MRBI Big Bureau Creek Targeted Subwatershed Project: Producer Communication & Outreach Program

Final Report

Project Period 10/1/2010-9/30/2012

bRCS /LD

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EXECUTIVE SUMMARY

With the leadership of the "Friends of the Big Bureau Creek Watershed," a coalition of cooperative conservation partners, and a Mississippi River Basin Healthy Watersheds Initiative (MRBI) award, local producers in three targeted subwatersheds of the Big Bureau Creek Watershed have taken steps to improve soil and water quality by implementing conservation practices that capture, avoid, and trap excessive nutrient runoff and reduce soil erosion. This Conservation Innovation Grant (CIG) supported a comprehensive outreach and education effort centered on producers within the three subwatersheds to promote the health and protection of watershed resources. The Wetlands Initiative (TWI) and its two partners focused on four project objectives: broadening the partnership to build an outreach network; identifying specific barriers to producers' willingness to adopt conservation practices; evaluating the effectiveness of outreach and education efforts; and demonstrating water quality improvement through tiered monitoring. Despite being a new outreach and education effort in the watershed, the project was successful, not only producing a significant increase in the number of signups and contracts for an area with historically low enrollment in government conservation programs, but positioning the idea of conservation practices throughout the Big Bureau Creek Watershed.

A broader cooperative effort was necessary to address watershed natural resource concerns (*i.e*., water quality in terms of excessive nutrients, soil erosion, and suspended sediment) and support the objectives of the MRBI program. The "Friends of the Big Bureau Creek Watershed" was formed by identifying and enlisting local stakeholders, organizations, and education providers to build an outreach network that can leverage financial and technical resources to provide information on the MRBI-promoted conservation practices to farmers within the Upper Big Bureau Creek, East Bureau Creek, and Pike Creek targeted subwatersheds. It was recognized that the direct connection to local farmers needs to be further expanded upon. With the "Friends" now firmly established in the watershed, we are working to further engage several local agribusinesses and certified crop advisors (CCAs). These are entities that are working directly with farmers to advise them on the agronomic practices needed for economically and environmentally sustainable agricultural operations.

Through both 1-on-1 interviews, group interviews, and participant surveys, CIG project partners have a better understanding of the local farmer's perspective in regards to natural resource concerns and conservation programs and practices. Factors affecting farmer willingness to adopt conservation practices included: beliefs that they have already addressed resource concerns, uncertainty on the appropriate practice or system of practices, uncertainty on the impact the practice will have, and unwillingness to participate in government programs. While producers were to some extent influenced by social factors (e.g., commitment to stewardship, status in community, etc.), it was the economics that ultimately played a key role in practice implementation. If the economic and agronomic benefits associated with practices are promoted, then there may be a better chance for implementation. The effort to promote conservation was tailored to reflect the known attitudes and concerns of the watershed.

The "Friends of the Big Bureau Creek Watershed" (FBBCW) performed a number of outreach and communication activities. Since there are over 400 landowners with the three subwatersheds, a combination of a broad messaging campaign (direct mailings, newspaper ads and articles, etc.) with direct personal communications (i.e., meetings, workshop/field tour, and 1-on-1 outreach) was utilized to increase awareness of watershed natural resource concerns, to explain government programs, and to provide information on conservation practices. The outreach methods were periodically evaluated to determine if they were effective. The regular evaluation allowed for these obstacles to be recognized and the ineffective components or approaches to be adjusted, altered, or eliminated.

After the first two years of this outreach effort, several obstacles became apparent that were preventing the most effective contact and engagement of producers. Difficulties included the perceptions about the need for conservation practices, the identity of the coalition, effectiveness of reaching and engaging landowners, landowner follow-up after initial contact, and managing expectations for enrollment. On the other hand, the pieces of the program that were working were further supported or enhanced. Ultimately, evolution of the outreach program allowed for success with a significant increase in sign-ups throughout the entire watershed and contracts for the MRBI-supported practices in the targeted subwatersheds.

The most effective communication route to the farmers was the 1-on-1 outreach. However, it takes time to establish a presence in a watershed and develop positive relationships with farmers and landowners. Increasing enrollment in the MRBI conservation practices by 25 producers in an area with low enrollment was an ambitious goal for a 2-year grant period. However, the foundation of the outreach program now has been established and future efforts will build upon it. Recognizing that the adoption of practices requires an active sales-pitch approach, a slightly different approach will be used for future 1-on-1 outreach. It is critical that the outreach worker has hands-on experience with conservation and farming

practices, has good salesperson skills, and feels strongly compelled to sell the practices for both economic and environmental benefits. The engagement of local agribusiness, technical service providers, and CCAs may help us fill this role. In addition, the adoption of practices will be greatly enhanced by the successful early adopters or "champions" who are willing to share the success stories with their peers. In a large focus area, peer-to-peer communication is an important link that the outreach program needs to cultivate by recognizing and promoting the willing "champions."

The significant increase in the number of call-ins, sign-ups, and contracts over two years within not only the targeted subwatersheds but in the county indicates the level of success that the outreach program has achieved. In FY12, there were 8 Environmental Quality Incentives Program (EQIP) contracts and one Conservation Stewardship Program (CSP) contract awarded in the 3 MRBI subwatersheds. The 8 EQIP contracts included 5 for grassed waterways and associated water control structures and 3 for cover crops. All the EQIP money under the MRBI program was allocated in FY12. The one CSP contract was for 520 acres of cover crops. Achieving 9 signups is a significant success for a fledgling outreach program in an area that historically has a low interest in government conservation programs relative to other areas.

Support for the MRBI award included water quality monitoring for the purposes of detecting any changes to nutrient and sediment loads in treatment watersheds as a result of implementation. Monitoring efforts focused on Tier 2, or subwatershed monitoring. Water quality monitoring stations for Tier 2 were placed at the outlet of each target subwatershed. To establish baseline conditions, monthly water quality sampling was conducted by Northwater Consulting and the Illinois Environmental Protection Agency (IEPA). In addition, the U.S. Geological Survey installed a nitrogen sensor at one in-stream monitoring station. Due to recent drought conditions, a sufficient range of water quality and stream flow data has not been collected during the grant period to establish a general baseline for which to measure the success of future MRBI practice implementation at the Tier 2 level. However, project partners will continue to engage in monitoring activities over the next two years through another funding mechanism and will attempt to gain the additional data needed. Due to project and budget constraints Tier 1 (edge-of-field monitoring) and Tier 3 (basin wide monitoring) was not conducted.

No matter how rigorous the water quality monitoring, it will be impossible to detect any changes in the water quality if the right practices are not implemented in the right locations in sufficient quantities. Despite a CIG project partner having signed a project agreement with NRCS as the MRBI project sponsor, NRCS was not able to provide producer contact information, location of existing practices, or signed contracts during the grant period due to the federal Privacy Act. This inability to share information with MRBI-CCPI project partners severely hampered our ability to effectively and efficiently utilize partner resources and provide technical and outreach assistance to our local NRCS offices. Without a current map identifying which parcels are enrolled in USDA practices and programs in conjunction with known resource concern areas, it was difficult for the partners to determine which landowners to approach during our 1-on-1 outreach effort and which specific practices to promote.

This NRCS Conservation Innovation Grant and match funding by the McKnight Foundation has allowed TWI, its project partners, and the FBBCW to develop an outreach and education program that supports the long-term sustainability of agricultural lands and addresses local natural resource concerns. Over the next two years, the coalition will continue to work with producers on the implementation of the MRBI-promoted practices (e.g., cover crops, conservation tillage, nutrient management plans, riparian buffer, wetlands, etc.) that not only work best in the context of their agricultural operation but effectively address the resource concerns.

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PROJECT PURPOSE

The purpose of this Conservation Innovation Grant (CIG) was to provide outreach and education to producers within three targeted subwatersheds of the Big Bureau Creek Watershed in north-central Illinois to promote the health and protection of watershed resources. The purpose was accomplished through the development of a communication and outreach strategy that engaged producers within these subwatersheds and provided information and technical assistance for the implementation of conservation practices, supported under the USDA's Mississippi River Basin Healthy Watersheds Initiative - Cooperative Conservation Partnership Initiative (MRBI-CCPI). During the two-year grant period, the Wetlands Initiative (TWI) and its two partners, the American Corn Growers Association (now renamed the American Corn Growers Institute for Public Policy) and Northwater Consulting, focused on four project objectives:

1. broadening the partnership to build an outreach network;
2. identifying specific barriers to producers' willingness to adopt conservation practices;
3. evaluating the effectiveness of outreach and education efforts; and
4. demonstrating water quality improvement through effective, tiered monitoring.

A number of tasks associated with each of the project objectives were achieved during the grant period. The activities performed, significant task results, potential for transferability of results, and lessons learned related to each objective are described in the following "Project Objectives" section. Future MRBI-related outreach activities, which were developed based on the accomplished tasks and subsequent lessons learned, are outlined within the conclusion section.

PROJECT OBJECTIVES

1. BUILDING AN OUTREACH NETWORK

A. DEVELOPMENT OF THE NETWORK

It was recognized early that a broader cooperative effort was necessary to address the natural resource concerns (*i.e.*, water quality in terms of excessive nutrients, soil erosion, and suspended sediment) within the watershed and support the objectives of the MRBI program. The first objective of **building an outreach network** was achieved with the development of the "Friends of the Big Bureau Creek Watershed." This partnership of not-for-profits, consulting engineering companies, government agencies, and local landowners and operators has created a larger workforce, expanding NRCS' outreach and technical assistance efforts within the watershed. Prior to the formation of the "Friends of the Big Bureau Creek Watershed" (FBBCW), no partnerships had actively been sought between potential stakeholders (e.g., agricultural associations, conservation groups, technical service providers, etc.) within the watershed. This coalition was formed by identifying and enlisting local stakeholders, organizations, and education providers to build an outreach network that can leverage financial and technical resources to provide personal experience and/or technical information to landowners or producers on MRBI promoted conservation practices.

This coalition initially is serving as a communication network to increase public awareness of local natural resource concerns and the conservation practices that address these natural resource issues in the context of sustainable and profitable agricultural operations. Through this integrated partnership of diverse organizations, local natural resource concerns are being addressed through concise and non-conflicting messaging and a coordinated, multiple-level outreach effort (e.g., mailings, workshops, press releases, and 1-on-1 outreach).

Thirteen coalition members attended a coalition planning meeting on September 13, 2011, in Princeton, Illinois. Information and results from partners' past conservation experiences or outreach efforts were shared freely, and new ideas for engagement, promotion, and partnering were developed. A number of immediate actions were agreed upon and specific partner tasks were developed. TWI is facilitating communication by hosting the coalition's website, which is to serve as the central hub for MRBI and partner information and communications (www.wetlands-initiative.org/friendsofbbc).

B. ACTIVITIES PERFORMED BY THE NETWORK

The "Friends of the Big Bureau Creek Watershed" performed a number of outreach and communication activities to promote the Conservation Stewardship Program (CSP) and Environmental Quality Incentives Program (EQIP) conservation practices being supported under a 2011 MRBI-CCPI award. The Big Bureau Creek Targeted Subwatershed MRBI focuses on three HUC-12 subwatersheds (Upper Big Bureau Creek, East Bureau Creek, and Pike Creek) (Figure 1-1). These outreach and education efforts are described in detail here. The water quality monitoring effort associated with the MRBI-CCPI award is described under Project Objective 4.

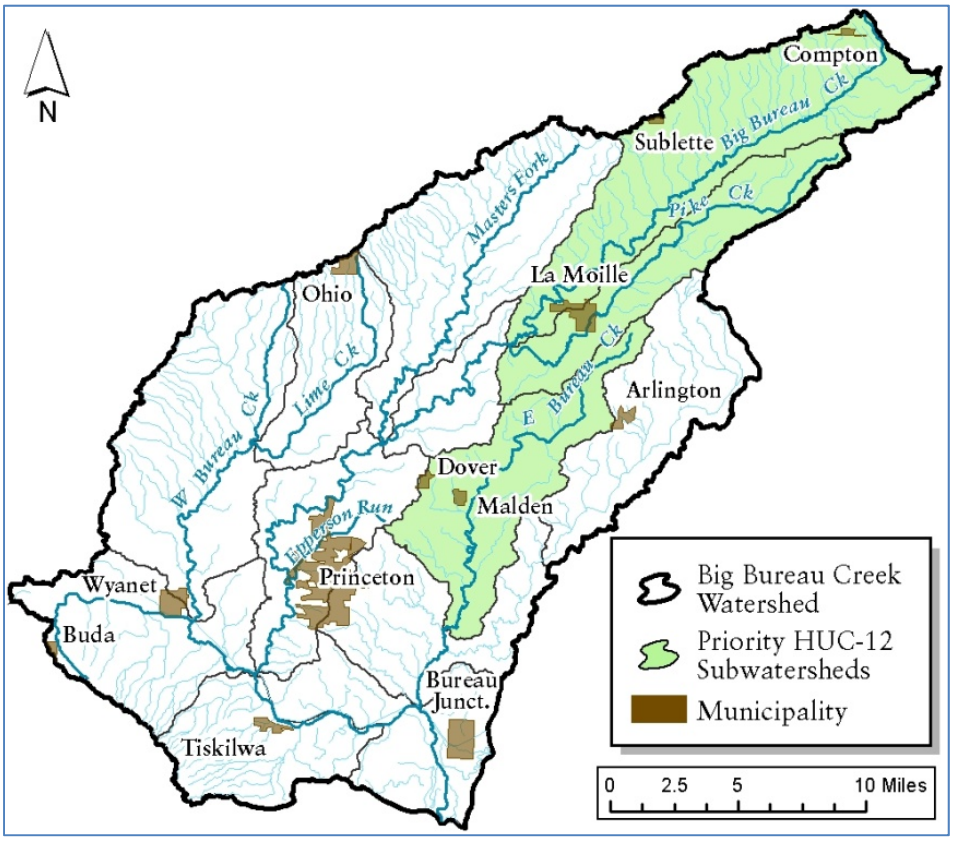


Figure 1-1. Map of Big Bureau Creek Watershed with the three MRBI subwatersheds, where the outreach and communication activities were focused, highlighted in green.

1. SEMI-MONTHLY CONFERENCE CALLS

Prairie Rivers Network hosted scheduled semi-monthly conference calls after the initial planning meeting for network members and outreach workers as a means of keeping everyone informed, engaged, motivated, and coordinated on outreach activities. Participants were encouraged to discuss and exchange ideas on the current activities, communication successes and failures, outreach strategies, potential practice implementation opportunities, and water quality monitoring.

2. LAND STEWARDSHIP WORKSHOP

In January and February, the coalition members focused their efforts on the development, organization, and implementation of a half-day workshop on March 2, 2012, for local producers. While the main objective of the "2012 Economics of Land Stewardship & Nutrient Management Workshop" was to provide farmers and landowners with information and tools for increasing agricultural and environmental performance on their land, it provided an opportunity to show the direct partnership between the FBBCW and NRCS and to bring name recognition to the FBBCW and its members, many of whom were workshop sponsors along with TWI.

This was the first agricultural-conservation workshop ever held in the watershed. Land stewardship, versus voluntary conservation practices, was the theme of the workshop as the network felt that this term resonates deeper with the agricultural community. Farmers work directly with the environment and strive to be responsible stewards of land and water resources, as their livelihood depends on healthy soils and water. Farmers are typically not willing to adopt conservation practices that reduce profits or impede production, both in terms of the return on the practice cost and the effect on normal operation activities (Hoag et al., 2012). Therefore, the goal of the workshop was to focus on the economic aspect of practices and land use. We wanted to demonstrate that these practices make sense financially as well as environmentally within an agricultural operation. A well-known agricultural columnist was hired to serve as moderator.

The local NRCS offices assisted with a direct mailing that contained a letter, workshop flyer, and the EQIP and CSP information fact sheets by providing address labels for the 464 landowners within the 3 targeted subwatersheds. While the mailing was only to the landowners within the MRBI subwatersheds, the workshop was open to anyone within the Big Bureau Creek Watershed. In addition to the direct mailing, flyers were posted at local NRCS/SWCD offices, an announcement was posted on electronic calendars or emailed to memberships of various agricultural groups, a news release was developed and published by a number of local papers, and a radio ad was developed and broadcast on the local station.

The workshop served a number of purposes, including increasing the awareness of watershed natural resource concerns, introducing the Illinois MRBI awarded programs, providing basic program and practice information, sharing local farmer testimonials about implementing the promoted practices, and creating a sense of NRCS and FBBCW commitment to providing the agricultural community with technical assistance. The goal was to keep the workshop design simple and focused. Information and education on a few topics was deemed better than a complex structure that could potentially dilute the message with too many topics and too much information.

The FBBCW worked together with significant input from the local watershed group to determine the topics that would be of most interest to the community. These topics included financial planning, nutrient/water quality issues, ecosystem markets, nutrient management, strip-till, cover crops, and the CSP. TWI and CIG project partners planned and organized the workshop based on these suggestions. The agenda and speaker information can be found in Appendix A. We paired three of the talks with local farmers who were implementing the specific practice (e.g., cover crop and conservation tillage) or program (e.g., Conservation Stewardship Program) in order to provide a local peer voice in support of the practice and to share their on-the-ground experiences. There were 44 people in attendance, including four area NRCS staff (See Figure 1-2). FBBCW received positive feedback from both the participants and speakers about the workshop organization, content, and attendance, given it was the first workshop of this type held the watershed.

(V. Leopold, TWI)

(F. Wohlgezogen, NU)

(F. Wohlgezogen, NU)

Figure 1-2. Photographs from 2012 Economics of Land Stewardship & Nutrient Management Workshop.

3. CONSERVATION FIELD DAY

Feedback from the workshop and from coalition members suggested that local producers would be interested in seeing on-the-ground demonstrations of the various conservation practices being promoted. A conservation field tour was conducted on August 7, 2012. There were four stops on the half-day tour. The tour stops included a local fertilizer and seed company discussing nutrient management and application techniques, a local grazer with a cover crop specialist discussing the implementation of cover crops on grazing and row crop lands, and two local land managers who discussed their personal

experience with enrolling in conservation programs and showed how they implemented a number of practices (e.g., wetlands, riparian buffers, field borders, etc.) (See Figure 1-3). Despite farmers expressing a need to see practices "in action" and a direct mailing to over 400 producers, press articles, and radio announcement, there was surprisingly low attendance in comparison to the workshop. However, those farmers who attended found it to be very informative.

(J .Kostel, TWI) *(J .Kostel, TWI)* *(J .Kostel, TWI)*

Figure 1-3. Photographs from 2012 Conservation Field Tour.

4. WOMEN'S CIRCLE

Recognizing that women are a growing segment of agricultural landowners that historically has been underserved and has traditionally low enrollment in USDA programs, a *Women Caring for the Land* meeting was held on August 27, 2012, at the Bureau County Metro Center, Princeton, IL. This was one of two "Women's Circle" meetings held in Illinois. It was hosted by American Farmland Trust, Prairie Rivers Network, and the Women, Food and Agricultural Network (WFAN), who developed this women outreach program. The program offers a peer-to-peer, informal discussion where women can talk about their operations and land stewardship goals.

The workshop was advertised through an NRCS press release that was printed in several local papers, electronic newsletters, and direct invitations (via the NRCS landowner database) to women who own or manage farmland in Bureau, Lee, and LaSalle counties. There were 22 participants including professional staff from NRCS and the FBBCW. The workshop included a morning "women-only" discussion about current land stewardship practices, sustainability in leases, USDA cost-share programs and practices, and the MRBI program. The women were provided with hard-copy information about the NRCS program and practices we are promoting, as well as new contacts should they want additional information. An optional 2-hour tour of conservation practices was held after lunch. The event was successful as it hit the target participant goal, received excellent ratings by the women who completed surveys, and motivated two of the participants to discuss conservation practices with the outreach workers and NRCS in more detail.

(S. James, PRN) *(S. James, PRN)*

Figure 1-4. Photographs from 2012 Women Caring for the Land meeting.

C. NETWORK RECRUITMENT

Currently, the FBBCW members include LaSalle County Soil and Water Conservation Group, Lee County Soil and Water Conservation Group, American Corn Growers Institute for Public Policy, Big Bureau Creek Watershed Group, Illinois Environmental Protection Agency, Illinois Stewardship Alliance, Mauer Stutz, Inc., Northwater Consulting, Pheasants Forever, Prairie Rivers Network, The Wetlands Initiative, Trees Forever, U.S. Geological Survey, and the NRCS.

While the members have a vast array of technical knowledge, the direct connection to local farmers needs to be further reinforced. According to the workshop survey (See SIDMA Survey), the most trusted sources of information are Soil & Water Conservation Districts (SWCD), University Extension, crop consultants or advisors, and NRCS. To increase the success of the outreach program, these entities need to be engaged in the effort. However, the effectiveness of SWCDs, extension, and NRCS to deliver education is declining due to reduced budgets, staff, and focus on farmer education. SWCDs are typically a well-connected partner, but many districts such as Bureau County are not active participants, as they do not have the staff resources to participate in an outreach effort.

Farmers may be more likely to listen to someone with whom they already have a working relationship and, therefore, trust. FBBCW is currently working to engage several local agribusinesses and certified crop advisors (CCAs) into the network. These entities are working directly with farmers to advise them on the agronomic practices needed to produce economically and environmentally sound crops or livestock. These partnerships would strengthen our existing network of financial, technical, and peer support. While partnering with these entities could be mutually beneficial, we need to understand how our outreach program objectives and messaging could work hand-in-hand with the services and information they provide their clients in order to reduce the likelihood of conflicting messaging. We want to broaden our outreach base and network in the subwatersheds, but the “conservation” messaging needs to remain consistent.

D. BROADENING NETWORK INFLUENCE

In addition to broadening the network within the Big Bureau Creek Watershed, TWI and its partners have been actively involved in expanding our external information network by participating in invitation-only workshops and meetings focused on voluntary conservation practices (See Appendix B). The attendance and participation at these events has been approved as meeting the objective of attending at least one NRCS CIG showcase or comparable NRCS event during the period of the agreement.

2. IDENTIFICATION OF BARRIERS TO PRACTICE ADOPTION

With the assistance of a Northwestern University Kellogg School of Management doctoral candidate specializing in relationship and alliance building, the CIG project partners worked to build relationships with key watershed stakeholders, to develop appropriate communication language, and to determine appropriate communication methods. Through both 1-on-1 interviews and group interviews, project partners continued to learn about farmer attitudes and perceptions, as well as to **identify the barriers and concerns that prohibit conservation practice adoption and implementation**. The initial identified factors affecting farmer willingness are:

1. beliefs that they are addressing issues already and there are no external (downstream) effects;
2. uncertainty as to which practices are most appropriate for his/her farm operation;
3. uncertainty on the positive impact his/her conservation actions can have on natural resource concerns;
4. concern about the potential negative impact to both his/her farm operation as well as neighboring farms;
5. impatience with the enrollment and payment process;
6. frustration with the inflexibility of the practice standards to meet his/her operation needs;
7. fear that implementation of practices and monitoring will lead to water quality regulations; and
8. unwillingness to accept government money, as it is perceived as an intrusion on their private business.

The first four factors can be addressed through the 1-on-1 outreach discussion with the landowner and/or farmer about his or her current conservation efforts, additional conservation needs, and concerns. Factors 5 and 6 can be addressed through the technical support offered by coalition members and outreach workers. By working with farmers continuously throughout the sign-up and enrollment process, these frustrations may be eased. The fear of regulation is a constant theme in regards to conservation or best management practices, and project partners emphasized that practice implementation is

voluntary and any associated water quality monitoring is to demonstrate the effectiveness of the practice in the context of the watershed. Water quality data are not linked or associated to an individual producer. While the last factor (unwillingness to accept government money) does not preclude farmers from implementing practices, it does require providing the farmer with information on why practices are important to his or her operation as well as the health of the watershed. With the appropriate information, the farmer may decide to adopt a practice on his or her own without government financial assistance.

As local NRCS staff reviewed program enrollment and practice implementation step-by-step with project partners, they identified several barriers to implementation from their perspective. These implementation barriers include:

- landowners not being eligible for programs, due to not having conservation plans already;
- long time lags between initial meeting and paperwork completion by landowner; and
- improper use of materials or implementation of practice, causing delays in receiving payment.

These insights shaped the structure of the outreach effort and tasks of the outreach workers. The outreach workers and technical assistance partners could work with farmers to determine eligibility, type of eligibility (e.g., historically underserved individual), and conservation plan status. There was a hurdle, however, to assisting landowners and/or farmers to overcome the second and third implementation barriers. The intention was for technical partners and the outreach workers to act as a liaison between the landowner and NRCS throughout the process; however, NRCS was restricted by the Privacy Act in sharing with us who had called or visited the office in regards to practices and where they were in the process. The signing of a Section 1619 data sharing agreement should provide a solution to this hurdle. In order to overcome these implementation barriers and fully utilize the coalition's leverage in support of the MRBI project, the communication between project partners and NRCS needs to be improved and made more consistent without increasing the workload to NRCS.

