared to meet the criteria of the CREP and WRP programs. On May 8, 2002, Lake Association representatives attended a training meeting with Christine Javid, UW-Extension specialist, to learn information and education

strategies for marketing conservation buffers (Appendix I). Further, the Association devoted time to target eligible landowners for education about the programs.

Several methods were used to identify eligible landowners:

- Aerial photographs of certain sections near Beaver Dam Lake were obtained from NRCS. Cropped areas on the NRCS photographs were compared with wetland and topographic maps. Landowners of cropped areas near wetlands were identified by using the Dodge County Land Atlas and Plat Book
- An overlay data set of Beaver Creek was prepared by Dodge County Land Information Department. The data set comprised a 1999 digital orthophoto with two overlays: hydrography and parcel shapefile with gisPIN# for tax parcels within a 300-ft buffer of the creek (Appendix J). A tax assessment database associated with the gisPIN# was also generated with owner name and mailing address.
- A list of eligible riparian landowners along Mill Creek and other smaller tributaries was made from the plat book.

Landowner contact was made by in-person visits, telephone calls and separate mailings. Persons interested in additional information about CREP and WRP were referred to either LCD or NRCS technicians.

Results and Conclusions

Program Participants and Acreage Enrolled

CREP

As of December 31, 2004, there were 55 applications for CREP in process or already cost-shared and awarded totaling 611.1 acres for Dodge County, as reported by the LCD.

Within the Beaver Dam Lake watershed 12 applications representing 71.1 acres have been enrolled in CREP.

WRP

Sign-up for WRP within Dodge County as reported by NRCS is given on the basis of contracts awarded per year:

2001 1 contract representing 30.5 acres 2002 3 contracts representing 147 acres 2003 1 contract representing 35 acres 2004 2 contracts representing 157 acres

Total number of contracts is 7 representing 369.5 acres.

Within the Beaver Dam Lake watershed 2 contracts representing 107 acres were enrolled in WRP in 2002 and 2 contracts totaling 157 acres were enrolled in 2004.

Conclusions

The Lake Association allocated a portion of the money available through the DNR grant to provide a limited education and promotion program for CREP and WRP and establish landowner contacts, targeted within the Beaver Dam Lake watershed. The initial landowner sign-up and enrollment in CREP during 2001-2002 was disappointingly slow, and the cumulative sign-up through the end of 2004 remained at a low level within the Beaver Dam Lake watershed and for Dodge County as a whole. Landowner interest in WRP appears to be at a consistent level with acreage enrolled in the program during each of the years 2001-2004.

Reasons for the low rate of enrollment in CREP may include:

• Milk price The price of milk crashed in late 1999 and remained at historically low levels during 2000, falling below \$9 per cwt (hundredweight) for class III milk (milk for cheesemaking) in November. Prices recovered in 2001, reaching \$15 per cwt in August, only to plunge to below \$12 per cwt later in the year, just as the CREP program was initiated. Pricing fell to around \$10 per cwt and remained depressed

during 2002 and the first half of 2003. This period coincided with the time of active CREP/WRP program promotion and landowner contact. Pricing recovered in late 2003 and climbed to record high levels of \$20 per cwt in spring 2004. (Appendix K)

- Herd buyout In late 2002, as milk prices remained at depressed levels, the National Milk Producers Federation announced plans to conduct a whole-herd buyout program to reduce milk supply and thereby increase prices. The first herd buyout was fall 2003, followed by a second, larger buyout in fall 2004. Individual farmers also engaged in aggressive culling of dairy herds as a result of low milk prices and higher beef prices.
- Land needs Many dairy farmers who stayed in business during the period of low
 milk prices tried to increase revenues by increasing milk production. Increased
 production came from adding cows to the herd and larger herds require more land for
 food and forage needs and for manure spreading.
- Cash grain price Corn and soybean prices were weak in 2000-2001 and showed some improvement in 2002. Higher prices led to increased planting, which required the use of all available land. Drought conditions in 2003 also led to planting all tillable acreage, including lands adjacent to wetlands, waterways and agricultural ditches. In some cases, these lands were the most productive. In 2004, however, a very wet spring made these same lands unusable.
- Production versus conservation Some farmers/landowners have a conviction that
 all land should be used for production purposes. Setting land aside for conservation
 purposes is not an option that is even considered.

There was much uncertainty among farmers during the 2001-2003 period, especially due to the roller coaster of milk prices. Some farmers exited the dairy business as a result of low milk prices. Others sold lands to larger, consolidating commercial farms. Still other farmers wanted to hold their options open and not commit to any long-term land arrangement. And in still other cases, a few dairy farmers who had sold their herds in 2000, purchased milk cows in 2004 and got back into the business, as a result of high milk prices. The dynamic nature of the farming business kept farmers on their toes, focusing on meeting the considerable financial challenges to their business and

livelihood. Conservation programs such as CREP and WRP were, frankly, not priorities at this time.

Those landowners who saw CREP and WRP as a source of diversifying farm income looked at the programs in a positive way. Other farmers with marginally productive lands near wetlands and waterways were attracted to CREP. The wet conditions in spring 2004 also caused some farmers to investigate options to generate income from fields that were unusable. The degree of interest in the CREP program appears to be building. Indeed, at the December 20, 2004, meeting of the Dodge County Land Conservation Committee, the USDA FSA director for Dodge County "… reported that interest in CREP has also picked up recently."

It would be difficult, if not impossible, to trace any of the program sign-ups and enrollments directly to specific education efforts by the Lake Association. Public education activities such as the CREP and WRP programs involve many diverse sources of information and public contacts. And, the process by which a landowner evaluates the information and decides to apply for one of the conservation programs can be a long, twisting path. Nevertheless, the Lake Association believes that the efforts supported by the DNR grant were important in educating the public about the advantages of CREP and WRP and encouraging landowners to investigate the programs. It is hoped that these efforts will result in continued interest and participation in CREP and WRP in future years.

The Lake Association's ability to pursue program and landowner-contact activities depended on volunteer efforts. In 2003 volunteer hours for the CREP program became limited due to other association commitments. Therefore, the Lake Association decided in 2004 to end direct activities under the DNR grant.

References

In addition to references cited within the text, the following sources were used in preparation of this report.

<u>CWT Herd Retirement Program</u>. National Milk Producers Federation, Arlington, VA http://www.nmpf.org

<u>Dairy Market Statistics – Annual Summary</u>, 2001-2003. USDA Agricultural Marketing Service, Washington, DC http://www.ams.usda.gov/dairy/mncs/index.htm [Source of graphs of class III milk price at 3.5% test given in Appendix K]

<u>Status of Wisconsin Agriculture</u>, 2001-2005. Department of Agricultural and Applied Economics, University of Wisconsin-Madison http://www.aae.wisc.edu/www/pub/status/