A. VIEWS ON LAND STEWARDSHIP

The workshop held on March 2, 2012, provided us the opportunity through a 10-minute brainstorming session and custom designed survey to further explore farmer attitudes towards conservation and barriers that prohibit practice adoption with workshop participants. The purpose of the brainstorming was to engage the audience early in the workshop on the topics being presented, set the format for active participation and information exchange, and gather additional insight on their views about land stewardship. Project partners felt that the term "land stewardship" resonates deeper with the agricultural community than "conservation practices" as the livelihood of a farmer depends on the land. Therefore, they inherently strive to be responsible stewards of their land and water resources .The management of their land and water resources for agricultural productivity goes hand-in-hand with conservation practices. Awareness and attitudes toward stewardship and the environment are consistently associated with practice adoption (Osmond et al., 2012).

The three questions presented to the participants during the brainstorming session were:

1. What does the term "land stewardship" mean to you? How do you define it?
2. What do you feel are the most pressing issues affecting land stewardship?
3. What keeps you from taking additional steps to improve your land stewardship?

The general consensus was that land stewardship means actively taking care of the land through a management plan with long-term vision to ensure long-term productivity or maximizing production of food, fiber, and fuel under the highest economic, environmental, and humanitarian standards possible. In addition, the participants agreed that since the land is how they make a living, they need to use as many acres as possible to earn money and that this affects land stewardship. The current high commodity prices are keeping them from taking additional steps to improve land stewardship, and many practices are perceived as additional expenses to an operation with no chance of the farmer making a return on the investment.

Based on this discussion, individuals are influenced by social factors (e.g., commitment to stewardship, status in community, etc.), but it is the economics that ultimately play a key role in practice implementation. In anticipation of this response, the workshop was designed to focus on the economics of land use and selected conservation programs and practices versus the environmental benefits of the practices. The speakers at the workshop emphasized the increased yields, profits, and ease of management of specific practices.

Given that economic returns (e.g., higher yields, lower fuel costs, lower labor efforts, etc.) are the biggest determinant to practice adoption, then it will be necessary in future outreach efforts to continue to emphasize the connection between conservation practices and potential economic or production benefits to a farm operation. Information sheets with economic data and agronomic benefits developed by coalition members and NRCS may be a tool that can assist farmers in making decisions about whether or not to incorporate a practice into their operation.

B. SIDMA SURVEY

The custom outreach survey was adapted from the Social Indicators Data Management and Analysis Tool (SIDMA) (http://35.8.121.111/si/Home.aspx and http://greatlakeswater.uwex.edu/social-indicators)(See Appendix C). This tool organizes, analyzes, and visualizes social indicators (awareness, attitudes, constraints) related to nonpoint source management efforts to determine baseline and progress towards targeted behavioral change. The purpose of the survey is to identify or confirm what factors are preventing implementation of conservation practices.

As expected, the limitation of the survey is that our outreach efforts will not be able to reach every landowner in the watershed, so awareness and attitudes can only be measured in a small subset. In the case of the workshop pool, 14 respondents answered the majority of the questions. One respondent only completed two out of the four pages. In addition, the survey results may not be representative of the general population, because attendees of a workshop focusing on land stewardship are more likely to be landowners with greater awareness/receptivity to conservation practices (i.e., "innovators" and "early adopters" of practices). However, some insights can be gained even from a small subset.

Detailed survey results can be found in Appendix C, but in summary the major findings are:

- The respondents **"agreed" with the water quality issues** and their role in regards to water quality presented in the survey. The mean score was 3.96 on a scale of 1 (less positive) to 5 (more positive).
- The respondents' **awareness was above average** in regards to the listed practices to improve water quality. On the scale of 1 (less aware) to 2 (more aware), the mean score was 1.68.
- The behavior indicator illustrates that **36% of the respondents are currently implementing** one or more of the specified conservation practices.
- In general, the audience **feels "less constrained" in regards to making decisions for his/her property** (i.e., constraints to behavior change). The mean was 2.44 on a scale of 1 (more constrained) to 4 (less constrained).
- Issues that result in the greatest limitations to change (or present the most constraints) are the requirements or restrictions of government programs, the need to see a demonstration of the practice, and insufficient proof of the water quality benefits.
- Not surprisingly, the **trusted sources of information** about soil and water quality are SWCD, University Extension, Crop Consultants, and NRCS. These are sources that we need to engage further for MRBI outreach. In addition, "Friends/Other Landowners" are considered moderately trusted sources; we have already recognized the importance of peer-to-peer communication and incorporated it into our "networking" approach to outreach.
- The **overall willingness to try the practices presented at the workshop** (cover crops, tillage practices, nutrient management, CSP, and wetlands) was 2.31 on a scale of 1 (no) to 4 (yes).

3. EFFECTIVENESS OF OUTREACH EFFORT

In order to develop a high density of producers implementing practices, the outreach program focused on the three MRBI subwatersheds (Upper Bureau, East Bureau, and Pike Creek) within the Big Bureau Creek Watershed. The communication program was designed to be a "farmer-led" approach. Willing producers could take an active role in the process and provide critical feedback, and the project partners and "Friends" coalition would provide the level of educational and technical support that is needed and desired by each producer.

The strategy developed utilizes multiple methods to contact and communicate with farmers, in order to increase the likelihood of success. Outreach education activities used by the coalition to encourage conservation practice adoption included:

- Fact sheets
- Press releases
- Field day
- Group meetings, such as Pheasants Forever chapter meetings
- Informational meetings with presentations
- 1-on-1 interaction with producers

A. OUTREACH TASKS

A number of outreach tasks were accomplished during the grant period. These tasks were evaluated throughout the initial 2-year outreach effort and modified based on effectiveness and feedback.

1. DEVELOPED CONTENT AND PROCESS FOR OUTREACH ACTIVITIES FOR TARGET AUDIENCE

The objective of the communication materials was to provide comprehensive information that is easy to understand, up-to-date on the practices, and applicable to the potential needs and concerns of the producers. Existing literature on outreach efforts and published materials on conservation practices and programs were reviewed to serve as a starting point in the development of the messages and written materials. The content was carefully developed in collaboration with NRCS to ensure a consistent message was being presented between new materials and published NRCS materials. See next section for detailed description of materials developed.

The process was to provide information to producers in stages to introduce them to the outreach effort, stimulate their interest in the effort, allow for 1-on-1 meetings, and gain their trust in the program in order to work collaboratively to implement practices. A schedule of activities was planned based on feedback from local NRCS staff and farmers to account for program enrollment deadlines and farmer availability based on their typical planting and harvesting field schedules. Local NRCS staff have expressed a keen interest and demonstrated a willingness to support and participate in this effort; however, limited staff resources, as well as limited access to farmer contact and enrollment information (due to Privacy Act restrictions) have delayed aspects of the communication plan as originally scheduled. Consequently, project partners have adjusted their outreach plans to better take into consideration the availability of NRCS staff.

After the first more general 1-on-1 outreach effort to farmers within the 3 subwatersheds, the process was shifted to focus on a “cluster” of farmers. We hoped the network would expand in a “snowball effect” as each farmer then in turn introduces the messenger to his/her neighbors and friends or becomes the messenger about the practices he/she is now implementing. Through this method, the initial number of individuals to engage was much more reasonable. By concentrating the EQIP practices in specific areas or corridors, there may be a faster spread of practice adoption through peer-to-peer communication.

Implementation takes significant time and effort in order to build trust between parties. While these targeted 1-on-1 contacts produced sign-ups and actual contracts, multiple conversations were needed with the same producer over a period of months before anything significant occurred. In addition, farmers needed time to consider implementing conservation practices as it may require a change to their current operation. In addition, planting or harvest season often interrupted the 1-on-1 conversations, so follow-up was critical to keep the farmers engaged in the consideration and sign-up process.

2. PRODUCER IDENTIFICATION

Given that outreach and implementation takes time and money, it helps to pre-identify areas that are major contributors to water quality impairments, as well as the farmers and landowners who are early adopters of practices. One project action was to identify the historically underserved groups and individuals in the subwatersheds in order to engage these producers, as traditionally they have a lower enrollment in USDA programs. A second project action was to identify those farmers or landowners with existing practices, as they may be eligible for the Conservation Stewardship Program. The last project action was to identify those lands that could provide maximum environmental and water quality benefits by implementing MRBI supported practices. This action was meant to prioritize outreach efforts to these areas, not to imply that these lands were being improperly managed.

Despite a CIG project partner having signed a project agreement with NRCS as the MRBI project sponsor, NRCS was not able to provide producer contact information, location of existing practices, etc. due to the federal Privacy Act. This inability to share information with MRBI-CCPI project partners severely hampered our ability to effectively and efficiently utilize partner resources and provide technical and outreach assistance to our local NRCS offices. The initial areas to implement EQIP practices were targeted based on the data and maps within the Big Bureau Creek Inventory & Evaluation Report; however, this report is out-of-date, as it was produced over 6 years ago, and was limited to the main stem of Big Bureau Creek. Without a current map identifying which parcels are enrolled in USDA practices and programs in conjunction with impairment areas, it was difficult for the partners to determine which landowners to approach during our 1-on-1 outreach effort.

In addition, having access to producer and landowner contact information within the MRBI watersheds is essential to ensure accurate contact with the farmers during mailings and 1-on-1 outreach. Specifically, having the names and contact information for parcels or areas that we identify as potential program or practice implementation areas is critical. Knowing who to contact for a parcel is key to efficient outreach, particularly over a large area, as our past experience has shown us that farm directories and plat books do not provide the appropriate information. From previous reports and meetings, the partners have developed lists of names of those interested in conservation, but this contact information is typically incomplete.

Since access to needed data was not part of the signed MRBI agreement, it was recommended by the Acting State Conservationist of Illinois during a 1-on-1 meeting to send a letter to NRCS requesting access to the necessary data under a separate agreement. A letter was written by TWI and sent by the MRBI project sponsor on April 17, 2012 (See Appendix D). As a result, the Area State Conservationist has worked with project partners to enter into a Section 1619 agreement that would provide the signee limited access to the requested information. All specific information about practice locations or contracts will only be used for watershed modeling and to help the outreach partners determine where to concentrate outreach efforts and who to contact about what program or practices. We are interested in only illustrating to the local farmers where in general the EQIP, WRP, CRP/CREP, CSP practices are located in the watershed, not identifying the specific landowners. This is similar to what is typically presented in watershed plans. In addition, this agreement will allow the project partners to obtain information from NRCS on who has called about practices or programs, which would allow outreach workers to directly track or follow-up with producers that they initially contacted.

Delays by the project sponsor in signing and returning the appropriate paperwork have prevented TWI and Northwater Consulting from obtaining the practice type and location information needed to map existing and current practices and to determine by a watershed load reduction model both the baseline and the water quality benefits from the newly implemented practices. The MRBI project sponsorship may be changing. If so, the future sponsor will complete the necessary paperwork, and the load reduction model will be completed and utilized to guide future outreach efforts.

The results of the model will assist project partners in identifying the most vulnerable area based on land use, soils, and existing practice implementation and in determining the type and level of practice implementation needed to make a significant change in water quality resource concerns. While farmers and landowners ultimately make the decision on which practices are the most appropriate for their operation, these farmer-selected practices may be insufficient to address the natural resource concerns. Providing them with specific maps and data on how certain practices can address concerns in the context of their operation and existing practices may assist them in their decision-making process.

3. DEVELOPED INFORMATIONAL LETTERS/MATERIALS PROVIDED TO PRODUCERS

A number of outreach materials were developed and distributed either through mailings, press releases, or as handouts during informational meetings/workshops during the grant period (See Appendix E). A summary of these items is provided in Table 3-1. Direct mailings went to all 464 landowners within the 3 MRBI targeted subwatersheds (Upper Big Bureau Creek, Pike Creek and East Bureau Creek).

Several obstacles prevented project partners from effectively contacting and engaging producers as part of the 1-on-1 outreach (discussed in further detail in Section 5). One major obstacle was that the partners felt that the landowner did not trust the local outreach worker or his motivations because he or she did not personally know him or the FBBCW coalition he was representing. The messengers did not have “legitimacy” to the farmers when calling to promote these practices (e.g., who they are, why they are calling, why they are promoting conservation, etc.).

Consequently, the partners determined that a letter from the local NRCS offices was needed, stating that the Friends of the Big Bureau Creek Watershed and outreach workers are promoting conservation practices on behalf of the NRCS. NRCS staff agreed to provide this letter, which not only helped to provide legitimacy to the FBBCW, but acknowledged that NRCS was in complete support of the FBBCW outreach effort. A letterhead was developed with NRCS's logo for readers to instantly recognize that this was an NRCS-supported letter (See Figure 3-1). Since the message concerned the outreach behind the MRBI-CCPI program, it was felt that the program sponsor (Ms. Horwitz of American Corn Growers) should be the letter signee. NRCS mailed this letter in December 2011 to all the landowners and producers in the NRCS and Farm Service Agency databases for the three targeted subwatersheds (See Appendix E). There were a reported 3 MRBI-eligible sign-ups in January in response to this particular letter.

Table 3-1. Summary of informational letters and materials provided to producers.

Purpose	Description
Introduction of FBBCW	• FBBCW press release and subsequent newspaper article on the establishment of the "Friends of the Big Bureau Creek Watershed" coalition • "Got Conservation" postcard sent to landowners within the targeted subwatersheds as an introduction to the outreach effort and pending phone call from outreach workers
Information Fact sheets	• Four "QuickGuides" to EQIP, CSP, NMP, and wetlands. These program guides, developed in collaboration with local NRCS staff, consolidated multiple NRCS documents into a single document, defined standard USDA NRCS terminology, and provided essential program and landowner eligibility information so everything would be available at producers' fingertips
MRBI award announcement	• FBBCW press release and subsequent newspaper article in local print and on-line newspapers
NRCS support letter	• Direct mailing from NRCS acknowledging the FBBCW as a conservation and outreach partner
Workshop Announcement	• FBBCW press release and subsequent newspaper article in local print and on-line newspapers • Invitation letter along with the EQIP and CSP QuickGuides to all 464 landowners within the 3 targeted subwatersheds • Workshop flyer was included in the direct mailing, posted at local NRCS/SWCD offices and community hotspots, and posted on electronic calendars and network sites • A number of NRCS program and practice flyers were available as handouts at the workshop • Advertisement broadcast over the local radio
Conservation Field Day Announcement	• FBBCW press release and subsequent newspaper article in local print and on-line newspapers • Direct mailing of conservation field day flyer • Advertisement broadcast over the local radio
Women's Circle Announcement	• NRCS developed press release and subsequent newspaper article in local print and on-line newspapers • Direct mailing of workshop flyer • A flyer describing the MRBI program was included in a folder of conservation-related materials handed out to the women participants. NRCS' *Conservation Choices: Your guide to 30 conservation and environmental farming practices* was included in the packet.

Figure 3-1. Letterhead logo developed to illustrate partnership with NRCS.

4. IDENTIFIED AND PREPARED FARM OUTREACH WORKERS TO PERFORM INITIAL OUTREACH

Research has shown that the involvement of local leaders or peers that farmers find trustworthy increases receptiveness to conservation practices. These "credible messengers" will help in building a groundswell of support to both promote specific practices based on their areas of technical expertise and ultimately to expand efforts beyond targeted areas. Two local stakeholders, including a local conservation and land manager and a retired NRCS worker, were hired to perform the 1-on-1

outreach. A third individual was hired to assist with application paperwork and tracking outreach progress and results. Prairie Rivers Network obtained additional grant funding to assist in the support of these "messengers."

Outreach workers and coordinators attended a "training session" with NRCS District Conservationists to learn about the conservation programs, eligibility requirements, and the application process, and to obtain NRCS materials to be provided to interested producers. The outreach workers' responsibilities were limited to listening to farmers' needs and concerns about conservation activities, providing technical assistance on activity plans and practice opportunities, completing application paperwork, and encouraging farmers to meet with District Conservationists and enroll in programs.

While one outreach worker worked from a developed landowner contact sheet, the other outreach worker focused on key "opinion leaders" and certified crop advisors within the watershed. These key landowners and community stakeholders were identified early in the process. The approach with these farmers and larger landowners is a longer engagement process, as it is a "soft sell" approach. This approach appears to be working, as the farm manager for a key landowner is interested in enrolling in CSP for both the land he manages as well as his own farmland. With this enrollment, this particular landowner and successful farm manager could serve as leaders to surrounding farmers. By working 1-on-1 with local certified crop advisors, we gain another trusted avenue to local landowners to discuss conservation practices.

5. CONDUCTED PRODUCER 1-ON-1 OUTREACH

After the first round of outreach calls and subsequent review with outreach workers, we have discovered that the workers, while knowledgeable in the practices, are not as comfortable in contacting landowners and promoting the practices, particularly in areas where they do not have direct connections to landowners. Having the right workers to do the local outreach is critical. Individuals must possess the qualities and techniques of a good salesperson, while understanding the community's culture and attitudes, the motivations of any particular farmer, and the technical aspects of the practices. A two-person team approach may be an alternative avenue depending on the strengths of the outreach workers.

The partners have also discovered through the outreach workers that we need to manage our expectations in regards to both enrollment numbers and timing. Building relationships, in some cases from scratch, takes a greater lead time than anticipated. Since farmer availability is limited during growing and harvest seasons, there will be many "starts and stops" with lag time between outreach visits and the enrollment steps. The outreach effort was carefully structured and focused in order to accomplish project goals within the time windows that farmers are available. Successfully engaging key "opinion leaders" in the watershed takes time and multiple meetings; while these producers have not yet enrolled, neither have they said "no" to the conservation practices.

The partners identified two early barriers in effectively contacting producers as part of the 1-on-1 outreach. First, producer contact information was more difficult to obtain than anticipated. As described earlier, while the local NRCS staff have demonstrated a strong interest and willingness to support the project partners' communication effort, they are limited by both staff resources and the federal Privacy Act in providing producer contact information or the location of farm fields with resource concerns. Local farm directories and plat books provide landowner information for each parcel; however, they do not necessarily provide the contact information of the producer actually farming the land.

The second barrier related to the initial contact methods used. Using the best available contact information, the outreach workers started the introduction phone calls with the goal of contacting 120 landowners prior to June 2011. For those farmers expressing interest in learning more about the conservation program and practices, appointments for 1-on-1 meetings with outreach workers or with NRCS staff were made. However, it became apparent after the first round of phone calls that "cold calling" and leaving messages at the listed landowner numbers was not effective. The outreach workers rarely were able to directly reach the producer and the producer did not call back.

We feel there were a number of issues at play. The callers did not have a concrete identity in who they were representing, as the "Friends of the Big Bureau Creek Watershed" at that time was an unknown entity to the public. Given that it took longer than anticipated for the MRBI-CCPI awards to be announced, outreach workers could only promote conservation practices in general, as they could not yet mention any watershed-specific MRBI funding opportunities. Once the MRBI award was announced for the three subwatersheds, it only added a layer of confusion and another acronym to the outreach message, as it was a new, unfamiliar program to the public.

Most importantly, however, the partners felt that the landowner did not trust the local outreach worker or his motivations because he or she did not personally know him. This was the second identified barrier: The messengers did not have

"legitimacy" to the farmers when calling to promote these practices (e.g., who they are, why they are calling, why they are promoting conservation, etc.). Moreover, outreach workers had low success with the producers they did reach by phone, as many of these individuals were either not interested in the government conservation programs or they were satisfied with how things currently are and saw no reason to change their operations; after all, these are producers in areas with the lowest conservation levels and highest resource concerns.

In response to these barriers, the partners developed a different strategy to engage and communicate with the farmers in the targeted subwatersheds. Instead of a broad messaging campaign of postcards and phone calls to the entire three subwatersheds, we shifted strategy to building a more personalized network. We spoke with farmers face-to-face at public functions, and we asked farmers from the watershed group or other known stakeholders that live, farm, lease land, or have clients within the subwatersheds to identify their clients, neighbors, and friends and to provide an introduction for the outreach messengers to help establish credibility.

The three subwatersheds were too large an area to achieve 100% 1-on-1 contact, as there were 464 landowners and insufficient on-the-ground resources to contact every individual. By focusing the outreach on a much smaller scale initially, we hope the network will expand in a "snowball effect" as each farmer then in turn introduces the messenger to his/her neighbors and friends. Information will still be provided to producers in stages to stimulate their interest in the effort, but now will have immediate follow-up, as the number of individuals to engage will be much more reasonable.

The second round of the 1-on-1 outreach focused on farms and/or landowners with property either directly on the Upper Bureau, Pike, and East Bureau creeks, or farms adjacent to those properties. This effort was concentrated mainly on Clarion Township, which is located in the far northeast corner of Bureau County. The farms and landowners in this specific township represent a total of 8,299 acres. Seventy-one farms represented a total of 44 landowners, 5 farms were in trust, and 7 farms were designated as being familial in nature. As a follow-up to the workshop invitation and the EQIP and CSP information fact sheets they received, direct letters introducing Pam Horwitz as an outreach worker were sent to 35 landowners in Clarion Township. Follow-up calls and messages were conducted with 10 of these individuals. Also, initial contact was made with 6 landowners who expressed an interest in being contacted as a follow-up to the workshop.

B. OUTREACH RESULTS

The overall goal of the proposed outreach program was to increase participation in MRBI core and supporting conservation practices within the targeted subwatersheds, achieving the new enrollment of at least 25 producers.

1. FY11 SIGN-UPS

A number of producers expressed interest and met with NRCS staff to discuss MRBI programs, the 33 core and supporting practices being promoted, eligibility requirements, criteria, rate payments, etc. Since the sign-up period for Fiscal Year 2011 (FY11) MRBI funding was from the date the agreement was signed (July 15th) to the state deadline (August 8th), only three applications were able to be completed and submitted (2 in Bureau County, 1 in Lee County). All three applications were for grassed waterways, a core "controlling" MRBI practice to reduce soil erosion and to protect/improve water quality.

According to NRCS staff, although there was significant producer interest in the practices, some elected to wait until the next sign-up period, as they were determining the best program practices for their operation. Additionally, a number of producers who expressed interest were located outside the three targeted subwatersheds. Given the short period during which FY11 funding was available and the anticipated lag time for producers to complete the enrollment process, we expected significantly more enrollment in 2012.

2. FY12 SIGN-UPS

According to NRCS staff, there has been a significant increase in calls and signups over the last year for the entire Big Bureau Creek Watershed, which correlates to the increase in our outreach work to raise awareness of the need for conservation practices within the watershed. Since the start of the MRBI-CCPI award, the three Field Offices have received approximately 30 calls related to CSP and 44 related to EQIP practices. In FY12, NRCS received many more applications than in the previous year. By April, the Princeton Field Office had 68 EQIP sign-ups (some new, some rolled over from 2011), whereas the previous year (FY 2011) they had 25 EQIP sign-ups. The increased interest is likely attributable to the increased outreach efforts, which coincided well with a time of profitable farming.

In FY11, which includes a period of 2010 prior to the start of the project, there were 16 EQIP contracts awarded in the three counties (Bureau, LaSalle, and Lee) combined. In FY12, there were 8 EQIP contracts awarded in just the 3 MRBI subwatersheds alone, which make up less than 10% of the total area of the counties. These 8 EQIP contracts included 5 for grassed waterways and associated water control structures and 3 for cover crops (Table 3.2). All the EQIP money under the MRBI program was allocated in FY12. In addition, there was 1 CSP contract for 520 acres of cover crops. Achieving 9 signups is a significant success for a fledgling outreach program in an area that historically has a low interest in government conservation programs relative to other areas.

In addition to the 9 contracts, there was one EQIP contract for cover crops in the subwatershed adjacent to the three MRBI subwatersheds. This accounting does not includes those landowners or producers who decided it would be more beneficial for their operation to enroll in the Conservation Reserve Program or implemented practices independently of the offered government programs. There was one landowner who decided to install a grassed waterway on his own, according to a local District Conservationist.

Table 3-2. Summary of EQIP and CSP contracts for FY11-12.

#	Location		Approx. Contract Value by Practice	Code	EQIP Practice Description		Core or Supporting Practice?	Action Type
	Range	Township						
Within MRBI subwatersheds								
1	11E	19N	$49,000	CSP	COVER CROP	520 ACRES	CORE	AVOIDING
2	11E	19N	$11,500	340	COVER CROP	91.5 ACRES	CORE	AVOIDING
3	11E	19N	$6,700	340	COVER CROP	159 ACRES	CORE	AVOIDING
4	10E	18N	$5,300	340	COVER CROP	125 ACRES	CORE	AVOIDING
5	10E	18N	$7,400	412	GRASSED WATERWAY	3.4 ACRES	CORE	CONTROLLING
	10E	18N	$7,000	606	SUBSURFACE DRAINAGE	4,175 FT	SUPPORTING	CONTROLLING
6	10E	18N	$8,900	412	GRASSED WATERWAY	4.1 ACRES	CORE	CONTROLLING
	10E	18N	$5,100	410	GRADE STABILIZATION	1	SUPPORTING	CONTROLLING
	10E	18N	$7,700	606	SUBSURFACE DRAINAGE	4,600 FT	SUPPORTING	CONTROLLING
7	11E	18N	$5,900	412	GRASSED WATERWAY	2.7 ACRES	CORE	CONTROLLING
	11E	18N	$3,900	606	SUBSURFACE DRAINAGE	2,325 FT	SUPPORTING	CONTROLLING
8	10E	17N	$16,500	412	GRASSED WATERWAY	7.6 ACRES	CORE	CONTROLLING
	10E	17N	$12,300	606	SUBSURFACE DRAINAGE	7,320 FT	SUPPORTING	CONTROLLING
9	10E	16N	$4,000	412	GRASSED WATERWAY	1.8 ACRES	CORE	CONTROLLING
	10E	16N	$5,800	410	GRADE STABILIZATION	1	SUPPORTING	CONTROLLING
	10E	16N	$4,300	606	SUBSURFACE DRAINAGE	2,575 FT	SUPPORTING	CONTROLLING
	10E	16N	$850	362	DIVERSION	350 FT	SUPPORTING	CONTROLLING
Adjacent to MRBI subwatersheds								
1	10E	19N	$13,200	340	COVER CROP	104 ACRES	CORE	AVOIDING

The MRBI objectives focused on two major natural resource concerns in the targeted subwatersheds: water quality (excessive nutrients, suspended sediment, and turbidity in surface waters) and soil erosion (sheet and rill). By implementing the core and supporting MRBI practices that control, avoid, and trap sediment and nutrient surface and subsurface runoff, these natural resource concerns can be addressed. One of the MRBI controlling and trapping action targets was 30 acres of grassed waterways, riparian forest buffer, and filter strips. With the current contracts, we have achieved 19.6 acres of grassed waterways. One of the MRBI avoiding action targets was implementing cover crops on 2% of total acres of cropland. Under these EQIP and CSP cover crop contracts, we have achieved 60% of our target action of 1,500 acres in the three targeted subwatershed. If the level of outreach can be at least maintained or preferably increased over the remainder of the MRBI award period, then there is a good chance that these action targets, as well as the goal of 25 producer enrollments (5% of the farms) will be achieved. As awareness increases, we expect the number of sign-ups and signed contracts to increase; however, with the current Farm Bill expired and no extension provided to-date, there will be hesitancy to sign-up with the future of conservation programs, particularly CSP, being uncertain.

C. EFFECTIVENESS OF OUTREACH EFFORT

In an effort to continue to identify and address project-related barriers that prohibit landowner/farmer participation and conservation practice implementation, the **effectiveness of the outreach efforts was constantly evaluated**. Feedback was generated at each step in the outreach effort from NRCS, workgroup partners, 1-on-1 outreach workers, and local landowners. The outreach methods were periodically evaluated to determine if they were effectively reaching the farmers, increasing farmer interest and participation, and addressing questions or concerns about practices.

The regular evaluation allowed for obstacles to be recognized and the ineffective components or approaches to be adjusted, altered, or eliminated. After the first two years of this outreach effort, several obstacles became apparent that were preventing the most effective contact and engagement of producers to implement conservation practices. Difficulties included the perceptions about the need for conservation practices, the identity of the coalition, effectiveness of reaching and engaging landowners, landowner follow-up after initial contact, and managing expectations for enrollment. On the other hand, the pieces of the program that were working were further supported or enhanced. Ultimately, evolution of the outreach program allowed for success with a significant increase in sign-ups throughout the entire watershed and contracts for the MRBI supported practices in the targeted subwatersheds.

1. PERCEIVED NEED FOR PRACTICES

There are a number of misperceptions within the watershed that had an impact on the effectiveness of the outreach efforts. One misperception was that there wasn't a problem on their land; therefore, there was no need to change current farming practices. Many farmers are already implementing some level of in-field conservation (conservation tillage, grassed waterways, etc.) to address soil erosion. It is hard to shift focus from soil erosion to nutrients. Farmers are more willing to adopt conservation practices based on their recognition of local problems and knowledge of the field-scale benefits provided than in response to downstream watershed issues that are less personally relevant. The natural resource concern of excess nutrients is not a visible problem within the local tributaries. By contrast, stream bank erosion is highly recognized as a local problem; however, it is recognized as a problem not due to the suspended sediment load but from the loss of farmable riparian ground due to bank cutting and collapse.

One aspect of this issue is that farmers do not want to be seen as the source of the problem. The outreach effort program was careful not to assign blame to the agricultural community, but rather focused on increasing awareness of both the environmental issues in the watershed and the efforts that farmers were already doing to improve both soil and water quality health in context of a productive operation. Adoption appears to be related to knowledge of local and downstream water quality (Osmond et al., 2012). However, farmers may not be aware of the external or downstream impacts due to conflicting messaging from other trusted information sources. To overcome these issues, the outreach messaging focused on identifying multiple functions and benefits of conservation practices in order to make them more acceptable to farmers, as our view of the environmental benefits of the practice may be different from their business perspective. For example, cover crops were promoted both at the workshop and conservation field tour as a practice that can increase profitability through increased yields, reduced fertilizer cost, and reduced weed management cost. The messaging focused on the agronomic benefits (e.g., improved soil tilth, porosity and filtration, reduction in compaction, nutrient scavenging and recycling, etc.) that are critical for healthy crops and long-term productivity versus the water quality benefits (e.g., soil erosion protection and reduction in nitrogen surface and subsurface runoff).

Another perception concerns the effectiveness of the practices, as some farmers feel there is insufficient proof of the water quality benefits obtained by implementing the practices. They do not feel there is an environmental return to their investment, particularly if they are one of the few farmers implementing practices in a large watershed. Farmers may be hearing different rates or numbers from different sources, as there is a range of effectiveness for any given practice. The majority of the data confirms that the individual practice has value in reducing pollutant export from agriculture at the field-scale, especially when used as part of a system approach (multiple practices to affect the same pollutant). While we cannot expect every farmer to adopt conservation practices, we can focus on the agronomic and economic benefits and the ease of use or management of practice in our communications and outreach to assist them in the decision-making process.

2. IDENTITY CONFUSION

Initially, there was confusion that the "Friends of the Big Bureau Creek Watershed" was the Big Bureau Creek (BBC) Watershed Group. The confusion may be due in part to the similar names, as well as that the "Friends" were a new

coalition in the watershed, whereas the BBC Watershed Group has been active since 2007. While the two entities have similar goals in terms of addressing the water quality in the Big Bureau Creek Watershed, they are two different entities. The "Friends" is a larger coalition of state and local agencies, local stakeholders and citizens, agricultural associations, not-for-profit conservation groups, technical service providers, and consulting engineering firms. These members have formally committed support (financial, material, in-kind, or technical) for the outreach and education, technical assistance, or water quality monitoring as part of the MRBI-CCPI for the three targeted subwatersheds. The BBC Watershed Group is a key member of this coalition. Since it is comprised of local urban residents and farmers, it provides essential local planning, networking, and feedback support.

It was necessary to make an effort upfront to distinguish that the "Friends" were a different entity, as there was a past watershed controversy associated with the BBC Watershed Group. Since there was a level of distrust and contention between the local farmers and the BBC Watershed Group, being linked to this controversy could have presented a roadblock in our outreach efforts. Through a direct mailing and local newspaper articles, the identity and purpose of the coalition was clearly stated. We continually stated that conservation measures we were promoting were voluntary practices that could be part of a productive and profitable agricultural operation. Given that it can take years to develop an identity and a level of trust within the community, we worked to avoid any early missteps.

3. LANDOWNER ENGAGEMENT

Farmers need to be involved in the conversation, but it was often difficult to get them to the discussion table. While a number of different venues and activities were offered, it was not easy to engage many of the local farmers. During the 2-year grant period, there were three events hosted by members of the FBBCW. Attendance varied between the two workshops and field event. The March workshop had good attendance for the first agricultural workshop of its type to be held in the watershed, according to the agribusiness speakers, who have presented at other workshops and seminars across the state. However, given the extent of the outreach (direct mailings, newspaper articles, repeating radio ads, etc.), the number of participants was lower than expected.

Based on the survey results from the workshop, one of the significant constraints to practice implementation was the need to see a demonstration of the practice. However, only four farmers who were not members of the watershed group attended the morning conservation field tour despite more than 400 direct mailings, a repeating local radio ad, and direct phone calls. This number is a success rate of less than 1%. Reasons for low participation, besides lack of interest, could include that farmers are working on time-consuming, larger operations, or that they are working a second job and are not available during the day. In either case, it compels us to evaluate whether direct mailings are a cost-effective outreach communication tool. Based on feedback from the BBC Watershed Group, they thought advertising in the newspaper was a better communication route than direct mailing.

A similar diverse communication portfolio was used to announce the Women, Food and Agriculture Network (WFAN) "Women's Circle" event. For the "Women's Circle," which met its participation goal, 27% of the participants learned about the workshop from the direct mailing to women landowners, 27% from email or agriculture-related list-servers, 18% from the newspaper announcement, and 18% from direct contact/word-of-mouth. Potential key differences in outreach between this workshop and the March workshop were that NRCS wrote and sent out the press release, and the county Farm Bureau office sent out the announcement to its women committee members. The involvement of both these entities could have added legitimacy to the event.

While field events and workshops allow for more information to be disseminated at one time, the most effective communication route to the farmers over the two-year period may have been the 1-on-1 outreach. This approach has experienced several challenges through its development. One obstacle was that the partners felt that the landowner did not trust the local outreach worker or his motivations because he or she did not personally know him or the coalition he was representing. Since it was a new coalition supporting the messengers, the messengers did not have "legitimacy" to the farmers when calling to promote these practices (e.g., who they are, why they are calling, why they are promoting conservation, etc.) (See Section 3, Effectiveness of Outreach Efforts). However, when contact was established, direct personal communication with landowners and farmers through calls or 1-on-1 meetings appeared to be the most effective outreach mechanism. These conversations provided project partners and outreach workers an opportunity to learn about an individual's farming operation and existing conservation efforts and to discuss conservation practice options. Meeting the farmers on their properties is the best route for this personal exchange about conservation practice adoption.

Based on the lessons learned over the last two years, the partners intend to take a slightly different approach to future 1-on-1 outreach. The adoption of practices requires an active sales-pitch approach versus a passive attitude. We are looking to hire a single dedicated outreach worker (versus 2-3 outreach workers) who is willing to make the outreach work a top priority during the winter and summer months. The challenge is to find a willing local stakeholder who is respected by the community; he or she should have a number of personal contacts within the three subwatersheds and understand the local farming community and attitudes. It is critical that this person has hands-on experience with conservation and farming practices, has good salesperson skills, and feels strongly compelled to sell the practices for both economic and environmental benefits. To find this trusted messenger who has existing relationships with area farmers will not be easy or inexpensive. The engagement of local agribusiness, technical service providers, and certified crop advisers (CCAs) may help us identify an outreach worker with these characteristics. It is necessary to keep this key outreach component going, as it takes time to develop the positive relationships that achieve change and practice adoption.

4. EXPECTATIONS

As previously mentioned, it takes time to establish a presence in a watershed and develop relationships with farmers and landowners. Increasing enrollment in the MRBI conservation practices by 25 producers in an area with low enrollment was an ambitious goal for a 2-year grant period. However, the foundation of the outreach program now has been established and future efforts will build upon it. While there will always be a number of farmers not interested government programs, or even in conservation, we expect enrollments will continue to increase once the Farm Bill issues are resolved.

We expected that certain downstream practices, such as wetlands and riparian buffers, would be more challenging in terms of enrollment, as these practices are more expensive and would require land (even if it is considered marginally productive) to be taken out of production. While these downstream practices are effective in terms of nutrient removal or sediment erosion, they do not solve apparent in-field problems. Many of the EQIP practices being promoted are practices that “fix” a problem, such as grassed waterways do for gully erosion. One practice that both project partners and NRCS felt would be a good and relatively easy “first step” into conservation programs was nutrient management plans. Many farmers are performing nutrient management to some level, so we expected nutrient management plans would be attractive to farmers. The MRBI action goal was to complete two comprehensive nutrient management plans and 80 written nutrient management plans by 2015. However, there has been no interest in enrolling in these practices. It was not clear if these practices were not attractive because farmers did not want to share operation information; because it would require a significant change to their nutrient management process; or because nutrient pollution is not considered a problem. Implementing practices that address nutrient pollution are a significant challenge as it is not a visible problem and require farmers to change their current practices and behavior. The partnership with local agribusiness and CCAs may help in increasing the adoption and implementation of nutrient management plans.

5. SUCCESSES

The significant increase in the number of call-ins, sign-ups, and contracts over the 2 years within not only the targeted subwatersheds but in the county indicates the level of success that the outreach program has achieved. There was great interest from landowners in the adjacent subwatersheds in implementing practices, and a slight modification to the ranking criteria may link their operations to the current targeted subwatersheds. Initially, the ranking criteria are based on 50% of a farm tract or operation being in the targeted subwatershed. After FY11, a request was made to NRCS to modify the MRBI ranking criteria within the three targeted subwatersheds to the following:

- At least 10% or greater of the farm tract is in one of the targeted subwatersheds in order to qualify for EQIP practices.
- At least 10% or greater of the farm operation is in one of the targeted subwatersheds in order to qualify for CSP.

The legitimacy the network is gaining in the area is leading to additional potential partnerships with local agribusinesses and CCAs as well as state and regional organizations, such as the Illinois Council on Best Management Practices and the Sand County Foundation. A working partnership with an area seed company was mutually beneficial. We invited ProHarvest Seeds, who is working with farmers in Lee County, to present both at the land stewardship workshop, as well as the conservation field tour about cover crops. The five cover crop EQIP and CSP contracts in or adjacent to the MRBI subwatersheds may be attributable to this joint outreach. The “Friends” coalition will be working closely with ProHarvest Seeds to learn if additional farmers within the subwatersheds are utilizing cover crops independently of government programs. This information will improve the Tier 2 modeling of water quality improvements.

4. WATER QUALITY IMPROVEMENT THROUGH MONITORING

Support for the MRBI award included targeted outreach to landowners to generate interest in farm enrollment in the program and to conduct water quality monitoring for the purposes of detecting any changes to nutrient and sediment loads in treatment watersheds as a result of practice implementation. The fourth objective of **demonstrating water quality improvement through effective, tiered monitoring** was designed to show that the implemented practices yield measurable results. At a minimum, the monitoring strategy will use existing load reduction models and gather pre- and post-practice implementation data to establish a water quality baseline and then look for early indicators of improvement.

Three 12-digit HUCs in the Big Bureau Creek Watershed were targeted for MRBI projects and for monitoring. These priority watersheds are Upper Bureau (071300010502), Pike Creek (071300010501), and East Bureau (071300010602) (Figure 4-1). These subwatersheds drain a total of 86,700 acres, or about 27%, of the total 319,400 acres in the Big Bureau Creek Watershed (not including Goose Lake and its watershed). Monitoring efforts focused on Tier 2, subwatershed monitoring. Water quality monitoring stations for Tier 2 were placed at the outlet of each targeted subwatershed, at the closest downstream road crossing (Figure 4-2). Due to project and budget constraints, Tier 1 (edge-of-field monitoring) and Tier 3 (basin-wide monitoring) were not conducted; therefore, resources were focused on Tier 2.

The project partners developed a water quality monitoring program. Sampling locations were identified and finalized. A Quality Assurance Project Plan (QAPP) was developed for the water quality monitoring and submitted to the Illinois Environmental Protection Agency for approval (See Appendix F). Water quality Tier 2 monitoring was conducted from October 2010 through July 2012. This included:

1. Monthly grab samples, analyzed for total Nitrogen (N), total Phosphorus (P), and Total Suspended Solids (TSS)
2. Installation of staff gauges
3. Periodic flow measurements
4. Installation of an automatic Nitrogen/flow monitor at East Bureau Creek
5. Macroinvertebrate/RiverWatch monitoring

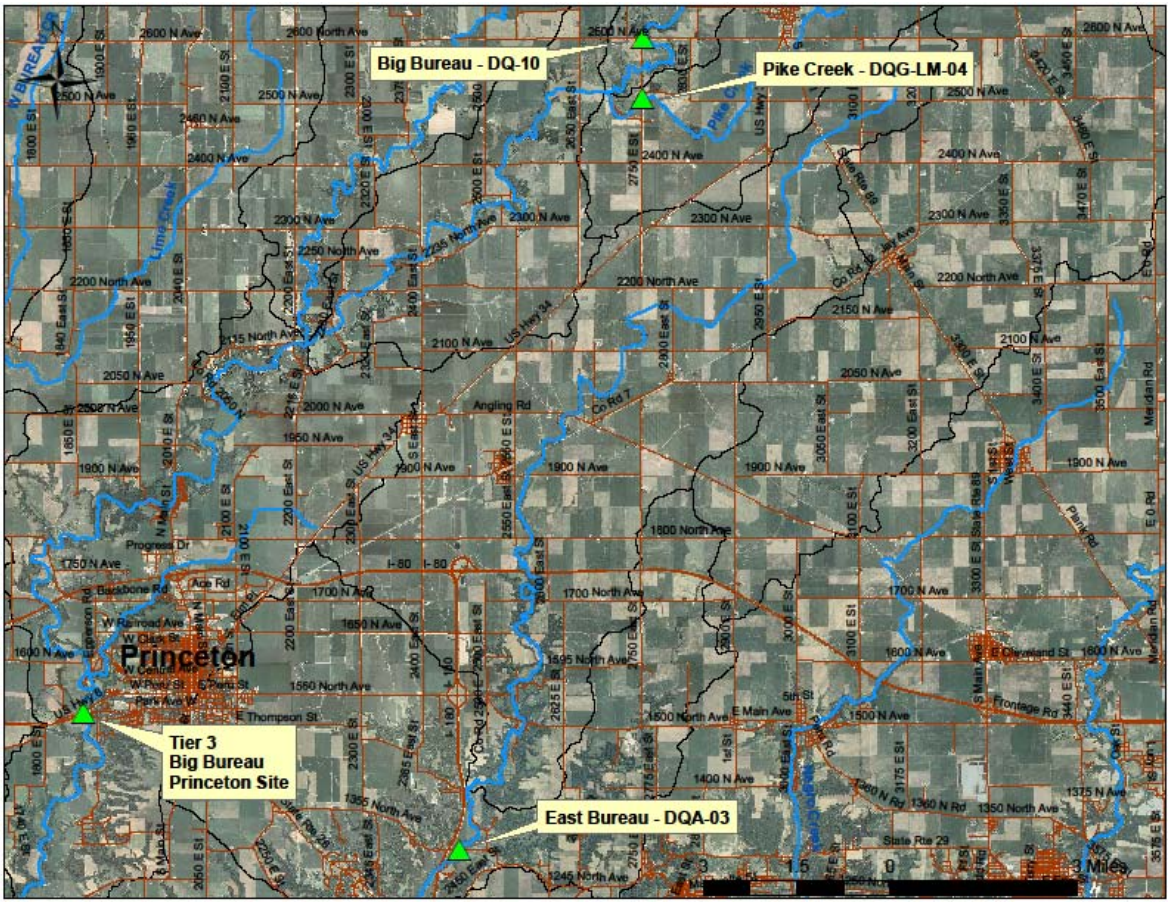


Figure 4-1. Location of in-stream water quality monitoring sites within the Big Bureau Creek Watershed.

East Bureau Creek (DQA-03)

(J. Boeckler, Northwater)

Big Bureau Creek (DQ-10)

(J. Boeckler, Northwater)

Pike Creek (DQG-LM-04)

(J. Boeckler, Northwater)

Figure 4-2. Photographs of in-stream water quality monitoring sites.

A. IN-STREAM WATER QUALITY MONITORING RESULTS

1. TIER 1

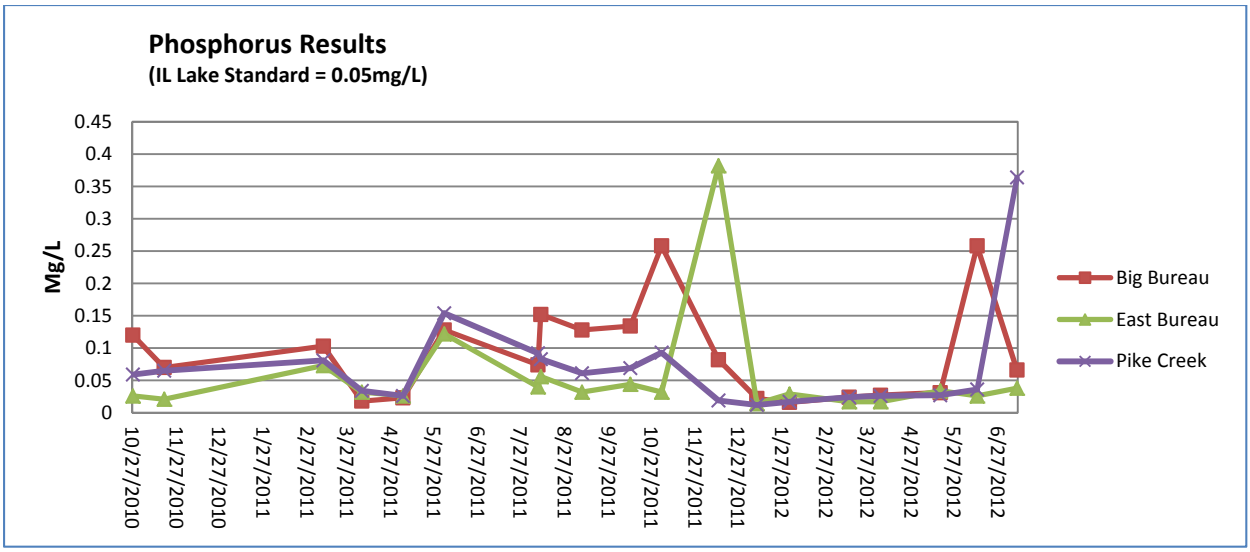
Due to complications involving access to landowner-specific enrollment information, we were unable to execute the Tier 1 monitoring component at this time. Once this information becomes available, project partners anticipate conducting Tier 1 modeling at the field level to calculate pollutant load reductions resulting from practice implementation. A custom map-based pollutant load model will be developed as needed to estimate sediment, nitrogen, and phosphorus loading; project Best Management Practices will be incorporated into this model to calculate the nutrient and sediment reductions associated with each practice for each specific farm field. This custom GIS-based model, developed by Northwater Consulting, will utilize soils and field-specific crop data, land use, rainfall, and runoff calculations to estimate soil loss and nutrient loads.

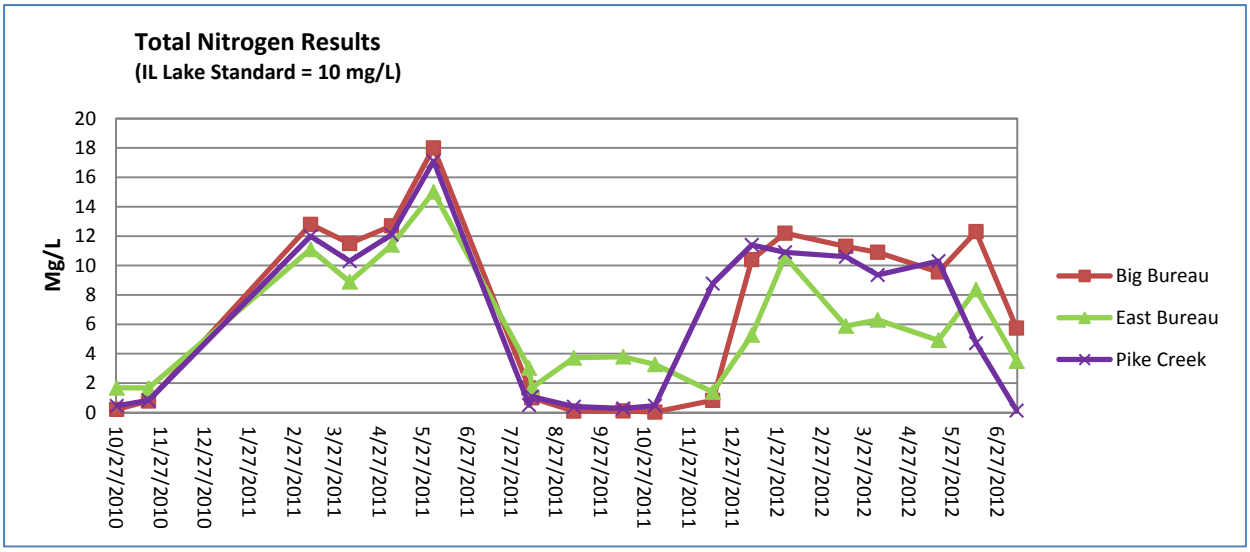
2. TIER 2

To establish baseline conditions, water quality sampling was conducted by Northwater Consulting, Illinois Environmental Protection Agency (IEPA) staff, and a local volunteer. Northwater and the IEPA manually collected the monthly water samples at each site. The local citizen monitor was trained on methods for collecting water quality data, including grab samples, staff gauge readings, chain of custody forms, and sample submission. This local citizen was also responsible for storm event sampling. The U.S. Geological Survey found a suitable location for an in-stream nitrogen sensor, and the stream cross-sections and longitudinal profiles were developed for this sensor in East Bureau Creek. Water quality samples were analyzed by the IEPA in accordance to the previously mentioned QAPP.

To date, watershed monitoring at the three sample sites has included the collection of more than 20 water quality samples, stream cross-sections, longitudinal profiles, discharge measurements, staff gauge installations, and staff gauge readings. Sample results include a period of October 2010 through July of 2012 (Figure 4-3). Water quality constituents sampled and analyzed included Total Phosphorus (P), Total Nitrogen (N), and Total Suspended Solids (TSS). In addition to water quality monitoring, a one-time aquatic macroinvertebrate assessment was conducted in June 2012 following RiverWatch volunteer monitoring protocols.

Due to recent drought conditions, we are not reasonably confident that a sufficient range of water quality and stream flow data has been collected during the grant period to establish a general baseline by which to measure the success of future MRBI practice implementation at the Tier 2 level. Additional water quality and discharge data over a greater range of flow conditions is required to adequately model annual nutrient and sediment loading and to most effectively utilize collected channel cross-sections, flow data, and staff gauge readings. The current baseline is therefore insufficient for measuring notable changes in water quality if only a limited number of practices are installed in the study watersheds. However, project partners will continue to engage in monitoring activities over the next two years through another funding mechanism and will attempt to gain the additional data needed.





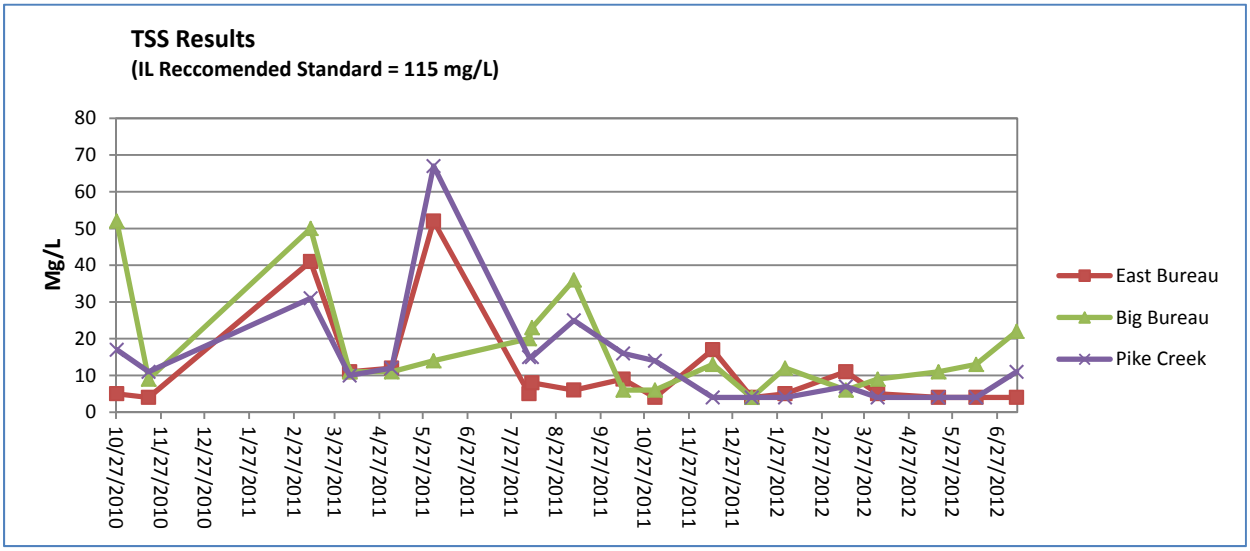


Figure 4-3. Phosphorus (P), nitrogen (N), and total suspended solids (TSS) data from the three in-stream monitoring sites.

Project partners are reasonably confident that a sufficient quantity of water quality data can be collected to establish a general baseline by which the success of future MRBI practice implementation can be measured at the Tier 2 level. The current baseline, however, is unlikely to be sufficient for accurately measuring notable changes in water quality if only a limited number of practices are installed in the targeted subwatersheds. Contrary to our project goal of monitoring edge-of-field nutrient and sediment reductions, the location of MRBI practices have been unavailable to project partners at this time; therefore, we have been unable to complete any Tier 1 monitoring/evaluation.

As there are currently no official state standards for N, P, and TSS in streams, results are compared against standards established for N and P in lakes used for public drinking water and for TSS target levels provided by the IEPA (Figure 4-3). It is important to note that these standards or targets were established for lakes and represent very low threshold values. Current water quality results indicate nutrient values noticeably exceeding concentration targets recommended by the IEPA during the spring for nitrogen and the fall and summer for phosphorus. The recommended IEPA standard for phosphorus is 0.61 mg/L, whereas the target concentration for nitrogen is 10 mg/L (this is the lake standard as well as the drinking water standard for Illinois). Total suspended sediment results are all below IEPA targets (116 mg/L) for each of the monitoring locations, but this is a result of extreme low-flow conditions and will likely be exceeded in the storm event samples.

Local volunteers conducted aquatic macroinvertebrate sampling on June 7th, 2012 at the East Bureau sample site using RiverWatch protocols. Data sheets are included in Appendix G. While the results for 128 organisms sampled had 'good' taxa richness with a score of 12, the Measure of Biological Integrity (MBI) showed a 'poor' rating with a score of 5.77.

Drought conditions during the study period resulted in steady low-flow conditions for each sampling event. The only exception is August 2011 when the measured stream flows were significantly lower than the average (Table 4-1).

Table 4-1. Gauge height and discharge results at the three in-stream monitoring sites.

Date	Time	Site	IEPA Code	Gauge Height (ft)	Measured Discharge (cfs)
8/8/2011	10:00	East Bureau	DQA-03	1.2	N/A
8/8/2011	11:30	Big Bureau	DQ-10	0.9	N/A
8/8/2011	12:55	Pike Creek	DQG-LM-C4	1.56	N/A
8/17/2011	12:15	East Bureau	DQA-03	1.16	25.27
8/17/2011	13:50	Big Bureau	DQ-10	0.81	12.52
8/17/2011	14:45	Pike Creek	DQG-LM-C4	1.54	5.318
10/12/2011	11:30	East Bureau	DQA-03	6.28	N/A
11/9/2011	10:56	East Bureau	DQA-03	7.53	N/A
11/9/2011	13:13	Big Bureau	DQ-10	1.9	N/A
11/9/2011	13:32	Pike Creek	DQG-LM-C4	2.18	N/A
12/13/2011	13:25	East Bureau	DQA-03	7.2	N/A
12/13/2011	14:30	Pike Creek	DQG-LM-C4	1.8	N/A
12/13/2011	14:35	Big Bureau	DQ-10	1.3	N/A
1/9/2012	N/A	East Bureau	DQA-03	6.8	N/A
2/1/2012	N/A	East Bureau	DQA-03	6.65	N/A
2/1/2012	N/A	Pike Creek	DQG-LM-C4	2.1	N/A
2/1/2012	N/A	Big Bureau	DQ-10	1.7	N/A
3/14/2012	N/A	East Bureau	DQA-03	6.74	N/A
4/5/2012	N/A	East Bureau	DQA-03	6.55	N/A
4/5/2012	N/A	Pike Creek	DQG-LM-C4	1.9	N/A
4/5/2012	N/A	Big Bureau	DQ-10	1.4	N/A
5/17/2012	N/A	East Bureau	DQA-03	6.78	N/A
5/17/2012	N/A	Pike Creek	DQG-LM-C4	2.05	N/A
5/17/2012	N/A	Big Bureau	DQ-10	1.54	N/A
6/7/2012	10:43	East Bureau	DQA-03	6.53	157.18
6/7/2012	N/A	Pike Creek	DQG-LM-C4	2.0	N/A
6/7/2012	N/A	Big Bureau	DQ-10	1.4	N/A
6/12/2012	N/A	Big Bureau	DQ-10	1.2	N/A
6/12/2012	N/A	Pike Creek	DQG-LM-C4	2.1	N/A

An automatic nitrogen sensor was installed by the United States Geologic Survey (USGS) in June 2012 at the East Bureau Creek sample site. Nitrogen concentrations and stage heights are recorded instantaneously and are available online at the USGS website. Results since June indicate that nitrogen concentrations have remained steady with only a few instances where levels have spiked (Figure 4-4).

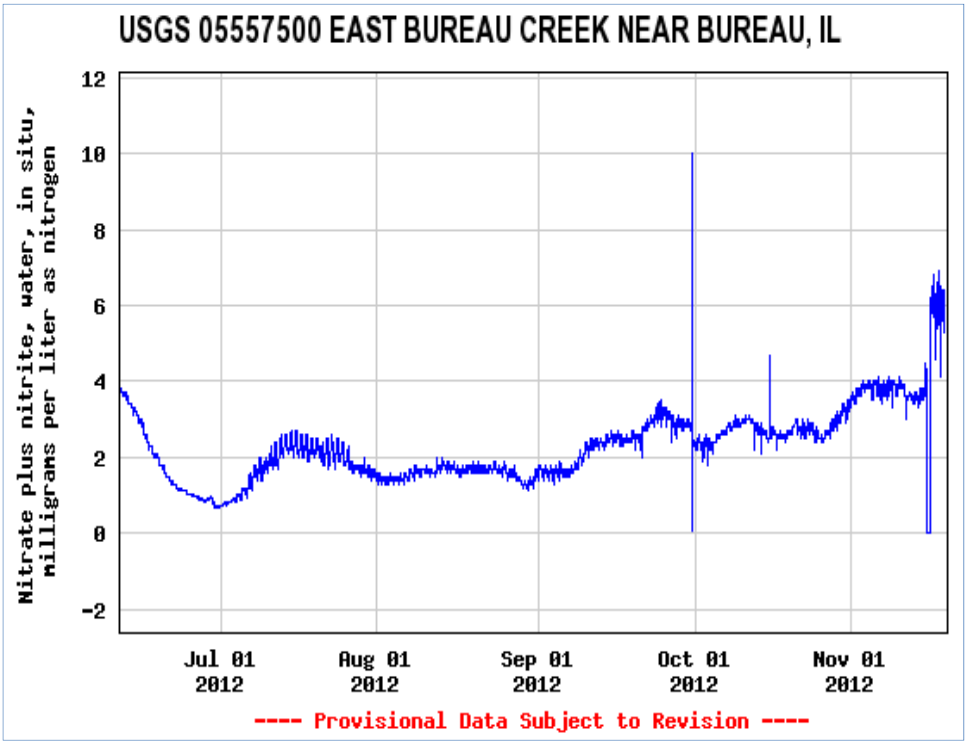


Figure 4-4. Results from the USGS nitrogen sensor located at the East Bureau Creek monitoring site.

3. TIER 3

Due to funding limitations for project monitoring, available resources were focused at the Tier 1 & 2 levels.

B. WATER QUALITY MONITORING CHALLENGES

Project partners Ms. Horwitz and Jeff Boeckler, Northwater Consulting, participated in an Illinois Water Quality Monitoring Meeting organized by Stacy James, Prairie Rivers Network, on January 25, 2012 at the NRCS State Office in Champaign, IL. The four Illinois MRBI project sponsors, consultants, university scientists/researchers, Illinois Environmental Protection Agency, U.S. Geological Survey, and NRCS were in attendance at this meeting to discuss the water quality monitoring efforts within the four current Illinois MRBI programs. NRCS, the Acting State Conservationist, and the Assistant State Conservationist for Conservation Programs, provided an update on MRBI funding and expectations in regards to water quality monitoring and protocols. The various MRBI project partners discussed their particular sampling methods, monitoring results to-date, obstacles, funding challenges, and lessons learned.

Northwater Consulting, Prairie Rivers Network, IEPA, USGS, and a local volunteer met on September 14, 2011, to install an automatic sampler on Pike Creek, install a nitrogen sensor in Bureau Creek, review the QAPP sampling and analysis plan, and coordinate the sampling schedule between parties. While permission was obtained from the appropriate parties to install the automatic sampler on the bridge spanning Pike Creek, the adjoining landowners reacted negatively to the installation of the water quality monitoring equipment. The equipment was removed in fear that it would be damaged.

The confrontation regarding the bridge monitoring installation identified a key issue that must be addressed in order for the monitoring component of the MRBI-CCPI to be successful: Landowners fear that the water quality data (pre- and post-practice implementation) will lead to regulation. This is particularly the case within the Pike Creek watershed, as the landowners are distrustful of any “outside” monitoring based on past watershed activities. (They believe that the development of the watershed plan led to an illegal dump site cleanup action and fine from the Illinois Environmental Protection Agency.) Recognizing these concerns, the partners will seek to be more proactive versus reactive in their communication and outreach to attempt to address all potential issues that may arise due to an action.

A key issue that must be addressed in order for the monitoring component of the MRBI-CCPI to be successful is the negative perception that water quality monitoring will lead to regulation of the agricultural community. In response to the community's negative reaction to the sampling associated with the MRBI-CCPI program, project partners asked Dick Breckenridge, Illinois Environmental Protection Agency's Rural Affairs Advisor, to discuss nutrients and water quality issues at the workshop. Given Mr. Breckenridge's farming background, his explanation of the Clean Water Act, nutrient impacts, agricultural interests being represented at Illinois' Nutrient Summit meetings, and the next steps for Illinois nutrient standards did not seem controversial or contentious to the participants. The need to measure water quality to tell the story of what is being done by agricultural producers to reduce or eliminate natural resource impacts will be incorporated in future landowner education and outreach messaging. Consequently, as discussed previously, landowner education and outreach will incorporate information on the purpose of the partners' monitoring efforts and the positive impacts that they are intended to demonstrate.

C. MONITORING CONCLUSIONS

Tier 2 water quality results obtained during the study period represent a long period of low flow/drought conditions in the Big Bureau Creek Watershed. Budget and project-related constraints limited or eliminated the ability to conduct Tier 1 and 3 monitoring. Insufficient information is available to calculate annual loadings and establish a representative baseline from which to evaluate improvements associated with MRBI practice implementation. Despite drought conditions, seasonal variations in pollutant concentrations were observed and the framework is in place to continue monitoring efforts.

PROJECT CONCLUSIONS

This outreach and education program was essential for increasing conservation practice awareness and practice adoption in the three MRBI targeted watersheds, as well as throughout the entire Big Bureau Creek Watershed. This was the first effort of its type in the watershed. The program and the formation of the outreach network were instrumental in increasing the adoption of EQIP and CSP conservation practices in an area that historically had low enrollment in government conservation programs. If technical and financial assistance to the outreach program is continued by the network members, then the proposed MRBI goal of having 25 producers implement MRBI core and supporting practices is very achievable.

The CIG partners successfully built an outreach network by identifying and engaging community leaders, agricultural groups, conservation organizations, and technical service providers to provide financial and technical support for the MRBI outreach and education effort. This network has developed a positive working relationship with the local agricultural community. With the network firmly established in the watershed, the next goal is to grow this network by engaging local agribusinesses that can provide services (i.e., nitrogen soil and stalk testing, nutrient management plans, conservation tillage equipment, etc.) that complement the practices being promoted. These partnerships will extend the network's reach through existing farmer-crop consultant relationships. In addition, the development of a farmer-led steering committee for the three subwatersheds will provide guidance and encourage additional farmer engagement in the outreach effort.

In the evaluation of the effectiveness of outreach and education efforts (e.g., 1-on-1 outreach, information meetings, technical fact sheets, and demonstration field days), we understand that there is not one strategy that is most effective in increasing stewardship awareness or engaging farmer participation in government conservation programs. Farmers receive their information from a variety of sources (e.g., newsletters, newspapers, mailings, farm publications, workshops and seminars, etc.). Based on local feedback and the success of the various outreach methods, some of the network's outreach mechanisms will be modified or eliminated in order to focus our limited resources on the more successful elements. For example, a direct mailing to more than 400 landowners is expensive in terms of man-hours, printing, and postage supplies, and the response rate (e.g., participation in events, calls to NRCS, etc.) was relatively low. Newspaper advertisements or articles and electronic message boards may be a better and less expensive alternative for reaching a broad audience.

Both the land stewardship workshop and conservation field tour had area agribusinesses as presenters on the new or latest technologies associated with nutrient management and cover crops. Network members will work to increase the participation of local businesses at future sponsored events. An alternative avenue to farmers is by coordinating with local agribusinesses to have an outreach worker or network members present at their planned demonstration days or farmer meetings. This will not only increase the network's direct 1-on-1 contact with area farmers, but it will show that the conservation and productive, profitable farming messages and agendas are not conflicting.

The 1-on-1 outreach effort was successful on a limited basis. It took time for the outreach workers to establish contact and develop a relationship with the farmers, as they were not well connected to the community in the targeted subwatersheds. To continue and expand this effort, project partners are actively seeking a new or an additional outreach worker. It is critical to recruit a local farmer stakeholder who is not only known and respected in the subwatersheds but is willing to actively reach out to fellow farmers and promote conservation practices, understanding local concerns and attitudes. Other MRBI and watershed-based projects have illustrated that a local and trusted champion made a significant difference in a farmer's willingness to adopt practices.

Given that outreach and implementation takes time and money, it helps to pre-identify lands that are major contributors to water impairments, as well as the farmers and landowners who are early adopters of practices. One MRBI project action was to identify and engage the historically underserved groups and individuals in the subwatersheds, as traditionally they have a lower enrollment in USDA programs. A second project action was to identify farmers or landowners with existing practices, as they may be eligible for the Conservation Stewardship Program. The last project action was to identify lands that could provide maximum environmental and water quality benefits by implementing MRBI practices. This action was meant to prioritize outreach efforts to these areas, not to imply that these lands were being improperly managed.

As NRCS cooperative conservation partners, it is necessary to have access to existing and new practice signups so that project partners can track progress with the farmers we have contacted. The signing of the Section 1619 data sharing agreement should improve the flow of information. Producer and landowner contact information within the MRBI watersheds assures accurate contact with the farmers during mailings and 1-on-1 outreach. Specifically, having the names and contact information for parcels or areas that we identify as potential program or practice implementation areas would

be particularly helpful. Knowing who to contact for a parcel is key to efficient outreach, particularly over a large area, as our past experience has shown us that farm directories and plat books do not provide the appropriate information. NRCS staff has identified the long-time lags between initial meetings and paperwork completion by the interest party as a barrier to completing sign-ups. At the same time, the landowners/producers have described the enrollment process as overwhelming and cumbersome with paperwork. By sharing the names and contact information of landowners or producers who may be in the deciding process or "sitting on the fence" about practices, the project partners can bridge this gap by providing technical or paperwork assistance, as well as encouragement through the various enrollment and sign-up steps.

Several MRBI projects had the ability to fund a staffer to work in the local NRCS field office directly with NRCS and SWCD staff. At this time, this is not possible in the Big Bureau Creek Watershed, so alternative routes of communication are needed for information sharing. Project partners hope to improve communication with NRCS staff and to track the success of the continuing outreach efforts through routine phone calls or email exchanges and a relatively simple accounting method. The collected data to be shared frequently between NRCS and partner projects include:

- Producers/landowners the outreach workers have successfully contacted;
- Producers/landowners that contact the NRCS office about the MRBI program practices;
- The types of practices they are interested in; and
- Their progress through the various enrollment and implementation stages.

In order for the partners to best utilize their resources and better provide assistance to NRCS in this conservation effort, specific information that needs to be available to project partners includes the location of existing conservation contracts and associated acreage, including program, practice types, and contract expiration. Without a current map identifying which parcels are in enrolled and the type of practices, it is difficult for the partners to determine which landowners to approach during our 1-on-1 outreach effort.

Implementing a few practices over a large watershed area or a number of small-scale in-field practices will not yield measurable changes in water quality. A water quality response is dependent in part on selecting the appropriate practices to address the identified natural resource concerns, siting the practices in locations for maximum effectiveness, and implementing a sufficient number of practices in order to build a density of practices that will have a positive impact. Information on what practices are currently being implemented will assist in determining what is being promoted and where outreach should be focused. While the selected MRBI practices are focused on addressing the main natural resource concerns, the amount or intensity of practices was based in part on what was considered feasible versus what was needed to achieve water quality goals. The relationships with local agribusinesses may provide more information on local farmer land use and management that is critical to understanding the relationship between practices and water quality.

The best conservation practices simply will not work if they are not treating the resource concerns. Given the extent of the tile drainage in the watershed, only a few practices can capture this drainage and treat the nitrogen that has left the fields. Downstream practices (i.e., wetlands, drainage or water table management, stream restoration, etc.) are the most effective practices to treat this pollution source, but these practices are also the most difficult ones to get landowners and farmers to adopt, as they do not necessarily improve their bottom line.

While the promotion of wetland practices was not a central focus of this outreach effort, it was one of the practices being promoted. It was deemed necessary to start the outreach process with in-field practices that a farmer may be willing to implement in order to gain individual and community trust for the Wetlands Initiative. Through this outreach program, TWI has developed contacts and built working relationships with farmers. These discussions have aided in identifying both the value-based messaging required (i.e., what is important to the farmer) and the information a landowner needs to make an informed decision about implementing a wetland. Information needs to be specific to their operation regarding location, impact to current operation, economic cost-benefit analysis, potential financial assistance options, and the environmental benefits (water quality improvement, habitat, etc.). The widespread adoption of wetland practices requires a sense of community responsibility, meaningful incentives (stewardship or financial), and competent science and engineering.

The project partners and "Friends of the Big Bureau Creek Watershed" members will continue to provide assistance to the local NRCS offices by conducting education and outreach, monitoring water quality pre- and post-project implementation, facilitating eligible landowner and operator enrollment, and providing technical assistance to expedite practice selection and implementation. Like NRCS, the project partners want to confirm that the MRBI-CCPI is a successful program in terms of improving water quality, wildlife habitat, and farm productivity by targeting federal financial assistance and leveraging non-federal resources in selected impaired watersheds.

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Hoag, D.L.K., Luloff, A.E., and Osmond, D.L. 2012. Socioeconomic Analysis: National Institute of Food and Agriculture-Conservation Effects Assessment Project. In *How to Build Better Agricultural Conservation Programs to Protect Water Quality: National Institute of Food and Agriculture-Conservation Effects Assessment Project Experiences* (Edited by Osmond, D.L., Meals, D. W., Hoag, D.L.K, and Arabi, M.). Soil and Water Conservation Society, Ankeny, IA. Pp 120-137.

APPENDIX A: 2012 ECONOMICS OF LAND STEWARDSHIP WORKSHOP

RADIO AD:

A radio ad was produced and played on WZOE AM 1490, the local radio station. From February 24, 2012 until the morning of March 2, 2012, 55 30-second commercial announcements were played adjacent to the station's daytime agricultural programming.

The radio copy read as the following:

> The "2012 Economics of Land Stewardship and Nutrient Management Workshop" is coming Friday, March 2nd, to the Bureau County Metro Center. Come join nationally syndicated agricultural columnist Alan Guebert for this informative workshop to kick off the 2012 production year. The workshop runs from 7:30 AM until 12:45. Admission and continental breakfast are free. So mark your calendars and join USDA Natural Resources Conservation Service and friends March 2nd at the Metro Center or call (815) 646-4040 for more information.

NEWS RELEASE:

February 16, 2012

For Immediate Release
Contact: Pam Horwitz, American Corn Growers, (815) 646-4040
Jill Kostel, The Wetlands Initiative, (312) 922-0777, ext. 129

Farmers to Learn How to Improve Economics of Conservation Practices

Princeton—Local Illinois farmers can learn more about the economics of their operations by attending a half day workshop on Friday, March 2 at the Metro Center in Princeton. The "2012 Economics of Land Stewardship & Nutrient Management Workshop" is hosted by Natural Resources Conservation Service (NRCS) and the Friends of the Big Bureau Creek Watershed. The workshop will feature speakers covering a wide range of topics covering conservation, water quality and financial planning. There is no charge to attend this workshop. A complimentary continental breakfast will be served and registration begins at 7:30 a.m.

Alan Guebert, award winning free-lance journalist and nationally syndicated ag columnist, will serve as moderator. Shelley Giesen, VP and Wealth Advisor from Citizens Trust & Investment Group, will discuss financial planning; Dan Schaefer from the Illinois Council on Best Management Practices will discuss the "Keep It For the Crop (KIC) by 2025" program that emphasizes voluntary action by producers to adopt nutrient stewardship practices on their land. Illinois Corn Marketing Board, Illinois Farm Bureau, Illinois Soybean Association, Illinois Fertilizer and Chemical Association, Illinois Pork Producers, and Syngenta Crop Protection are all members of the Council on Best Management Practices.

USDA's Natural Resource Conservation Service officials will discuss a variety of conservation programs offered by their agency including the Conservation Stewardship Program (CSP). Additional workshop topics include a discussion by crop specialists and local farmers on practices like the use of cover crops and strip till.

Jill Kostel, PhD, Senior Environmental Engineer at The Wetlands Initiative and Dick Breckenridge, Agriculture and Rural Affairs Advisor (ILEPA) will discuss water quality trading and which conservation practices help improve water quality.

A panel discussion with area farmers and other partners who are working on projects funded through USDA's Mississippi River Basin Initiative will conclude the workshop. Members of the panel represent partnerships working in Big Bureau Creek watershed and other watersheds: Senachwine Creek in Peoria and Marshall counties; Indian Creek in Vermilion County; Upper Salt Fork in Champaign County. Each will present accomplishments from the conservation work they are doing and will then open for questions from the audience.

Friends of the Big Bureau Creek Watershed include LaSalle and Lee County Soil and Water Conservation Districts, American Corn Growers Institute for Public Policy, Big Bureau Creek Watershed Group, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, Illinois Stewardship Alliance, Maurer Stutz, Inc, Northwater Consulting, Pheasants Forever, Prairie Rivers Network, The Wetlands Initiative, Trees Forever, and U.S. Geological Survey.

Improving economics of conservation practices

PRINCETON — Local farmers can learn more about the economics of their operations by attending a half day workshop on Friday at the Metro Center in Princeton. The “2012 Economics of Land Stewardship & Nutrient Management Workshop” is hosted by Natural Resources Conservation Service and the Friends of the Big Bureau Creek Watershed. The workshop will feature speakers covering a wide range of conservation topics and is free of charge. A complimentary continental breakfast will be served, and registration begins at 7:30 a.m.

Alan Guebert, award-winning freelance journalist and nationally syndicated ag columnist, will serve as moderator. Dan Schaefer from the Illinois Council on Best Management Practices will discuss the “Keep It For the Crop (KIC) by 2025” program that emphasizes voluntary action by producers to adopt nutrient stewardship practices on their land. Illinois Corn Marketing Board, Illinois Farm Bureau, Illinois Soybean Association, Illinois Fertilizer and Chemical Association, Illinois Pork Producers, and Syngenta Crop Protection are all members of the Council on Best Management Practices.

USDA’s Natural Resource Conservation Service officials will discuss a variety of conservation programs offered by their agency including the Conservation Stewardship Program. Additional workshop topics include a discussion by crop specialists and local farmers on practices like the use of cover crops and strip till.

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WORKSHOP SPEAKER BIOS

Dean Sasse is a Logan County, Illinois, farmer who has been boosting yields while reducing tillage on his farm for years. Mr. Sasse serves as a Logan County Soil & Water Conservation District board member.

Dan Schaefer is the Director of Nutrient Stewardship for the Illinois Council on Best Management Practices (which is comprised of the IL Corn Growers Association, IL Farm Bureau, Illinois Fertilizer & Chemical Association, IL Soybean Association, IL Pork Producers, and Syngenta Crop Production). Mr. Schaefer is a Certified Professional Agronomist (CPA) and a Certified Crop Advisor (CCA). The IL Farm Bureau named him CCA of the Year in 2010. Prior to his new role, he worked as the Agronomist for Illini FS, where he had a 30-year career working directly with growers on agronomic recommendations and assisting the University of Illinois with on-farm research to improve nutrient efficiency.

Doug Hanson is a Seed Specialist with ProHarvest Seeds (formerly MWS Seeds). ProHarvest Seeds (www.proharvestseeds.com) is an independent, family-owned seed company based in Ashkum, Illinois, that has provided quality products to a growing base of farmers for more than 50 years as MWS Seeds.

Richard Breckenridge is the Agriculture and Rural Affairs Advisor for the Illinois Environmental Protection Agency. Mr. Breckenridge works in the Department of Policy and Outreach and has the responsibility to advise in all areas within the agency that affect agriculture in terms of environmental regulations and policy. He also works closely with other state agencies and agricultural commodity groups on environmental issues and policies.

Jill Kostel, Ph.D., serves as project manager for TWI's scientific and research projects. Her particular interest is in developing wetland-based water quality trading and ecosystem service markets in Illinois. She manages TWI's two projects within the Big Bureau Creek Watershed, including an interdisciplinary study to create a wetland-based water quality trading framework and a local coalition outreach and education effort to promote best management practices, particularly restored wetlands, in partnership with local stakeholders and agricultural producers.

Alan Guebert is an award-winning free-lance agricultural journalist who was raised on an 800-acre, 100-cow southern Illinois dairy farm. After graduation from the University of Illinois in Dec. 1980, he worked as a writer and contributing editor at Professional Farmers of America, Successful Farming magazine and Farm Journal. He began his syndicated ag column, *The Farm and Food File (*www.farmandfoodfile.com), in June 1993 and it now appears weekly in more than 70 newspapers throughout the US and Canada. Mr. Guebert has won numerous awards throughout his career including Writer of the Year and Master Writer from the American Agricultural Editors' Association.

Ivan Dozier (invited) is an Assistant State Conservationist for Programs with the Illinois Natural Resource Conservation Service (NRCS). Mr. Dozier has held several field office positions and state leadership roles for the former Soil Conservation Service as well as NRCS.

Panel Discussion will include Mississippi River Basin Healthy Watershed – Cooperative Conservation Partnership Initiative (MRBI-CCPI) project leaders from the Big Bureau Creek Watershed (Bureau County; www.wetlands-initiative.org/friendsofbbc) and Indian Creek Watershed (Livingston County). Pam Horwitz is the Executive Director for the American Corn Growers Institute on Public Policy and Big Bureau Creek MRBI project sponsor. Paul Mathews is a local land manager in Bureau County. Terry Bachtold is the Ag Resource Coordinator for Livingston County SWCD.

WORKSHOP AGENDA

Schedule	Speaker	Topic
7:30-7:50	Hosted by the Friends of the Big Bureau Creek Watershed	Registration with Breakfast Meet with Exhibitors
7:50-8:20	Pam Horwitz, American Corn Growers Institute on Public Policy Alan Guebert, Workshop Moderator	Welcome and Opening Remarks
8:20-8:35	Friends of the Big Bureau Creek Watershed	"Land Stewardship" Brainstorm Activity
8:35-9:05	Dan Schaefer, Director of Nutrient Stewardship, Illinois Council on Best Management Practices	Keep it for the Crop (KIC) 2025
9:05-9:25	Richard Breckenridge, Agriculture and Rural Affairs Advisor, Illinois Environmental Protection Agency	Nutrients: A high-profile water quality issue
9:25-9:55	Jill Kostel, Senior Environmental Engineer, The Wetlands Initiative	Wetland-Based Water Quality Trading: A profitable alternative for marginal lands
9:55-10:20	Shelley Giesen, VP & Wealth Advisor, Citizens Trust & Investment Group	Financial Planning
10:20-10:30	BREAK	
10:30-11:00	Ivan Dozier or NRCS representative with Tom Yucus (local farmer)	Conservation Stewardship Program
11:00-11:30	Dean Sasse, Logan County Farmer	Economics of No-Till/Strip-Till
11:30-12:00	Doug Hanson, Seed Specialist, ProHarvest Seeds with Jim Isermann (local farmer)	Cover Crops
12:00-12:45	Terry Bachtold Pam Horwitz Paul Mathews	MRBI Panel Discussion

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
Big Bureau Creek

Friends of the Big Bureau Creek Watershed:

LaSalle County Soil and Water Conservation District
Lee County Soil and Water Conservation District
American Corn Growers Institute for Public Policy • Big Bureau Creek Watershed Group
IDNR • IEPA • Illinois Stewardship Alliance • Mauer Stutz, Inc.
Northwater Consulting • Pheasants Forever • Prairie Rivers Network
The Wetlands Initiative • Trees Forever • USGS

Landowner/Operator Name
Street Address
City, State, Zip Code

Dear (Name):

Recently, we shared with you the development of USDA/NRCS partnerships that were created to better educate and inform landowners and producers of the opportunities available through conservation and land stewardship programs. Programs such as the Conservation Stewardship Program (CSP) rewards land owners for stewardship efforts and others emphasize the specific economic benefits of best management practices such as Nutrient Management Planning.

Today, NRCS & Friends invite you to the ***"2012 Economics of Land Stewardship & Nutrient Management Workshop"*** to be held Friday, March 2nd at the Bureau County Metro Center, Princeton, IL. This free workshop, along with a complimentary breakfast, will feature Illinois farmers and industry professionals covering important issues of the day and will provide you with the tools for increasing local agricultural and environmental performance. Not to be outdone - join your neighbors as the award winning, free-lance journalist and syndicated ag columnist, **Alan Guebert**, moderates this free workshop. Guebert is best known for his ag column, "The Food and Farm File" and with his honest wit and barnyard humor our speakers won't get away with anything!

Come listen to **Dan Schaefer**, Director of Nutrient Stewardship for the Illinois Council on Best Management Practices as he provides an overview of the new KIC 2025 initiative - supported by ag groups all across the state; **Doug Hanson** of ProHarvest Seeds will explore the benefits of Cover Crops; discover the potential of environmental markets with **Jill Kostel,** PhD and Agriculture and Rural Affairs Advisor, **Dick Breckenridge**; learn the specifics of conservation initiatives with **State of Illinois NRCS** staff; and Financial Planning, the economics of good land stewardship with **Citizens Trust & Investment Group's VP & Wealth Advisor, Shelley Giesen.** Come learn the facts from our **panel of partners** and **local farmers** about the USDA/NRCS Mississippi River Basin Healthy Watersheds Initiative.

So get on board with the ***"2012 Economics of Land Stewardship & Nutrient Management".*** Don't miss this workshop! Enclosed please find a few fact sheets and the flyer. We look forward to you joining us for the morning and as a reminder, technical assistance from certified ag professionals will be available to answer your questions.

Pam Horwitz
Executive Director, American Corn Growers

the

2012 Economics of Land Stewardship & Nutrient Management Workshop

tools for increasing local agricultural and environmental performance

A workshop for Big Bureau Creek Watershed ag producers & farm managers

Friday, March 2, 2012

7:30 a.m. to 12:45 p.m.
Free admission and continental breakfast

Mark your calendars and plan to join Illinois farmers, including our moderator—nationally syndicated ag columnist Alan Guebert—for this workshop. Kick off the 2012 production year with new program information and nutrient/soil management tools delivered by industry professionals. Learn about on-the-ground success stories, better stewardship decisions, and professional partnerships that can help you protect your farmland for generations to come.

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

location:

Bureau County Metro Center

837 Park Ave W
Princeton, IL 61356

for more information:

Contact Pam Horwitz, Executive Director, American Corn Growers

(815) 646-4040
phorwitz@yahoo.com

or visit the website:

www.wetlands-initiative.org/friendsofbbc

workshop speakers and topics include:

- ***Keep it for the Crop (KIC) 2025***, Dan Schaefer, Director of Nutrient Stewardship for the Illinois Council on Best Management Practices *(comprised of the IL Fertilizer & Chemical Association, IL Farm Bureau, IL Corn Growers Association, IL Soybean Association, IL Pork Producers, and Syngenta Crop Protection)*
- ***Cover Crops***, Doug Hanson, Seed Specialist, ProHarvest Seeds
- ***Strip Till***, Dean Sasse, Logan County Farmer
- ***Water Quality Trading***, Jill Kostel, PhD, Senior Environmental Engineer, The Wetlands Initiative
- ***Conservation Practices and Water Quality***, Richard Breckenridge, Agriculture & Rural Affairs Advisor, IEPA
- ***Conservation Stewardship Program***, Ivan Dozier (invited), Assistant State Conservationist, NRCS
- ***Financial Planning***, Shelley Giesen, VP & Wealth Advisor, Citizens Trust & Investment Group
- ***Panel Discussion on the Mississippi River Basin Healthy Watershed Initiative (MRBI)***, project leaders and farmers from Big Bureau Creek, Salt Creek (Champaign County), Senachwine Creek (Peoria County), and Indian Creek (Livingston County)

hosted by the:

Friends of the Big Bureau Creek Watershed

LaSalle and Lee County Soil and Water Conservation Districts • American Corn Growers Institute for Public Policy
Big Bureau Creek Watershed Group • IDNR • IEPA • Illinois Stewardship Alliance • Mauer Stutz, Inc.
Northwater Consulting • Pheasants Forever • Prairie Rivers Network • The Wetlands Initiative • Trees Forever • USGS

A coalition providing outreach and education in support of the USDA NRCS Mississippi River Basin Healthy Watershed Initiative - Cooperative Conservation Partnership Initiative (MRBI-CCPI) award to specific subwatersheds in the Big Bureau Creek Watershed.

APPENDIX B: DISSEMINATION OF INFORMATION

TWI has been successful in disseminating the information and experiences gained as well as successes and challenges we have encountered through this CIG funded "Producer Communication & Outreach Program" to local, state, and national NRCS leaders; other CIG awardees; and other state and regional MRBI-CCPI awardees. While TWI did not participate in a NRCS CIG showcase event, Jill Kostel, the project manager, has been invited to and participated in a number of discussions and workshops on conservation practices, outreach strategies, and water quality monitoring. These meetings allowed TWI to engage with peers, exchange experiences and ideas, make connections with other MRBI organizations/groups, and learn "what's working" in encouraging conservation practice adoption, particularly in regards to wetland practices.

Listed here are examples of the main workshops and meetings that TWI actively participated in:

1. **MRBI Discussion** hosted by the McKnight Foundation in Minneapolis, MN on June 11, 2011. Over twenty organizations, who are either implementers or advocates of MRBI programs throughout the upper Midwest (many of who are also CIG grant recipients), shared their communication and on-the-ground experiences in conservation practices.

2. American Farmland Trust (AFT), Iowa Soybean Association (ISA), The Nature Conservancy (TNC) and Sand County Foundation (SCF) convened the **Leadership for Midwestern Watersheds: Measuring Results** meeting on November 8-9, 2011 in Ankeny, Iowa. They brought together project managers (non-profits, ag organizations, NRCS, and SWCD) from Iowa, Illinois, Minnesota and Wisconsin to discuss the most cost effective ways to document progress in their water quality projects (A participant list is attached). We discussed environmental monitoring, baseline data and the use of social information. Smaller group breakouts identified current activities, successes and challenges and recommendations for improvements in each of these areas. Issues that rose to the top were the need to develop common indicators and protocols, the need to measure short-term (three to five years) change, how to deal with non-resident landowners and how we go from incremental changes at the field level to changes at a watershed scale ("scaling up"). Throughout the workshop, Dr. Kostel was able to exchange information with other MRBI-CCPI participants on outreach hurdles and successes

3. As a result of the Leadership for Midwestern Watersheds, TWI CIG subcontractors and partners organized and participated in a meeting with other Illinois MRBI awardees on water quality monitoring methodologies and results at the NRCS Illinois state office on January 25, 2012. Illinois Acting State Conservationist Jeff Zimprich and Ivan Dozier (current State Conservationist) participated in the meeting.

4. Roundtable with Secretary Vilsack on "**Voluntary Conservation in Upper Mississippi River Basin"** on April 18, 2012 in Dubuque, Iowa, with selected organizations and NRCS leaders from Illinois, Iowa, and Wisconsin. Dr. Kostel had the opportunity to share our perspective and experiences with the outreach program and to suggest ways that the relationships between cooperative conservation partners and NRCS could be strengthened and more supportive.

5. Dr. Kostel participated in and presented at the **Thinking Like a Watershed: Midwest Agroecosystems and Gulf Hypoxia** organized by the Environmental Defense Fund in Washington, DC on June 11-12, 2012. This workshop focused on an integrated watershed approach to conservation practice implementation, the need for a portfolio of in-field and "downstream" practices (such as wetlands) that can be tailored to specific watershed water quality issues, current research results on "downstream" practices, and community/landowner attitudes towards conservation. This workshop for USDA NRCS and USEPA leaders was attended on jUne 12 by Tom Christensen (NRCS), Wayne Honeycutt (NRCS), Paul Sweeney (NRCS), Jane Frankenberger (NRCS), Chris Gross (NRCS), Skip Hyberg (FSA), Dewayne Johnson (SWCS), Jim Gulliford (SWCS), Mark Tomer (USDA ARS), Doug Smith (USDA ARS), Kevin King (USDA ARS), Keith Schilling (Iowa DNR/GWS), Eileen McLellan (EDF), Katoria Bishop (EDF), Karen Chapman (EDF), Suzy Friedman (EDF), Joe Rudek (EDF), Sara Brodnax (EDF consultant), Ralph Heimlich (EDF consultant), Joe Magner (UMN), Jeff Strock (UMN), Dave Kovacic (UIUC), Chris Craft (IU), Peter Groffman (consultant), Linda Prokopy (Purdue), Larry Elworth (EPA), Katie Flahive (EPA), Lynda Hall (EPA), Stuart Lehman (EPA), Roberta parry (EPA), and Joe Pietrowski (EPA).

6. Illinois Stewardship Alliance along with TWI, National Wildlife Foundation, Prairie Rivers Network, and the Mississippi River Network organized a **field day for staff of Illinois congressional representatives and senators**, farmers, media, and on-the-ground federal employees to discuss the importance of federal conservations programs such as Conservation Stewardship Program and conservation compliance (See attached newspaper article).

7. American Farmland Trust (AFT), Iowa Soybean Association (ISA), The Nature Conservancy (TNC) and Sand County Foundation (SCF) convened the third **Leadership for Midwestern Watersheds: Measuring Results** meeting on October 31 and November 1, 2012 in Ankeny, Iowa. The meeting focused on three key issues: farmer engagement, targeting of nutrient reduction practices, and scaling up of watershed projects.

APPENDIX C: OUTREACH SURVEY AND RESULTS

Information Sources

To what extent do you trust those listed below as a source of information about soil and water quality?

	Not at all	Slightly	Moderately	Very much	Am not familiar
1. Soil and Water Conservation District	( )	( )	( )	( )	( )
2. Natural Resources Conservation Service	( )	( )	( )	( )	( )
3. University Extension	( )	( )	( )	( )	( )
4. State agricultural agency	( )	( )	( )	( )	( )
5. State environmental agency	( )	( )	( )	( )	( )
6. Conservation or Environmental groups	( )	( )	( )	( )	( )
7. Farm Bureau	( )	( )	( )	( )	( )
8. Fertilizer representatives	( )	( )	( )	( )	( )
9. Crop consultants	( )	( )	( )	( )	( )
10. Other landowners / friends	( )	( )	( )	( )	( )
11. Land trust	( )	( )	( )	( )	( )

Land Stewardship Practices

Based on this workshop's information, how willing are you to try the practices during the next field season?

	Currently use it	Yes	Maybe	No	Need more info
1. Cover crops	( )	( )	( )	( )	( )
2. Strip-till or other tillage conservation practices	( )	( )	( )	( )	( )
3. 4R's of nutrient management	( )	( )	( )	( )	( )
4. Conservation Stewardship Program	( )	( )	( )	( )	( )
5. Wetland (construction, restoration, or enhancement)	( )	( )	( )	( )	( )

OPTIONAL	If interested in receiving additional practice information through the outreach program	Name:	Contact Phone Number:

Book Description:

Alcohol Can Be a Gas! is the only comprehensive book ever written on alcohol fuel production and use for home and farm. Until now, it has been very difficult for farmers, contractors, alternative energy aficionados, those concerned about Peak Oil, and small-scale entrepreneurs to obtain good, accurate information on producing alcohol, or on converting vehicles to run on alcohol fuel. And with all the conflicting news stories about ethanol, the public finds it difficult to sort fact from fiction. This text, which has been reviewed by scientists around the world, is the definitive reference work on alcohol fuel.

BIG BUREAU CREEK WATERSHED FARMER SURVEY

HELP US HELP YOU & RECEIVE A FREE BOOK

The first 50 farmers to complete and turn in this survey will receive a complimentary copy of David Blume's "Alcohol Can Be a Gas: Fueling an Ethanol Revolution for the 21st Century" (a $60 value) from ACGA.

About You / Your Farm Operation

1. In which county is the majority of the property you manage or own?	Lee / LaSalle / Bureau	
2. Does the property you manage touch a stream, river, lake, or wetland?	( ) YES	( ) NO
3. Please estimate the total tillable acreage of your ag operation this year.	acres	
4. Does the property you manage/own have acreage in CRP, EQIP or CSP?	( ) YES	( ) NO
5. Do you have a nutrient management plan for your farm operation?	( ) YES	( ) NO
6. What is your gender?	( ) FEMALE	( ) MALE
7. In what year were you born?		

Please select the option that best describes who generally makes management decisions for your operation?

( ) Me alone or with my spouse	( ) Me and my business partners
( ) Me with my family partners (siblings, parents, children)	( ) Me with my tenant
( ) Me with the landowner	( ) Someone else makes the decision for the operation

How likely is it that any family member will continue farm operations when you retire or quit farming?

( ) Definitely will not happen	( ) Probably will happen
( ) Probably will not happen	( ) Definitely will happen

Your Opinions on Water Quality

What is your level of agreement or disagreement with the statements listed below?

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. Using recommended management practices on farms improves water quality.	( )	( )	( )	( )	( )
2. It is my personal responsibility to help protect water quality.	( )	( )	( )	( )	( )
3. It is important to protect water quality even if it slows economic development.	( )	( )	( )	( )	( )
4. My actions have an impact on water quality.	( )	( )	( )	( )	( )
5. I would be willing to pay more to improve water quality (for example: though local taxes or fees)	( )	( )	( )	( )	( )
6. I would be willing to change management practices to improve water quality.	( )	( )	( )	( )	( )
7. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	( )	( )	( )	( )	( )
8. The pollutants or conditions causing local water quality issues are:	(please list)				

Sources of Water Pollution

The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem are the following sources in your area?

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know
1. Discharges from sewage treatment plants	( )	( )	( )	( )	( )
2. Soil erosion from farm fields	( )	( )	( )	( )	( )
3. Soil erosion from shorelines and/or streambanks	( )	( )	( )	( )	( )
4. Excessive use of lawn fertilizers and/or pesticides	( )	( )	( )	( )	( )
5. Improperly maintained septic systems	( )	( )	( )	( )	( )
6. Manure from farm animals	( )	( )	( )	( )	( )
7. Loss of fertilizer through tile drainage	( )	( )	( )	( )	( )
8. Crop production (irrigated)	( )	( )	( )	( )	( )
9. Pasture grazing	( )	( )	( )	( )	( )
10. Urban stormwater runoff	( )	( )	( )	( )	( )
11. Septic disposal	( )	( )	( )	( )	( )
12. Streambank or shoreline modification/destabilization	( )	( )	( )	( )	( )
13. Drainage/filling of wetlands	( )	( )	( )	( )	( )

Practices to Improve Water Quality

How familiar are you with the following actions or practices that can used to improve water quality?

	Not relevant for my property	Never heard of it	Somewhat familiar with it	Considering it; need more info	Currently use it
1. Conduct regular soil tests for pH, phosphorus, nitrogen and potassium	( )	( )	( )	( )	( )
2. Avoid fall application of manure or nitrogen fertilizer to reduce environmental losses	( )	( )	( )	( )	( )
3. Construct sediment basins to collect and store debris or sediment	( )	( )	( )	( )	( )
4. Construct a waste storage facility	( )	( )	( )	( )	( )
5. Use heavy use area protection for waste management	( )	( )	( )	( )	( )
6. Compost manure prior to land application	( )	( )	( )	( )	( )
7. Use no-till or strip-till to reduce erosion	( )	( )	( )	( )	( )
8. Follow an approved grazing plan to maintain grass quality and reduce erosion	( )	( )	( )	( )	( )
9. Use a grassed waterway to reduce erosion and soil loss	( )	( )	( )	( )	( )
10. Use a filter strip to trap sediment below a critical area	( )	( )	( )	( )	( )
11. Protect streambanks and/or shorelines with vegetation (riparian buffer)	( )	( )	( )	( )	( )

Making Decisions for my Property

In general, how much does each issue LIMIT your ability to change your agricultural management practices?

	Not at all	A little	Some	A lot	Don't Know
1. Desire to keep things the way they are	( )	( )	( )	( )	( )
2. Time required to implement and maintain the practice	( )	( )	( )	( )	( )
3. Don't know how to do it, due to lack of information	( )	( )	( )	( )	( )
4. Personal out-of-pocket expense (labor, equipment changes, etc.)	( )	( )	( )	( )	( )
5. Insufficient proof of water quality benefit	( )	( )	( )	( )	( )
6. The features of my property make it difficult	( )	( )	( )	( )	( )
7. Need to see a demonstration of the practice before I decide	( )	( )	( )	( )	( )
8. Commitment to my current farming system	( )	( )	( )	( )	( )
9. I do not own the property	( )	( )	( )	( )	( )
10. Approval of my neighbors	( )	( )	( )	( )	( )
11. No one else I know is implementing the practice	( )	( )	( )	( )	( )
12. Lack of government funds for cost share	( )	( )	( )	( )	( )
13. Don't want to participate in government programs	( )	( )	( )	( )	( )
14. Requirements or restrictions of government programs	( )	( )	( )	( )	( )
15. Concerns about reduced yields	( )	( )	( )	( )	( )
16. Concerns about possible interference with my flexibility to change land use practices as conditions warrant	( )	( )	( )	( )	( )
17. Concerns about environmental damage caused by practice	( )	( )	( )	( )	( )

Specific Practice: Wetland Construction, Restoration, or Enhancement

Wetland conservation practices involve reestablishing or improving a low-lying or marginally productive area of land that is saturated with moisture for the purposes of improving water quality and wildlife habitat.

	Not at all	A little	Some	A lot	Not Relevant
1. How familiar are you with wetland conservation practices	( )	( )	( )	( )	( )

How much do the following factors LIMIT your ability to implement wetland conservation practices?

	Not at all	A little	Some	A lot	Don't Know
1. Desire to keep things the way they are	( )	( )	( )	( )	( )
2. Time required to implement and maintain the practice	( )	( )	( )	( )	( )
3. Don't know how to do it, due to lack of information	( )	( )	( )	( )	( )
4. Personal out-of-pocket expense (labor, equipment changes, etc.)	( )	( )	( )	( )	( )
5. Insufficient proof of water quality benefit	( )	( )	( )	( )	( )
6. The features of my property make it difficult	( )	( )	( )	( )	( )
7. Need to see a demonstration of the practice before I decide	( )	( )	( )	( )	( )
8. Commitment to my current farming system	( )	( )	( )	( )	( )
9. I do not own the property	( )	( )	( )	( )	( )

2012 ECONOMICS OF LAND STEWARDSHIP AND NUTRIENT MANAGEMENT WORKSHOP

Opening Brainstorming Session

Question 1: What does the term "land stewardship" mean to you?

- Sustainability. What does that mean to you?
    - Leaving the land as it was; no change in land quality, no pollution
    - Keep it on your land
    - Understand what conservation is – not just leaving it alone
    - Take care and improve value
    - Having a plan in place; know how to manage
- Long-term productivity
- Good management with long-term vision
- Get info from network
- Maximum production of food, fiber, fuel under economic, environmental and humanitarian standards

Question 2: What do you fell are the most pressing issues affecting land stewardship?

- High commodity prices
- Land is how they make a living – acres need to earn money
- They receive less money from conservation
- CSP – maximum production while decreasing input costs

Question 3: What keeps you from taking additional steps to improve your land stewardship?

- Higher commodity prices

Watershed Farmer Survey Results

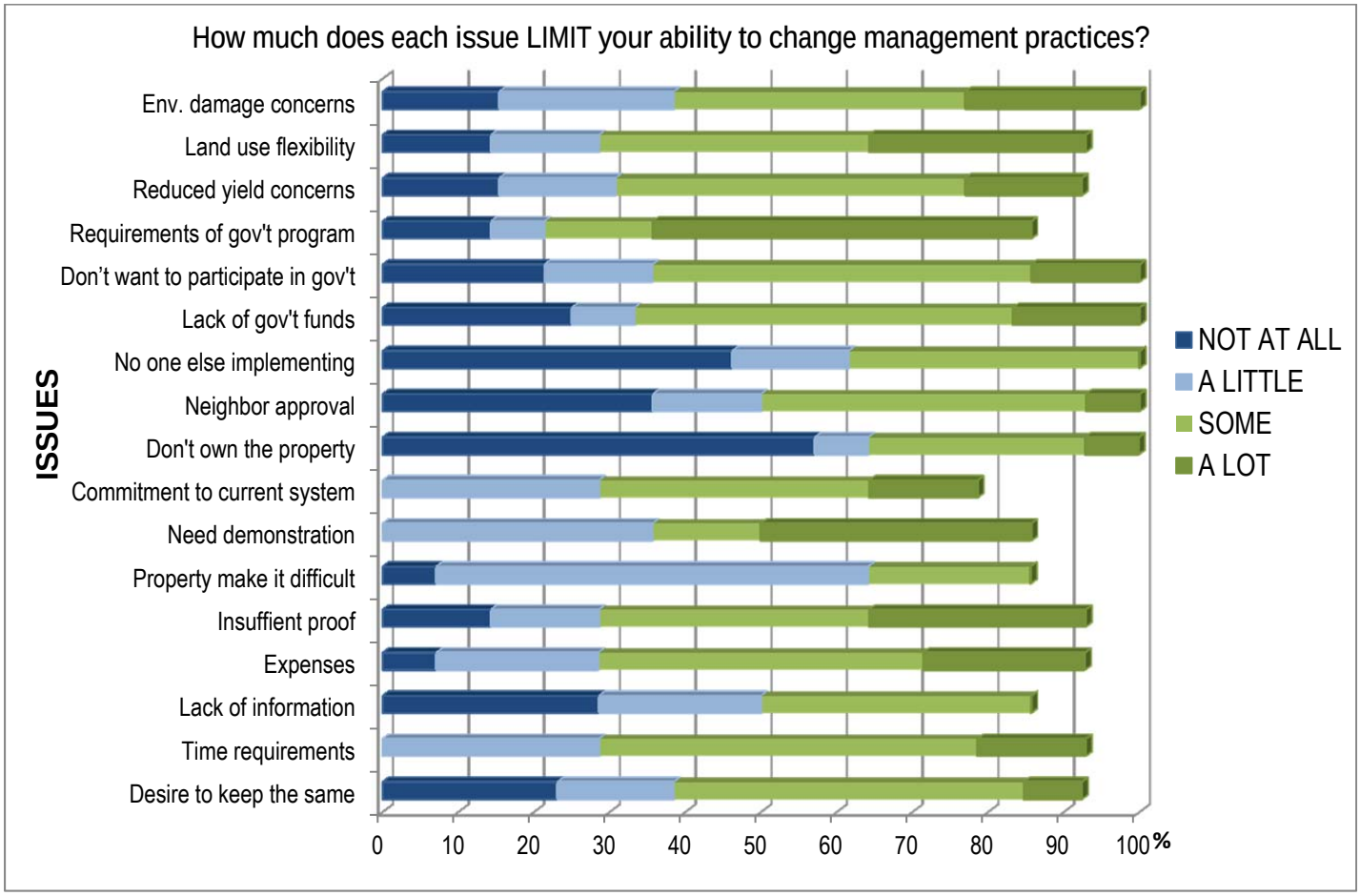
The survey was adapted from the Social Indicators Data Management and Analysis Tool (SIDMA). This tool organizes, analyzes, and visualizes social indicators (awareness, attitudes, constraints) related to nonpoint source management efforts to determine baseline and progress towards targeted behavioral change. The purpose of the survey is to identify or confirm what factors are preventing implementation of conservation practices.

As expected, the limitation of the survey is that outreach efforts will not be able to reach every landowner in the watershed, so awareness and attitudes can only be measured in a small subset. In this case, 14 respondents answered the majority of the questions. One respondent only completed two out of the four pages. The survey results may not be representative of the general population, because attendees of a workshop are more likely to be landowners with greater awareness/receptivity to conservation practices (i.e., "innovators" and "early adopters" of practices). However, some insights can be gained even from a small subset.

The survey results can be found on the following pages, but the general findings are:

- The respondents "agreed" with the water quality issues and their role in regards to water quality presented in the survey. The mean score was 3.96 on a scale of 1 (less positive) to 5 (more positive).
- The respondents' awareness was above average in regards to the listed practices to improve water quality. On the scale of 1 (less aware) to 2 (more aware), the mean score was 1.68.
- The behavior indicator illustrates that 36% of the respondents are currently implementing one or more of the specified conservation practices.

- In general, the audience **feels "less constrained" in regards to making decisions for his/her property** (i.e., constraints to behavior change). The mean was 2.44 on a scale of 1 (more constrained) to 4 (less constrained).
- Issues that have the most limitations (or present the most constraints) are the requirements or restrictions of government programs, need to see a demonstration of the practice, and insufficient proof of the water quality benefits (see graph below).



- Not surprisingly, the **trusted sources of information** about soil and water quality are SWCD, University Extension, Crop Consultants and NRCS. These are sources that we need to engage further for MRBI outreach. In addition, "Friends/other Landowners" are considered moderately trusted sources, which we have already recognized and will be incorporating with our "networking" approach to outreach.
- The **overall willingness to try the practices presented at the workshop** (cover crops, tillage practices, nutrient management, CSP, and wetlands) was 2.31 on a scale of 1 (no) to 4 (yes).

BIG BUREAU CREEK WATERSHED FARMER SURVEY MARCH WORKSHOP RESULTS

About You / Your Farm Operation

1. In which county is the majority of the property you manage or own?	Lee (14.3%) / LaSalle (7.1%) / Bureau (78.6%)	
2. Does the property you manage touch a stream, river, lake, or wetland?	YES (100%)	NO (0%)
3. Please estimate the total tillable acreage of your ag operation this year.	Mean = 486.9,Min = 5, Max = 1800 acres	
4. Does the property you manage/own have acreage in CRP, EQIP or CSP?	YES (64.3%)	NO (35.7%)
5. Do you have a nutrient management plan for your farm operation?	YES (66.7%)	NO (33.3%)
6. What is your gender?	FEMALE (35.7%)	MALE (64.3%)
7. In what year were you born?	Mean = 61.22, Min = 32, Max = 87 yrs old	

Please select the option that best describes who generally makes management decisions for your operation?

(35.7%) Me alone or with my spouse	(14.3%) Me and my business partners
(28.6%) Me with my family partners (siblings, parents, children)	(21.4%) Me with my tenant
(0%) Me with the landowner	(0%) Someone else makes the decision for the operation

How likely is it that any family member will continue farm operations when you retire or quit farming?

(7.1%) Definitely will not happen	(21.4%) Probably will happen
(42.9%) Probably will not happen	(28.6%) Definitely will happen

Your Opinions on Water Quality

What is your level of agreement or disagreement with the statements listed below? Results as percentages (%)

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Mean (SD)	Valid / Total Respon.
1. Using recommended management practices on farms improves water quality.	0	0	0	60	40	4.4 (0.51)	15/15
2. It is my personal responsibility to help protect water quality.	0	0	0	40	60	4.6 (0.51)	15/15
3. It is important to protect water quality even if it slows economic development.	0	0	33.3	46.7	20	3.87 (0.74)	15/15
4. My actions have an impact on water quality.	0	0	0	61.5	38.5	4.38 (0.51)	13/13
5. I would be willing to pay more to improve water quality (for example: though local taxes or fees)	14.3	14.3	50	21.4	0	2.79 (0.97)	14/14
6. I would be willing to change management practices to improve water quality.	0	6.7	33.3	53.3	6.7	3.6 (0.74)	15/15
7. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	0	6.7	13.3	46.7	33.3	4.07 (0.88)	15/15
8. The pollutants or conditions causing local water quality issues are:	(please list) – 8/14 Respondents. Multiple answers each. Not Sure = 1 Crop fertilizer (N and P) = 4 Ag Chemicals = 3 Bank Erosion = 1						

	Soil Erosion = 4 Town Discharge = 2

SIDMA ATTITUDE INDICATOR – Willingness to take action to improve water quality

This is based on all the responses to the previous category "Your Opinions on Water Quality"	**Mean**	**SD**	**Valid Responses**	**Total Responses**
General water-quality-related attitudes (value range 1 (less positive) to 5 (more positive))	3.96	0.9	102	102

Sources of Water Pollution

The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem are the following sources in your area?

	Not a Problem (1)	Slight Problem (2)	Moderate Problem (3)	Severe Problem (4)	Don't Know (0)	Mean (SD)	Valid / Total Respon.
1. Discharges from sewage treatment plants	7.1	21.4	14.3	21.4	35.7	2.78 (1.09)	9 / 14
2. Soil erosion from farm fields	0	46.2	46.2	0	7.7	2.5 (0.52)	12 / 13
3. Soil erosion from shorelines and/or streambanks	0	30.8	46.2	15.4	7.7	2.83 (0.72)	12 / 13
4. Excessive use of lawn fertilizers and/or pesticides	7.7	23.1	23.1	23.1	23.1	2.8 (1.03)	10 / 13
5. Improperly maintained septic systems	0	35.7	28.6	7.1	28.6	2.6 (0.7)	10 / 14
6. Manure from farm animals	35.7	35.7	14.3	0	14.3	1.75 (0.75)	12 / 14
7. Loss of fertilizer through tile drainage	0	50	21.4	7.1	21.4	2.45 (0.69)	11 / 14
8. Crop production (irrigated)	25	16.7	16.7	0	41.7	1.86 (0.9)	7 / 12
9. Pasture grazing	85.7	0	0	0	14.3	1 (0)	12 / 14
10. Urban stormwater runoff	0	35.7	35.7	14.3	14.3	2.75 (0.75)	12 / 14
11. Septic disposal	7.1	50	14.3	7.1	21.4	2.27 (0.79)	11 / 14
12. Streambank or shoreline modification/destabilization	0	28.6	21.4	28.6	21.4	3 (0.89)	11 / 14
13. Drainage/filling of wetlands	7.7	30.8	7.7	15.4	38.5	2.5 (1.07)	8 / 13

Practices to Improve Water Quality

How familiar are you with the following actions or practices that can used to improve water quality?

	Not relevant for my property (0)	Never heard of it (1)	Somewhat familiar with it (2)	Considering it; need more info (3)	Currently use it (4)	Mean (SD)	Valid / Total Respon.
1. Conduct regular soil tests for pH, phosphorus, nitrogen and potassium	0	0	21.4	0	78.6	3.57 (0.85)	14 / 14
2. Avoid fall application of manure or nitrogen fertilizer to reduce environmental losses	7.1	7.1	57.1	21.4	7.1	2.31 (0.75)	13 / 14

3. Construct sediment basins to collect and store debris or sediment	35.7	21.4	21.4	14.3	7.1	2.11 (1.05)	9 / 14
4. Construct a waste storage facility	57.1	7.1	21.4	7.1	7.1	2.33 (1.03)	6 / 14
5. Use heavy use area protection for waste management	42.9	35.7	21.4	0	0	1.38 (0.52)	8 / 14
6. Compost manure prior to land application	50	14.3	21.4	7.1	7.1	2.14 (1.07)	7 / 14
7. Use no-till or strip-till to reduce erosion	0	7.1	28.6	21.4	42.9	3 (1.04)	14 / 14
8. Follow an approved grazing plan to maintain grass quality and reduce erosion	50	7.1	28.6	7.1	7.1	2.29 (0.95)	7 / 14
9. Use a grassed waterway to reduce erosion and soil loss	0	7.1	21.4	14.3	57.1	3.21 (1.05)	14 / 14
10. Use a filter strip to trap sediment below a critical area	7.1	7.1	21.4	14.3	50	3.15 (1.07)	13 / 14
11. Protect streambanks and/or shorelines with vegetation (riparian buffer)	14.3	7.1	14.3	28.6	35.7	3.08 (1)	12 / 14

SIDMA AWARENESS INDICATOR – Awareness of appropriate practices to improve water quality

This is based on all the responses to the previous category "Practices to Improve Water Quality"	**Mean**	**SD**	**Valid Responses**	**Total Responses**
Awareness of appropriate practices to improve water quality (value range 1 (less aware) to 2 (more aware))	1.68	0.36	117	154

SIDMA BEHAVIOR INDICATOR – % of audience implementing practices in critical areas

This is based on all the responses to the previous category "Practices to Improve Water Quality" (Currently use it)	**%**	**Valid Responses**	**Total Responses**
Percentage of target audience implementing the specified practices.	36%	117	154

Making Decisions for my Property

In general, how much does each issue LIMIT your ability to change your agricultural management practices?

	Not at all (4)	A little (3)	Some (2)	A lot (1)	Don't Know (0)	Mean (SD)	Valid / Total Respon.
1. Desire to keep things the way they are	23.1	15.4	46.2	7.7	7.7	2.58 (1)	12 / 13
2. Time required to implement and maintain the practice	0	28.6	50	14.3	7.1	2.15 (0.69)	13 / 14
3. Don't know how to do it, due to lack of information	28.6	21.4	35.7	0	14.3	2.92 (0.9)	12 / 14
4. Personal out-of-pocket expense (labor, equipment changes, etc.)	7.1	21.4	42.9	21.4	7.1	2.15 (0.9)	13 / 14
5. Insufficient proof of water quality benefit	14.3	14.3	35.7	28.6	7.1	2.15 (1.07)	13 / 14
6. The features of my property make it difficult	7.1	57.1	21.4	0	14.3	2.83 (0.58)	12 / 14
7. Need to see a demonstration of the practice before I decide	0	35.7	14.3	35.7	14.3	2 (0.95)	12 / 14
8. Commitment to my current farming system	0	28.6	35.7	14.3	21.4	2.18 (0.75)	11 / 14

9. I do not own the property	57.1	7.1	28.6	7.1	0	3.14 (1.1)	14 / 14
10. Approval of my neighbors	35.7	14.3	42.9	7.1	0	2.79 (1.05)	14 / 14
11. No one else I know is implementing the practice	46.2	15.4	38.5	0	0	3.08 (0.95)	13 / 13
12. Lack of government funds for cost share	25	8.3	50	16.7	0	2.42 (1.08)	12 / 12
13. Don't want to participate in government programs	21.4	14.3	50	14.3	0	2.43 (1.02)	14 / 14
14. Requirements or restrictions of government programs	14.3	7.1	14.3	50	14.3	1.83 (1.19)	12 / 14
15. Concerns about reduced yields	15.4	15.4	46.2	15.4	7.7	2.33 (0.98)	12 / 13
16. Concerns about possible interference with my flexibility to change land use practices as conditions warrant	14.3	14.3	35.7	28.6	7.1	2.15 (1.07)	13 / 14
17. Concerns about environmental damage caused by practice	15.4	23.1	38.5	23.1	0	2.31 (1.03)	13 / 13

SIDMA CONSTRAINT INDICATOR – Constraints to behavior change

This is based on all the responses to the previous category "Making decisions for my property"	**Mean**	**SD**	**Valid Responses**	**Total Responses**
Constraints to behavior change (value range 1 (more constraint) to 4 (less constraint))	2.44	1.01	215	232

Specific Practice: Wetland Construction, Restoration, or Enhancement

Wetland conservation practices involve reestablishing or improving a low-lying or marginally productive area of land that is saturated with moisture for the purposes of improving water quality and wildlife habitat.

	Not at all (1)	A little (2)	Some (3)	A lot (4)	Not Relevant (0)	Mean (SD)	Valid / Total Respon.
1. How familiar are you with wetland conservation practices	7.1	28.6	42.9	14.3	7.1	2.69 (0.85)	13 / 14

How much do the following factors LIMIT your ability to implement wetland conservation practices?

	Not at all (4)	A little (3)	Some (2)	A lot (1)	Don't Know (0)	Mean (SD)	Valid / Total Respon.
1. Desire to keep things the way they are	8.3	41.7	33.3	8.3	8.3	2.55 (0.82)	11 / 12
2. Time required to implement and maintain the practice	18.2	18.2	36.4	18.2	9.1	2.4 (1.07)	10 / 11
3. Don't know how to do it, due to lack of information	9.1	18.2	63.6	0	9.1	2.4 (0.7)	10 / 11
4. Personal out-of-pocket expense (labor, equipment changes, etc.)	18.2	27.3	18.2	27.3	9.1	2.4 (1.17)	10 / 11
5. Insufficient proof of water quality benefit	9.1	18.2	36.4	18.2	18.2	2.22 (0.97)	9 / 11
6. The features of my property make it difficult	16.7	33.3	33.3	8.3	8.3	2.64 (0.92)	11 / 12
7. Need to see a demonstration of the practice before I decide	18.2	27.3	36.4	18.2	0	2.45 (1.04)	11 / 11
8. Commitment to my current farming system	9.1	27.3	54.5	9.1	0	2.36 (0.81)	11 / 11
9. I do not own the property	63.6	9.1	9.1	18.2	0	3.18 (1.25)	11 / 11

Information Sources

To what extent do you trust those listed below as a source of information about soil and water quality?

	Not at all (1)	Slightly (2)	Moderately (3)	Very much (4)	Am not familiar (0)	Mean (SD)	Valid / Total Respon.
1. Soil and Water Conservation District	0	6.7	46.7	46.7	0	3.4 (0.63)	15 / 15
2. Natural Resources Conservation Service	0	13.3	46.7	40	0	3.27 (0.7)	15 / 15
3. University Extension	0	6.7	40	40	13.3	3.38 (0.65)	13 / 15
4. State agricultural agency	6.7	26.7	26.7	20	20	2.75 (0.97)	12 / 15
5. State environmental agency	26.7	20	26.7	6.7	20	2.17 (1.03)	12 / 15
6. Conservation or Environmental groups	33.3	13.3	26.7	6.7	20	2.08 (1.08)	12 / 15
7. Farm Bureau	20	6.7	33.3	40	0	2.93 (1.16)	15 / 15
8. Fertilizer representatives	21.4	14.3	35.7	28.6	0	2.71 (1.14)	14 / 14
9. Crop consultants	6.7	6.7	33.3	46.7	6.7	3.29 (0.91)	14 / 15
10. Other landowners / friends	0	6.7	80	6.7	6.7	3 (0.39)	14 / 15
11. Land trust	0	13.3	33.3	6.7	46.7	2.88 (0.64)	8 / 15

Land Stewardship Practices

Based on this workshop's information, how willing are you to try the practices during the next field season?

	Currently use it (0)	Yes (4)	Maybe (3)	No (1)	Need more info (2)	Mean (SD)	Valid / Total Respon.
1. Cover crops	28.6	14.3	35.7	14.3	7.1	2.70 (1.06)	14 / 14
2. Strip-till or other tillage conservation practices	42.9	0	21.4	35.7	0	1.75 (1.03)	14 / 14
3. 4R's of nutrient management	15.4	7.7	38.5	7.7	30.8	2.55 (0.82)	13 / 13
4. Conservation Stewardship Program	15.4	23.1	23.1	7.7	30.8	3.03 (0.82)	13 / 13
5. Wetland (construction, restoration, or enhancement)	14.3	0	21.4	42.9	21.4	1.75 (0.87)	14 / 14

SIDMA ATTITUDE INDICATOR – Willingness to try new practices

This is based on all the responses to the previous category "Land Stewardship Practices"	**Mean**	**SD**	**Valid Responses**	**Total Responses**
Value range 1 (less positive) to 4 (more positive)	2.31	1.02	52	68

APPENDIX D: STATE CONSERVATIONIST LETTER

American Corn Growers
Institute for Public Policy

P.O. Box 18157 • Washington, DC 20036 • 202-835-0330

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Executive Director

March 21, 2012

Jeff Zimprich
Acting State Conservationist
Illinois State Office
USDA Natural Resources Conservation Service
Illinois State Office
2118 W. Park Court
Champaign, IL 61821

Dear Jeff:

The Big Bureau Creek Targeted Subwatershed Initiative MRBI-CCPI project partners have worked since 2010 to increase the awareness of resource concerns and the ability to address those concerns through the different programs and practices offered under the 2011 MRBI award. The CCPI partners (referred to as the "Friends of the Big Bureau Creek Watershed") are working to provide assistance to the local NRCS offices by conducting education and outreach, monitoring water quality pre- and post-project implementation, facilitate eligible landowner and operator enrollment, work with producers to create and implement management plans, and provide technical assistance to expedite practice survey, design, construction and certification.

At the time of the proposal the project partners had leveraged a total of $253,170 in technical monitoring equipment, practice and activity related farmer incentives and materials, in-kind technical assistance and professional services, and project related-education and outreach. The outreach and education effort and components of the water quality monitoring have been funded by two-year MRBI Conservation Innovation Grant awarded to the Wetlands Initiative in September 2010. Additional outreach funding has been provided by the McKnight Foundation and the Walton Family Foundation to the Wetland Initiative and Prairie Rivers Network, respectively.

However, the outreach and sign-up effort has not progressed as quickly or successfully as anticipated. While the local NRCS staff have demonstrated a keen interest and willingness to support the project partners' communication effort, they are limited by both staff resources and the federal Privacy Act in providing producer contact information, location of farm fields with resource concerns, location of existing practices, etc. You are probably familiar with these data gap issues as you have met several of the MRBI-CCPI project partners over the last month.

In order for the partners to best utilize their resources and better provide assistance to NRCS in this effort, I would like to respectfully make a request for the following information to be shared with the partners:

1. **Location of existing conservation contracts and associated acreage, including program, practice types, and contract expiration.** The Big Bureau Creek Watershed Inventory & Evaluation Report identified areas where practices are needed, but this report is 6 years old. Without a current map identifying which parcels are in enrolled in USDA practices and programs, it is difficult for the partners to determine which landowners to approach during our 1-on-1 outreach effort.
2. **Producer and landowner contact information within the MRBI watersheds to assure accurate contact with the farmers during mailings and 1-on-1 outreach**. Specifically, the names and contact information for parcels or areas that we identify as potential program or practice implementation areas. Knowing who to contact for a parcel is key to efficient outreach, particularly over a large area, as our past experience has shown us that farm directories and plat books do not provide the appropriate information. From previous reports and meetings, the partners have developed lists of names of those interested in conservation but the contact information is typically incomplete.
3. **Names and contact information of landowners or producers who may be in the deciding process or sitting on-the-fence about practices.** NRCS staff has identified the long-time lags between initial meetings and paperwork completion by the interest party as a barrier to completing sign-ups. On the other hand, the landowners/producers have described the enrollment process as overwhelming and cumbersome with paperwork. The partners can bridge this gap by providing technical or paperwork assistance as well as encouragement through the various enrollment and sign-up steps.

Please note, that while we want to have this detailed information to accelerate and focus our outreach effort, this information will not be publicly distributed. Any maps that are produced for outreach purposes will not contain any producer or the detailed identifiers. We are interested in only illustrating to the local farmers where in the watershed the EQIP, WRP, CRP/CREP, CSP practices are located, not the specific practices. This is similar to what is typically presented in watershed plans. All specific information about practice locations or contracts will only be used to help the outreach partners determine where to concentrate the outreach efforts and who to contact about what program or practices.

In addition, I would like to reiterate a previous request from Jeff Boeckler (Northwater Consulting) for the following data needed to conduct the edge-of-field modeling as proposed under the MRBI work plan. These data are only for those who have or will enroll into practices under the MRBI program.

1. Soil type (s) within drainage area with applicable acreage for each
2. Drainage area to practice
3. LS factor
4. C factor
5. P factor with practice
6. USLE factors could be substituted with the pre and post RUSLE2 calculations/results done by the office to calculate tonnage of sediment before and after the practice – I would still need the soil types, drainage area and practice type to calculate loading from surface runoff
7. If a gully is present, gully dimensions – Length, Width, Depth, Years eroding

We realize this is a large request, and we do not wish burden NRCS resources. However, this information will allow us to more effectively and efficiently utilize partner resources and provide technical and outreach assistance to our local NRCS offices. Like NRCS, the project partners want to show that the MRBI-CCPI is a successful program not only in terms of improving water quality, wildlife habitat, and farm productivity but also in targeting federal financial assistance and leveraging non-federal resources in selected watersheds.

I look forward to discussing the availability of the requested data and any needed partnership agreement with you.

Sincerely,

Pam Horwitz
Executive Director

cc: Tessa Chadwick, Assist. State Conservationist Area 4
Rod Kuykendall, Princeton Field Office
Aaron Seim, Amboy Field Office
Mark Baran, Ottawa Field Office

APPENDIX E: OUTREACH & EDUCATION MATERIALS

By Pam Horwitz

With a little help from our friends

States and municipalities across the nation are facing very tough budget decisions. It is all we hear about on the news, and for today, we won't belabor that issue. But we will recognize the only way to sometimes get community programs implemented and necessary initiatives off the ground is to call on willing private partners and volunteers to help get the work done. In other words, we call on our neighbors. In rural communities such as ours, this is not a new idea, it is a way of life. We know what it means to have a "can-do attitude," and we truly understand what "neighbor helping neighbor" is all about.

Your local USDA Natural Resources Conservation Service and the Earth Team Volunteer program have long been a part of our community, and as a reminder, participation in all programs is voluntary, including the implementation of conservation best practices. The need for volunteer work at the local level has grown. Volunteers along with program partners are now helping NRCS work with landowners through conservation planning and technical assistance that benefits our soil, water, air, plants and animals to ensure productive lands and healthy ecosystems.

This summer a diverse coalition of governmental, agricultural and conservation groups and local individuals began an outreach and education effort to engage producers within the Big Bureau Creek Watershed and support implementation of practices that specifically address local watershed sediment and water resource issues. The program, called the Mississippi River Basin Healthy Watersheds Initiative, aims to improve the health of the Mississippi River Basin by helping producers voluntarily implement conservation practices that prevent, control and trap nutrient and sediment runoff from agricultural land from entering surface and ground water; and restore and protect wetlands.

Through the MRBI program, NRCS has increased conservation program funding to selected priority watersheds in 12 states. The Big Bureau Creek Watershed is located within one of the four areas named as a high priority area in Illinois under the MRBI program. The state NRCS selected the Big Bureau Creek Watershed as a priority area because of significant water quality issues and substantial, scientific data records are available.

"Our goal for MRBI is to improve water quality while maintaining agricultural productivity and benefiting wildlife in the region," said Bill Gradle, Illinois' state conservationist for NRCS.

The Big Bureau Creek Targeted Subwatershed Initiative was selected through a competitive process under the MRBI Cooperative Conservation Partnership Initiative. Nineteen projects were selected nationwide. This was the only Illinois project selected in 2011. CCPI funding is administered by NRCS directly to eligible agricultural producers through the Conservation Stewardship Program, Environmental Quality Incentives Program, and Wildlife Habitat Incentives Program. This is an extraordinary financial and technical assistance commitment by the NRCS to the priority areas above and beyond the regular conservation working lands programs.

The NRCS understands that one of its most valuable local resources is you. Seventy percent of the land in the United States is privately owned, which makes stewardship by private landowners absolutely critical to the health of our nation's environment. We are asking you to help the land. Earth Team volunteers and private partners are working hand in hand with NRCS staff in USDA Service Centers and field offices in nearly every county in our nation. Here at home, these partnership efforts which will be carried out through the Big Bureau Creek Targeted Watershed Initiative, will strengthen access to much needed resources and directly benefiting landowners and communities at the local level.

Pam Horwitz is executive director of the American Corn Growers Association, the principle project sponsor for the Big Bureau Creek Targeted Watershed Initiative and an Earth Team volunteer.

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Print Page

By Barb Kromphardt - bkromphardt@bcrnews.com

Cleaning up Big Bureau

PRINCETON — There's finally going to be some money to clean up Big Bureau Creek.

On Monday, Pam Horwitz, executive director of American Corn Growers Association, announced a $2 million, four-year program to help clear up the portions of Upper Bureau Creek, East Bureau Creek and Pike Creek located in parts of Bureau, LaSalle and Lee counties. The waterways are part of the Big Bureau Creek Watershed.

Horwitz said the money is important.

"We chose the three sub-watersheds where we felt conservation was most needed," she said.

Efforts to deal with Big Bureau Creek date back many years. In 2005, the results of the Big Bureau Creek Watershed assessment were released. The assessment was designed to address community concerns with sedimentation, recreation and fishing, flooding and preserving the unique characteristics of the watershed.

In January 2007, a plan was finalized for the creek, but since no funding was available, no action was taken.

In October 2010, a new coalition was announced to clean up the creek. The American Corn Growers Association, Prairie Rivers RC&D, the Wetlands Initiative, Environmental Defense Fund, Prairie Rivers Network, and Pheasants Forever, Big Bureau Creek Watershed Group and the U.S. Department of Agriculture Natural Resources Conservation Service announced the formation of the new coalition called Friends of the Big Bureau Creek Watershed — A Coalition for Clean Water.

On Monday, Horwitz said the federal grant was made possible because the Friends group raised $250,000 to get the grant. That money will be used specifically for education, outreach, water quality monitoring and riparian buffer zones.

"It was the only grant awarded in Illinois and definitely the result of a concerted effort," Horwitz said.

The contract for the grant money was signed Friday.

"It's legitimate," Horwitz said. "We are on the ground."

The federal grant program, called the Mississippi River Basin Healthy Watersheds Initiative, is designed to improve the health of the Mississippi River Basin by helping producers voluntarily implement conservation practices that prevent, control and trap nutrient and sediment runoff from agricultural land from entering surface and ground water; and restore and protect wetlands.

The Big Bureau Creek Watershed was chosen, in part, because it has been named as a high priority area, due to significant water quality issues with nutrient run-off and the sediment loads.

"There are certain times of the year when you wouldn't even put your toe in Big Bureau Creek," Horwitz said.

The $2 million will go to agricultural producers and landowners through the Conservation Stewardship Program, Environmental Quality Incentives Program, and Wildlife Habitat Incentives Program. A total of $204,000 is available for the first year, which ends Aug. 31. Total funds available are $2.098 million throughout a four-year period.

In addition to the local NRCS and Soil & Water Conservation Districts, American Corn Growers and its partners will be encouraging and supporting producer participation in the program and in assisting with water quality improvement monitoring, evaluation and assessment. The partners will seek to broaden partnerships by identifying and enlisting local leaders, organizations, and education providers to build an outreach and education network.

For more information, contact your local NRCS office or Pam Horwitz at 815-646-4040.

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got conservation?

It's voluntary and as easy as 1, 2, 3.

1. Meet with our technical outreach staff.
2. Identify your conservation needs.
3. Determine your conservation program eligibility and sign-up at your NRCS office.

Get a head start on your conservation plans for next year. Have conservation? Then choose up to 65 activities and enhancements under the Conservation Stewardship Program.

Act now to receive federal funding for conservation practices to improve your farm operation.

The Friends of the Big Bureau Creek Watershed can assist you at each step at no cost to you.

Outreach is conducted in partnership with the Bureau, LaSalle and Lee NRCS & SWCD. For more information, contact Pam Horwitz, Friends Outreach Coordinator, at 815.646.4040, or your NRCS/ SWCD office. Bureau: 815.875.8732 ext 3, LaSalle: 815.433.0551 ext 3, or Lee: 815.875.3621 ext 3.

got NMP?

Do you have a Nutrient Management Plan (NMP) or a Comprehensive Nutrient Management Plan (CNMP)? These plans can allow a farmer to sustain a productive and healthy business over the long-term while minimizing impacts on water quality.

No.

Not a problem. You may be eligible to receive federal conservation practice money through Environmental Quality Incentives Program (EQIP) to assist in developing and writing your farm nutrient management plan. The plan includes practices to manage the amount, source, placement, form and timing of the application of nutrients (commercial fertilizer, manure or other nutrient forms). The conservation activity plan (CAP) for animal feeding operations or CNMP encompasses the storage and handling of manure as well as the utilization and application of manure nutrients on the land.

This first step is EQIP Practice "104 Nutrient Management Plan - Written" or "102 Comprehensive Nutrient Management Plan - Written." These CAPs are prepared by a certified technical service provider (TSP) selected by you and must meet certain technical criteria as specified in NRCS' Field Office Technical Guide (FOTG).

The 2011 payment rate is based on the number of acres or animal units included under the plan and the contract:

NMP:	less than 300 acres	$1100	**CNMP:**	less than 300 animal units	$4100
	300 - 600 acres	$1400		300 - 750 animal units	$5200
	greater than 600 acres	$1700		greater than 750 animal units	$6100

USDA NRCS

USDA NRCS

Boulder Belt Eco-Farm

Yes.

Great. The first step is complete as you have a plan in hand. The second step is to put the plan into action. If you are putting a written plan in action for the first time, you may be eligible to receive conservation practice payments though the EQIP program.

Under EQIP Practice "590 Nutrient Management," payment rates are $11/acre and $13/acre for **Nutrient Management Basic and Enhanced**, respectively. For **Basic**, the nutrient management must be newly applied and follow NRCS FOTG and University of Illinois Agronomy Handbook requirements. For **Enhanced**, Nutrient Management Basic must be implemented, all nitrogen must be spring applied for spring planted crops (manure can be applied in the fall), AND one or more additional enhancements must be newly implemented. Enhancements include: grid or zone soil testing with variable rate nutrient application, use of chlorophyll readers technology, controlled release nitrogen fertilizer, OR pre-sidedress nitrogen test.

The payment is only for the acres where the practice is newly implemented. The Nutrient Management payment rate is limited to a one-time payment and is not to exceed amount of $18,000.

For more information contact your local NRCS office or go online to http://www.il.nrcs.usda.gov/programs/eqip/index.html

A Quick Guide to EQIP

The **Environmental Quality Incentives Program (EQIP)** is a voluntary conservation program that provides financial and technical assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. EQIP practices address impaired water quality; conservation of ground and surface water; improvement of air quality; reduction of soil erosion and sedimentation; and improvement or creation of wildlife habit for at-risk species.

To improve the health of the Mississippi River Basin, the NRCS has established the Mississippi River Basin Healthy Watersheds Initiative-Cooperative Conservation Partnership Initiative (MRBI-CCPI). Through this Initiative, NRCS and partners will provide technical and financial assistance to producers in small, targeted watersheds within the Mississippi River Basin who voluntarily implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity, Through the MRBI-CCPI, a pool of EQIP funding may be available for producers in Pike Creek, East Bureau Creek, and Upper Big Bureau Creek subwatersheds.

Photo: WFU

At a Glance

EQIP provides technical and financial assistance **to all farmers** on a nationwide basis provided they meet **eligibility standards** and their applications rank high enough to be accepted into the program. **All sizes and types of land uses** (cropland, pasture cropland, pasture, rangeland, and forested land) and operations (including organic and speciality crops) are eligible. **Sign up is continuous** with all applications that submitted by certain cut-off dates being reviewed and ranked until allocated funding is spent. Farmers c**ompete on a state basis** and applications will be **ranked based on national, state, and local-level criteria** to prioritize contracts. **The contracts range from 1 to 10 years** with most contracts running for 2 to 3 years. If there is MRBI-CCPI EQIP money allocated to specific subwatersheds within the Big Bureau Creek Watershed, then farmers will compete with only applicants within the subwatersheds.

Where can I get more info?

The NRCS EQIP Information Page:

http://www.nrcs.usda.gov/programs/eqip/

The Illinois EQIP Page:

http://www.il.nrcs.usda.gov/programs/eqip/index.htm

Your local USDA field office in Princeton, Ottawa or Amboy

What are EQIP practices?

Two natural resource concerns within the Big Bureau Creek watershed are water quality (excessive nutrients) and soil erosion and suspended sediment in surface water. The EQIP practices that address nutrients and sediments include:

- Nutrient Management Plan (Written)
- Comprehensive Nutrient Management Plan (Written)
- Nutrient Management
- Waste Utilization
- Waste Storage & Composting Facilities
- Residue & Tillage Management
- Drainage Water Management
- Grade Stabilization Structure
- Wetland Restoration or Enhancement
- Riparian Forest Buffer

All practices must meet NRCS standards and specifications. A complete list of available practices is available on-line at http://www.il.nrcs.usda.gov/programs/eqip/index.html. (A list of EQIP practices eligible under the MRBI program is attached.)

Am I eligible?

Eligible land includes cropland, pastureland, private non-industrial forestland, and other farms or ranch lands on which natural resource concerns can be addressed. Land enrolled in other USDA programs cannot receive EQIP benefits for the same practice on the same land.

To participate in EQIP, you (an individual, entity or joint operation) must meet the following criteria:

- have annual minimum of $1,000 of agricultural products produced and/or sold from the operation (except for forestry operations);
- have an interest in the farming or forestry operation associated with the land being enrolled;
- have control of the land for the term of the proposed contract;
- be in compliance with the highly erodible land and wetland conservation provisions of the Food Security Act of 1985; and
- have an adjusted gross income from farming less than $1 million ($2 million for married couples). If at least two-thirds of your total adjusted gross income is farm income, then there is no limitation.

Do I need a conservation plan?

Yes. If you have conservation plan, then the process will move more quickly as you and the NRCS already have identified your conservation needs and concerns, and it ensures you are requesting funds for the correct practices. Conservation plans completed prior to ranking, which address all the resource concerns on your farm, can yield more points. A conservation plan includes:

- *your specific conservation and environmental objectives to be achieved;*
- *one or more conservation practices in the conservation management system to be implemented to achieve your conservation and environmental objectives; and*
- *the schedule for implementing the conservation practices.*

If an EQIP contract includes an animal waste storage or treatment facility, you must implement a comprehensive nutrient management plan (CNMP).

How are applications ranked?

EQIP is a competitive process with all general EQIP applicants competing for funding on a state basis. A ranking process is conducted to determine which applications will be granted EQIP funding. Under the MRBI-CCPI program, applicants will be competing with a smaller pool of applicants as any MRBI EQIP money awarded to the Big Bureau Creek Watershed will be available only for applicants in the specific subwatersheds.

There are different ranking criteria categories, including, general, grazing land operations, confined livestock operations, transition to organic operations, and certified organic operations. All ranking criteria categories achieve the common objective of optimizing environmental benefits. Illinois uses a web-based ranking criteria tool for screening and ranking applications, which will be completed by your local NRCS field office. The 2011 Web-based Ranking Criteria Tools, including a Cost Efficiency Score, can be found at http://www.il.nrcs.usda.gov/programs/eqip/index.html

What is the contract plan?

Agreement length - Depending on the structural or management practice or practices being implemented, the contracts can range from 1 year to up to 10 years in duration.

Payment Rates - The payment rates vary by practice. Under the MRBI-CCPI program, additional incentive money may be available for certain practices.

Payments - Payments and payment schedules are dependent on the selected practices. Socially disadvantaged, beginning, and limited resource farmers and ranchers can receive advance payment up to 30% of the amount determined for the purpose of purchasing materials and services.

Limits - Program payments are limited to $300,000 for all contracts entered into during any 6-year period. Payment limitations for organic production may not exceed an aggregate $20,000 per year or $80,000 during any 6-year period for installing conservation practices.

Steps to Enrollment & Implementation

Step 1: Determine if you are eligible to participate in EQIP, review the eligibility requirements and the Ranking Criteria for your location using the web-based ranking tools at: http://www.il.nrcs.usda.gov/programs/eqip/index.html

Step 2: Complete or review your conservation plan (or EQIP plan of operations) to determine which practices address identified resource concerns and could enhance your farming operation.

Step 3: If you have enrolled in a Farm Bill program before, you will just need to complete the NRCS-CPA-1200, Conservation Program Application and NRCS-CPA-1202, Conservation Program Appendix forms. You may complete and print the forms online. Review this contract appendix prior to meeting with your local NRCS office to familiarize yourself with EQIP contract terms and conditions.

Step 4: Call your USDA NRCS Field Service Center to schedule a meeting with NRCS staff to discuss your eligibility, ranking, application, and practice options.

Step 5: NRCS ranks applications and schedules activities through the appropriate ranking criteria category.

Step 6: NRCS will select highest scoring applications until all acres or funds for a given year are allocated.

Step 7: Once approved, a contract specifying your annual payment will be developed.

Step 8: The practice must be started within 12 months of contract obligations by the NRCS Approving Official. Once begun, the producer is expected to make continuous progress towards implementation.

Step 9: Once the practice is implemented and certified by NRCS, payment will be made.

Step 10: Activities are field verified each year and payments are made for the preceding growing season in the fall of each year.

TYPE		CODE	MRBI - EQIP PRACTICE NAME	GENERAL DESCRIPTION OF EQIP PRACTICES
CORE PRACTICES	AVOIDING	340	Cover Crop	Establishing a cereal grain and/or legume or grass or forage radish cover to improve water quality and contribute nitrogen to subsequent cash crop
		528	Prescribed Grazing	Managing of a prescribed grazing system to include graze and rest cycles for pastures according to practice code 528
		590	Nutrient Management	Basic: Applying nutrient management according to NRCS FOTG and U of I Agronomy Handbook requirements. Must also follow Nutrient Mgt. Strategy as outlined in Attachment 1F of General EQIP Ranking Criteria. Enhanced: Basic requirements plus ALL nitrogen must be applied in spring and one enhancement listed in Attachment 1F.
		633	Waste Utilization	Manure applied according to NRCS FOTG standards and 2 or more management changes from Attachment 3 of the Confined Livestock EQIP Ranking Criteria.
	CONTROLLING	329	Residue & Tillage Management	Only planting methods that minimize solid disturbance by implementing no-till or strip till methods
		412	Grassed Waterway	Earthwork, critical area planting, and fabric or rock checks (optional). Summer construction incentive. Supporting practices are 484,606, and 620.
		512	Forage and Biomass Planting	Seedbed preparation, cool season introduced grasses and legumes or native grasses, and nurse crop seed with or without fertilizer and fertilizer application.
		554	Drainage Water Management	Control and management of water surface elevation according to Drainage Water Management plan. Supporting practice is 587.
	TRAPPING	391	Riparian Forest Buffer	Bare root trees and/or shrubs or purchased seed. Includes grass and legume cover and herbicide treatment.
		393	Filter Strips	Strip of perennial vegetation consisting of introduced or native species. Includes seedbed preparation and seed.
		635	Vegetated Treatment Area	Earthwork, diversion, critical area planting, mulching, and level spreader system.
		656	Constructed Wetland	Wetland construction, installation of flashboard structures and vegetation establishment. Hydric soils not required.
		657	Wetland Restoration	Natural wetland sites with hydric soils. Wetland (or excavated wetland) with native species vegetated buffer, flashboard structure and dike to impound water.
		659	Wetland Enhancement	
	CAP	102	Comprehensive Nutrient Management Plan	CAP developed by certified TSP that meets CNMP criteria in Section III of FOTG for an animal feeding operation.
		104	Nutrient Management Plan - Written	CAP developed by certified TSP that meets NMP criteria in Section III of FOTG for an animal feeding operation.
		118	Irrigation Water Management Plan	CAP developed by certified TSP that meets IWMP criteria in Section III of FOTG for an animal feeding operation.
SUPPORTING PRACTICES	AVOIDING	313	Waste Storage Facility	Dry stack, holding pond, liquid/slurry tank, or rigid roofed structure waste storage.
		317	Composting Facility	No roof or roofed composter for mortality management (not manure except when poultry litter is a carbon source).
		382	Fence (Interior or exterior)	Wire (high tensile electric or strand barbed) for installing Prescribed Grazing. Includes posts, stays, corners, pull assemblies, energizer, grounding system and all appurtenances.
		558	Roof Runoff Structure	Gutter system including gutters and downspouts at designated intervals.
		561	Heavy Use Area Protection	Heavy use pad, winter feeding station (concrete floor, gutter and pad), or access ramp. Implement with Practice 528.
		632	Solid/Liquid Waste Separation Facility	Waste separation facility with flat and formed concrete, earthwork, and pipe to distribution system.
		634	Waste Transfer	Reception pit with pipe and/or pump, pumping plant and transfer pipe, agitator, or concrete alley and curbs.
	CONTROLLING	362	Diversion	Diversion from < 500 ft to > 1100 ft. Earthwork, critical area planting, and mulching. Typically with 313 or 632 and 635.
		410	Grade Stabilization Structure	Straight drop, chute or pipe structure with installation, critical area planting, and mulching.
		606	Subsurface Drainage	Subsurface drain tile including outlet pipe with animal guard or perimeter drain for waste storage facility.
		620	Underground Outlet	Tile, riser, outlet pipe, and animal guard. Rock inlet option. Typically includes Practices 412, 558, 600, 606, or 638.
	CONTROLLING & TRAPPING	342	Critical Area Planting	Earthwork, seedbed preparation, seed, and fertilizer with application with or without earthwork. Mulching (484) required.
		533	Pumping Plant	Pump, pump with solar panel , sump with or without solar panel, and water storage for livestock watering only.
		587	Structure for Water Control	Water management structure with flashboard structure, pipe, anti-seep collar, and animal guard.
		638	Water & Sediment Control Basin	Earthwork (ridge configuration), critical area planting and mulching. Underground Outlet (620) used for the tile system.
	MISC.	799	Monitoring &Evaluation	Interim standard for monitoring and evaluation.

A Quick Guide to CSP

The **Conservation Stewardship Program (CSP)** is a voluntary program that encourages land operators (versus landowners) to improve, maintain and manage existing conservation activities and undertake new ones on their farm and non-industrial forestland operations. This program **recognizes and rewards** producers who go the extra mile with their conservation and sustainable practices, whether they've accomplished it on their own or through Farm Bill programs.

To improve the health of the Mississippi River Basin, the NRCS has established the Mississippi River Basin Healthy Watersheds Initiative-Cooperative Conservation Partnership Initiative (MRBI-CCPI). Through this initiative, NRCS and partners will provide technical and financial assistance to producers in small, targeted watersheds within the Mississippi River Basin who voluntarily implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. Through the MRBI-CCPI, a pool of EQIP funding may be available for producers in Pike Creek, East Bureau Creek, and Upper Big Bureau Creek subwatersheds.

Is CSP an option for me?

- *Are you already addressing at least one priority resource concern at the **stewardship threshold level** at the time of application?*
- *Are you willing to inventory and document your conservation activities and production system to determine eligibility and ranking?*
- *Do you agree to adopt or install additional conservation activities during the contract period?*
- *Will you address at least one more priority resource concern at the stewardship threshold level during the first 5-year contract period?*
- *Do you have records of your farming activities and are you willing to continue maintaining records?*

If you answered "yes" to all the above questions, then CSP is an option for you.

Photo: Stacy James

Where can I get more info?

The NRCS CSP Information Page:

http://www.nrcs.usda.gov/programs/new_csp/csp.html

The Illinois CSP Page:

http://www.il.nrcs.usda.gov/programs/csp/index.html

Your local field office in Princeton, Ottawa or Amboy

What practices are included under CSP?

There is an extensive list of **conservation practices, activities,** and **enhancements** that can conserve and enhance soil, water, air, and related natural resources on your land. Go online to check out the "Conservation Program Activity List" to identify the activities and enhancements that you may be interested in installing or adopting (http://www.nrcs.usda.gov/programs/new_csp/csp.html).

Some enhancements work better when implemented as a system to address a **resource concern**. This system is called a "**bundle**." There are currently 20 bundles for cropland, forest, pasture and rangeland. Comprehensive bundles get higher rankings and higher payments.

The CSP practices available for funding under the MRBI-CCPI program are those that address the water quality and soil erosion natural resource concerns in Illinois.

At a Glance

Unlike the former Conservation Security Program, the Conservation Stewardship Program is available to **all farmers** on a nationwide basis provided they meet **eligibility standards** and their applications rank high enough to be accepted into the program. **All sizes and types of land uses** (cropland, pasture cropland, pasture, rangeland, and forested land) and operations (including organic and speciality crops) are eligible. **Sign up is continuous** with all applications submitted by certain cut-off dates being reviewed and ranked. Farmers compete on how effective their conservation performance is now, plus how much more they are willing to do to **address priority resource concerns** identified by the state NRCS office. The **Conservation Measurement Tool** will treat all applicants fairly, score their current and future environmental performance, and calculate payments accordingly. Supplemental payments will reward **improved or newly adopted resource-conserving crop rotations. The 5-year contracts can be renewed**.

Am I eligible to apply for CSP?

You are eligible to apply if you are the farm operator and meet these requirements:

- The land being enrolled is private land, tribal agricultural land or non-industrial private forest land on which resource concerns can be addressed.
- You must enroll the **whole farm operation** (rented and owned land).
- You have established a record or are an operator of record with with Farm Service Agency record system.
- You have documented control of the land for the 5-year term of the contract.
- Your entire farm is in compliance with highly erodible land and wetland conservation compliance requirement, if applicable.
- Your adjusted gross income from farming is less than $1 million ($2 million for married couples). If at least two-thirds of your total adjusted gross income is farm income, then there is no limitation.
- Land currently enrolled in CRP, WRP or GRP is **not eligible**, but such land will count toward your whole farm enrollment.
- Land currently enrolled in the old Conservation Security Program is **not eligible** until the old contract has expired.
- Land that has been cropped after June 2008 that has not been cropped in 4 out of the previous 6 year is **not eligible**, unless it was in CRP or part of a long-term rotation practice.

For eligibility requirements, get a copy of the "CSP Producer Self-Screening Checklist" online or at your NRCS office.

How will my application be ranked?

NRCS ranks applications and schedules activities through either the Agricultural Land or Non-Industrial Private Forest Land (NIPF) **Conservation Measurement Tool** (CMT). Ranking is based on four, equally-weighted factors:

- The baseline level of conservation at the time of application;
- The level of proposed additional conservation to be added during the contract term;
- The number of priority resource concerns addressed before CSP enrollment or during the contract term; and
- The number of other resource concerns, in addition to the priority resource concerns, addressed before CSP enrollment or during the contract term.

Applicants with the highest ranking scores relative to those in each ranking pool and region will be awarded contracts until the land or money obligation is met.

If the MRBI-CCPI award is granted to the Big Bureau Creek Watershed, all the producers Pike Creek, East Bureau Creek, and Upper Big Bureau Creek will be ranked within this special pool.

What is the contract plan?

Deadline

Sign up for CSP is continuous but NRCS does have periodic cut-off dates where they will rank applications they receive to determine who receives a contract. For the CSP funds under the MRBI-CCPI program, the cut-off dates may be different.

Agreement length

All CSP contracts are **5 years** in length. The contract can be extended for a second 5-year period if you meet the following criteria:

- you are in compliance with the terms in the initial contract
- you meet stewardship thresholds for additional priority resource concerns as determined by NRCS
- you agree to adopt conservation activities as determined by NRCS
- you have added any newly-acquired land, which is eligible and meets the minimum treatment criteria as determined by NRCS.

Schedule

During the development of the CSP contract with NRCS, you will determine the schedule of activities you plan to accomplish. However, you are required to complete at least one enhancement activity in the first year and complete all new enhancements by the third year of the 5-year contract.

What is the payment structure?

CSP offers participants two possible types of payments: annual and supplemental.

Annual Payments

Annual payments are available for installing and adopting additional activities, and improving, maintaining, and managing existing activities.

Payment amounts are based on the costs incurred by implementing activities, income forfeited by the producer, and expected environmental benefits. The acreage and the type of land enrolled also determine the annual payment. The land use payment is highest for cropland, followed by pastureland, then rangeland and forest land. **Essentially the higher the conservation performance, the higher the payment.**

The CMT calculates performance points based on your existing and future conservation activities with future activities having a higher payment rate than existing activities.

Supplemental Payments

Supplemental payments are available for the adoption of resource-conserving crop rotations at $12.00/acre. The rate is based on the differences in crop production costs between conventional and resource-conserving crop rotations.

Limits

A person or entity may not receive more than $40,000 per year in CSP payments and $200,000 over any five-year period. Joint operations are limited to $80,000/year and $400,000 over any five-year period.

USDA Lingo

A **resource concern** is a specific natural resource problem that is likely to be addresses successfully through the implementation of conservation activities. A priority resource concern are the resource concerns identified as the most critical in the state.

Conservation practices are specified treatments (structural, vegetative practice, or management technique) used to encourage producers to meet additional stewardship thresholds.

An **enhancement activity** is an activity specifically designed for CSP and selected by a producer to treat natural resources and improve conservation performance. Enhancements are implemented at a level of management intensity that exceeds that sustainable level for a given resource concern.

A **bundle** is a group of specific enhancements which, when installed as a group, addresses resource concerns synergetically. Applicants who chose to implement a bundle will receive an increase in ranking points and payments relative to choosing the same number of individual enhancements. NRCS has seven bundles for the 2011 CSP sign-up.

Conservation Measurement Tool (CMT) is a set of questions organized by land use categories used to evaluate an applicant's baseline level of conservation and additional activities one plans to undertake during the contact term. NRCS will use this spreadsheet tool to determine eligibility, rank applicants relative to other applicants, and calculate payment rates.

Stewardship threshold level is the level of natural resource conservation and environment management required to conserve and improve the quality of and condition of a natural resource. The threshold is determined by the CMT.

Photo: USDA NRCS

Photo: WFU

Photo: TWI

Steps to Enrollment & Implementation

Step 1: Use the "Producer Self-Screening Checklist" to determine eligibility. The checklist can be found at http://www.il.nrcs.usda.gov/programs/csp/index.html.

Step 2: Determine the priority resource concerns that apply to your land from your conservation plan and assess your current performance with the Conservation Measurement Tool (CMT). If based on the checklist or CMT, you are currently ineligible or not likely to rank high, your may want to make improvements and apply again later. Improvements can be made on your own or through the Environmental Quality Incentives Program (EQIP), if eligible.

Step 3: From the Conservation Activity List, identify potential conservation practices and enhancement you are willing to add over the next three years.

Step 4: Contact your local NRCS office for an appointment and bring your screening checklist.

Step 5: Applicants will complete the basic application, answer Resource Inventory questions, and work through the Agricultural Lands (Ag Lands) or Non-Industrial Private Forest Land (NIPF) CMT with local field office staff to determine your score.

Step 6: NRCS scores and ranks applications for each ranking period.

Step 7: NRCS will select highest scoring applications until all acres or funds for a given year are allocated.

Step 8: A NRCS official will visit your farm to verify your application and ranking.

Step 9: Once approved, a 5-year conservation stewardship plan and contract specifying your annual payment will be developed.

Step 10: Activities are field-verified each year and payments are made for the preceding growing season in the fall of each year.

Information in this handout is from USDA NRCS and the National Sustainable Agriculture Coalition

A Quick Guide to Wetlands

Wetlands are the parts of our landscape that are either permanently or seasonally wet. Since the days of European settlement, about 80 to 90% of this region's wetlands have been drained, ditched, filled or levied off for agricultural, urban, industrial and recreational development. At that time, we were unaware of the important role played by wetlands in maintaining the systems on which our survival depends. More recently, the enormous importance of wetlands has been recognized, and wetland restoration is underway to bring back these ecological, social and economic benefits.

We, as stewards of the land, all need to be involved in wetland restoration and protection as each of us benefits from the valuable functions that healthy wetlands provide a watershed.

Swamps, bogs, marshes, mires?? Though these words may convey intrigue or mystery, they are just some of the different types of wetlands that exist. Each wetland type has a community of plants adapted to specific conditions that are determined by the hydrology *(or the movement and distribution of water*) and the underlying soil chemistry. The source (precipitation, runoff, floodwaters, etc.) periodicity, and quality of the water supply all determine wetland type.

"The Swamp Thing." Restoring wetlands in an agricutlural landscape should not invoke images of a horror movie, as it isn't that scary! While each wetland restoration is tailored to the specific site conditions, the set of practices and standards used is well-established.

Restoring the necessary wetland hydrology can occur through a variety of methods. In some situations, it may be by filling in ditches or plugging, removing or breaking tile lines. In other cases, low-lying area are scraped to form a shallow basin and small dikes or embankments are formed to establish and maintain water levels. Either method may involve adjustable outlets to regulate ponded water levels. **Inadequate hydrology is the most common cause of failure in any type of wetland restoration project.**

While native seed banks may regenerate wetland vegetation, native vegetation may be planted to enhance existing plant stands in the wetland and buffer areas.

Chores. Monthly or annual maintenance may include inspecting, adjusting, repairing water control structures; removing debris from pipe inlets and outlet structures; controlling beaver and muskrats from burrowing or obstructing outlets; replanting wetland vegetation until a good stand is established; and managing invasive plant species.

Mythbusters

There are several general public misconceptions about wetlands, but most can be easily overcome through management.

- **Disease and pestilence (aka mosquitoes)** - A functioning wetland contains and attracts predators (e.g., dragonflies, birds, bats) that can maintain mosquito populations. By managing water and vegetation levels, flow through the wetland will ensure that water isn't stagnant and as attractive to mosquitoes.
- **Unpleasant odors** - Sometimes a faint, temporary "earthy" smell can come from wetland. This relatively unoffensive smell should serve as a reminder of the strong "natural" processes underway on your land.
- **Unwanted rodents** - Wildlife will invariably interact with wetlands, and this is normally favorably looked upon; however, some control measures may be necessary if excessive muskrat and beaver activity interferes with the function of the wetland.
- **Farm drainage effects** - Wetland size and placement needs to be carefully evaluated to determine if it will have adverse effects on your farm drainage, neighbors, or a drainage district.
- **Decreased land values** - The area of wet marginal land converted to wetland tends to be relatively small to size of the overall farm so it has little negative impact, if any, on land value. Since area may have contributed minimally to your operation, the wetland may make your land more valuable with future ecosystem service markets and with the entire property being more environmentally sustainable.

Why should we value wetlands? Wetlands provide all of us with critical services.

Environmental Benefits

- Improves ground and surface water by collecting, filtering, and sequestering sediment, nutrients, pesticides and bacteria from run-off water
- Utilizes and transforms nutrients due to wetland plants and bacteria in the sediment
- Restores soil organic matter and promotes carbon sequestration within wetland area
- Reduces soil erosion and downstream flooding by dissipating energy and slowing water flow, and supplies streams with water during dry events
- Manages small flood events by temporarily storing and absorbing excess water
- Provides food, shelter and nursery not only for migratory waterfowl but for a wide variety of plants, birds, amphibian, insects and fish

Practical Benefits

- Provides an alternative land use to crops or livestock in wet marginal areas
- Recharges groundwater by holding water and slowly allowing it to percolate into the ground
- Reduces downstream flood impacts depending on location and wetland size
- Provides habitat for important pollinator species many crops rely on
- May provide future income through ecosystem service markets
- Offers a recreation area for bird watching or hunting
- Improves quality of life by contributing to a healthful living environment and adding scenic beauty

Is there money available for restoring wetlands?

Yes. There are a number of federal and state conservation programs that provide payment rates and technical assistance for wetland enhancement and restoration. Wetland conservation practices are available through the following programs:

- Conservation Reserve Program (CRP)
- Conservation Reserve Enhancement Program (CREP)
- Conservation Stewardship Program (CSP)
- Environmental Quality Incentives Program (EQIP)
- Wildlife Habitat Incentives Program (WHIP)
- Wetland Reserve Program (WRP)

Which program is right for you? The programs vary in contract lengths, easements, payment rates, land eligibility, and producer or operator eligibility. Your local NRCS and SWCD office can help you determine what is the best federal or state program for your farm operation and conservation activities. All six programs have this in common: you maintain the title to the land, control access, and allow for non-developed recreation activities as long as the uses are compatible with the conservation plan. **Properly designed and maintained wetlands can exist on your land without compromising your agricultural production.**

By Barb Kromphardt - bkromphardt@bcrnews.com

The health of Big Bureau

PRINCETON — The Big Bureau Creek Watershed project is back in motion.

After 45 months of little action — primarily because of a lack of funding, a new coalition was announced Monday to help further the group's goal of clean water for all.

And the goal is important.

"There are certain times of the year when you wouldn't even put your toe in Big Bureau Creek," said Pam Horwitz.

Horwitz is the former watershed coordinator and now involved with the project through her work with the American Corn Growers Association.

On Monday, the ACGA and other groups, including Prairie Rivers RC&D, the Wetlands Initiative, Environmental Defense Fund, Prairie Rivers Network, and Pheasants Forever, Big Bureau Creek Watershed Group and NRCS announced the formation of the new coalition called Friends of the Big Bureau Creek Watershed — A Coalition for Clean Water.

The coalition will begin an outreach and education campaign to help producers in the Big Bureau Creek Watershed participate in the United States Department of Agriculture Natural Resources Conservation Service's new voluntary program to address sediment and water resource issues.

Efforts to deal with Big Bureau Creek date back many years. In 2005, V3 Consultants of Woodridge and the Illinois Department of Natural Resources announced the results of a Big Bureau Creek Watershed study, an assessment of the 75-mile-long Big Bureau Creek, which drains a 498-square-mile area consisting of most of Bureau County and parts of Lee and LaSalle counties.

The assessment was designed to address community concerns with sedimentation, recreation and fishing, flooding and preserving the unique characteristics of the watershed. The assessment found that bank erosion was prominent and the amount of sand carried by the creek was extremely high. The assessors warned that if nothing was done, the creek would eventually breach the Hennepin Canal near Tiskilwa, draining parts of the canal.

In January 2007, a plan was finalized for the creek.

But not much happened after that.

"The funding just wasn't there to support it," Horwitz said.

But a few months ago, the USDA released funding for the Mississippi River basin. The program aims to improve the health of the Mississippi River Basin by helping producers voluntarily implement conservation practices that avoid, trap or control nutrient runoff and reduce downstream nutrient loading.

The Big Bureau Creek Watershed is located within one of the four areas named as a high priority area under the program. High priority areas were chosen because each had significant water quality issues and substantial, scientific data records available.

"This is a high priority watershed because of its contribution to the bigger picture," Horwitz said. "Even though it's a small scale, its contribution is huge in terms of the run-off and the sediment loads."

The Big Bureau Creek project didn't get the funding for this year, but Horwitz said they were strongly encouraged to reapply for next year.

And, the group did get additional funding to do education and outreach.

That education and outreach is aimed at two groups.

"We're wanting producers to be aware of the contribution that agricultural production has on water quality," Horwitz said.

Horwitz said they will talk to producers one-on-one about signing up for approved practices.

But the message is not just directed to agricultural producers.

"Most of the farmers I know are doing whatever they can to reduce nutrient loads," Horwitz said. "It has to be a concerted effort."

That effort must include Big Bureau Creek's urban communities.

"In these economic times, unless it absolutely impacts a family or someone personally, people don't understand," Horwitz said. "Concern about water quality is not a top priority. We take good water and ample water supplies for granted."

So the message will also be directed to non-farm residents.

"We want to engage more of the average consumer in discussions about how to improve water quality and protecting and having available clean water," Horwitz said.

Horwitz said the goal of the group is to encourage participation through incentives rather than regulations.

"This is a pretty conservative area, and I don't know anybody who doesn't negatively react to increasing regulations," she said. "Why can't we do it in a positive way that everybody benefits, rather than being penalized?"

Comment on this story at www.bcrnews.com.

Want to be a part of this effort?

The Big Bureau Creek Watershed Committee meets at 7 p.m. the third Tuesday of every month at the USDA building on Backbone Road. The next meeting is Nov. 16, and the public is welcome to attend.

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USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
Big Bureau Creek

Friends of the Big Bureau Creek Watershed:
LaSalle County Soil and Water Conservation District
Lee County Soil and Water Conservation District
American Corn Growers Association • Big Bureau Creek Watershed Group
IEPA • Illinois Stewardship Alliance • Mauer Stutz, Inc. • Northwater Consulting
Pheasants Forever • Prairie Rivers Network • Prairie Rivers RC&D Council
The Wetlands Initiative • Trees Forever • USGS

Landowner/Operator Name
Street Address
City, State, Zip Code

Dear (Name)

Illinois is home to some of the richest soils found anywhere in the world. We also reside in an area that is naturally susceptible to highly eroding soils. If you own or work the land locally, none of this is news. If you own or work the land locally, you also know valuable soils and nutrients lost through erosion mean lost production and income. You can protect soil health, prevent the loss of expensive nutrients, and ensure future productivity.

One easy solution: implement voluntary conservation practices and address the problem head-on. Recently, the USDA Natural Resources Conservation Service (NRCS) began working in partnership with local landowners and operators, community residents, volunteer organizations, and Illinois and federal agencies in a new way that increases the local conservation workforce. This local workforce is called the "Friends of the Big Bureau Creek Watershed."

Through this cooperative partnership, the larger workforce enables the county NRCS to expand information outreach and technical assistance efforts that protect our most valuable natural and agricultural resources—land, soil, and water. Trained professionals can assist you in identifying the conservation practices best suited for you and your operation. They will communicate with you one-on-one about the rewards available for good land and water stewardship through the Conservation Stewardship Program (CSP) and the operational improvements offered under the Environmental Quality Incentive Program (EQIP).

What can you expect in the coming years from NRCS and their expanded workforce through the cooperative partnership, officially called the Mississippi River Basin Targeted Watershed Initiative-Cooperative Conservation Partnership Initiative. You can expect an increase in community awareness about the need to protect local land, water, and habitat resources. You can expect to see folks working in cooperation with landowners, operators, and local government to measure, monitor, and evaluate our local streams and rivers for sediment and nutrient load baselines and reductions.

You can expect communication from our workforce in the next few weeks about how your local NRCS county office can better assist you in your implementation of conservation practices. You can expect timely assessments to determine your program eligibility. If eligible for the conservation programs, you can reasonably expect to be put on a priority list for funding, as you live in a priority area. Finally, you can expect that we will do our best to help get you started. Don't hesitate. Get started today!

Friends in Ag & Conservation,

Pam Horwitz

Pam Horwitz
Executive Director, American Corn Growers Association

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
Big Bureau Creek

Friends of the Big Bureau Creek Watershed:

LaSalle County Soil and Water Conservation District
Lee County Soil and Water Conservation District
American Corn Growers Institute for Public Policy • Big Bureau Creek Watershed Group
IDNR • IEPA • Illinois Stewardship Alliance • Mauer Stutz, Inc.
Northwater Consulting • Pheasants Forever • Prairie Rivers Network
The Wetlands Initiative • Trees Forever • USGS

Landowner/Operator Name
Street Address
City, State, Zip Code

Dear (Name)

You are invited to the free and upcoming USDA/NRCS and Friends' "*Big Bureau Creek Field Day & Tour*", Tuesday August 7, 2012. We have an exciting morning planned for our farmers that will showcase a series of completed conservation practices within the watershed and local agribusiness experts will be there to answer your questions.

Nutrient Management and related cost-saving techniques will be highlighted by our friends at AgView FS and then, ProHarvest Seeds will showcase the conservation benefits and **low cost implementation of Cover Cropping when used as a nutrient and resource recovery strategy.**

Addressing erosion control, habitat restoration and the satisfying rewards of land stewardship are included in the day's program line up. The demonstration program features two local farmers and landowners, one in Bureau County and another in Lee County, who will describe their programs and experience with implementing conservation best practices. USDA/NRCS staff and some of our technical partners, known as the "Friends of the Big Bureau Creek", will be on hand to answer your questions related to specific practices and general landowner/operator sign ups. See our enclosed flyer with the details. Don't miss out, meet us at City County Park, Princeton at 8:00 a.m on August 7th!

Pam Horwitz
Executive Director, American Corn Growers

Big Bureau Creek Field Day & Tour

United States Department of Agriculture
Natural Resources Conservation Service

View conservation practices and share experiences with local farmers working with NRCS and partners to boost their farm productivity and to protect their soil and water resources.

Tuesday, August 7, 2012

8:00 a.m. to 12:00 p.m.

Gather at City County Park, Princeton, IL
(just north of I-80 on IL Rte 26)

Refreshments and light snacks will be provided.
Transportation is available, if needed.

The tour is open to the public and will showcase a series of completed conservation practices within the Big Bureau Creek watershed.

ProHarvest Seeds, local agribusinesses and technical service providers will be on hand to discuss Cover Crop conservation practices and Nutrient Management techniques.

Two local farmers will describe their experience with conservation programs and practices on their land.

for more information, contact:

Pam Horwitz, Executive Director
American Corn Growers Institute for Public Policy

(815) 646-4040; phorwitz@yahoo.com

website:
www.wetlands-initiative.org/friendsofbbc

Friends of the Big Bureau Creek Watershed

LaSalle and Lee County Soil and Water Conservation Districts • American Corn Growers Institute for Public Policy
Big Bureau Creek Watershed Group • IDNR • IEPA • Illinois Stewardship Alliance • Mauer Stutz, Inc.
Northwater Consulting • Pheasants Forever • Prairie Rivers Network • The Wetlands Initiative • Trees Forevers • USGS

A coalition providing outreach and education in support of the USDA NRCS' Mississippi River Basin Healthy Watershed Initiative - Cooperative Conservation Partnership Initiative (MRBI-CCPI) award to specific subwatersheds in the Big Bureau Creek Watershed.

NEWS RELEASE:

For Immediate Release

Contact: Pam Horwitz, American Corn Growers, (815) 646-4040
Jill Kostel, The Wetlands Initiative, (312) 922-0777, ext. 129

Watershed Tour to Showcase Local Conservation Practices

Princeton--Local farmers are invited to a Big Bureau Creek watershed field demonstration day and tour showcasing a series of different conservation practices on Tuesday, August 7. Attendees can learn about how conservation programs and practices can protect valuable soil and water resources and boost farm productivity. Local agribusiness experts, USDA Natural Resources Conservation Service staff, and technical partners will be on hand to answer questions and help bridge the gap between programs and on-the-ground activities.

The "Big Bureau Creek Field Day & Tour" is hosted by USDA NRCS and the Friends of the Big Bureau Creek Watershed. A registration begins at 7:45 a.m. at City County Park, which is located just north of I-80 on Route 26 in Princeton, IL. The tour will begin at 8:00 a.m. and will conclude at noon. No reservation is needed as the tour is free and open to the public. Refreshments and light snacks will be provided. Transportation is available, if needed.

Nutrient management, soil erosion control, habitat restoration and the rewards of land stewardship are included in the morning tour stops. Nutrient management and related cost-saving techniques will be highlighted by AgView FS. ProHarvest Seeds will be on hand to discuss the agronomic and environmental benefits of cover crops when used as a nutrient and resource recovery strategy. The tour features two local land managers, one in Bureau County and one in Lee County, who will describe their direct experience with conservation programs and the implementation of a number of practices.

Friends of the Big Bureau Creek Watershed include LaSalle and Lee County Soil and Water Conservation Districts, American Corn Growers Institute for Public Policy, Big Bureau Creek Watershed Group, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, Illinois Stewardship Alliance, Maurer Stutz, Inc, Northwater Consulting, Pheasants Forever, Prairie Rivers Network, The Wetlands Initiative, Trees Forever, and U.S. Geological Survey.

Watershed tour to showcase local conservation practices

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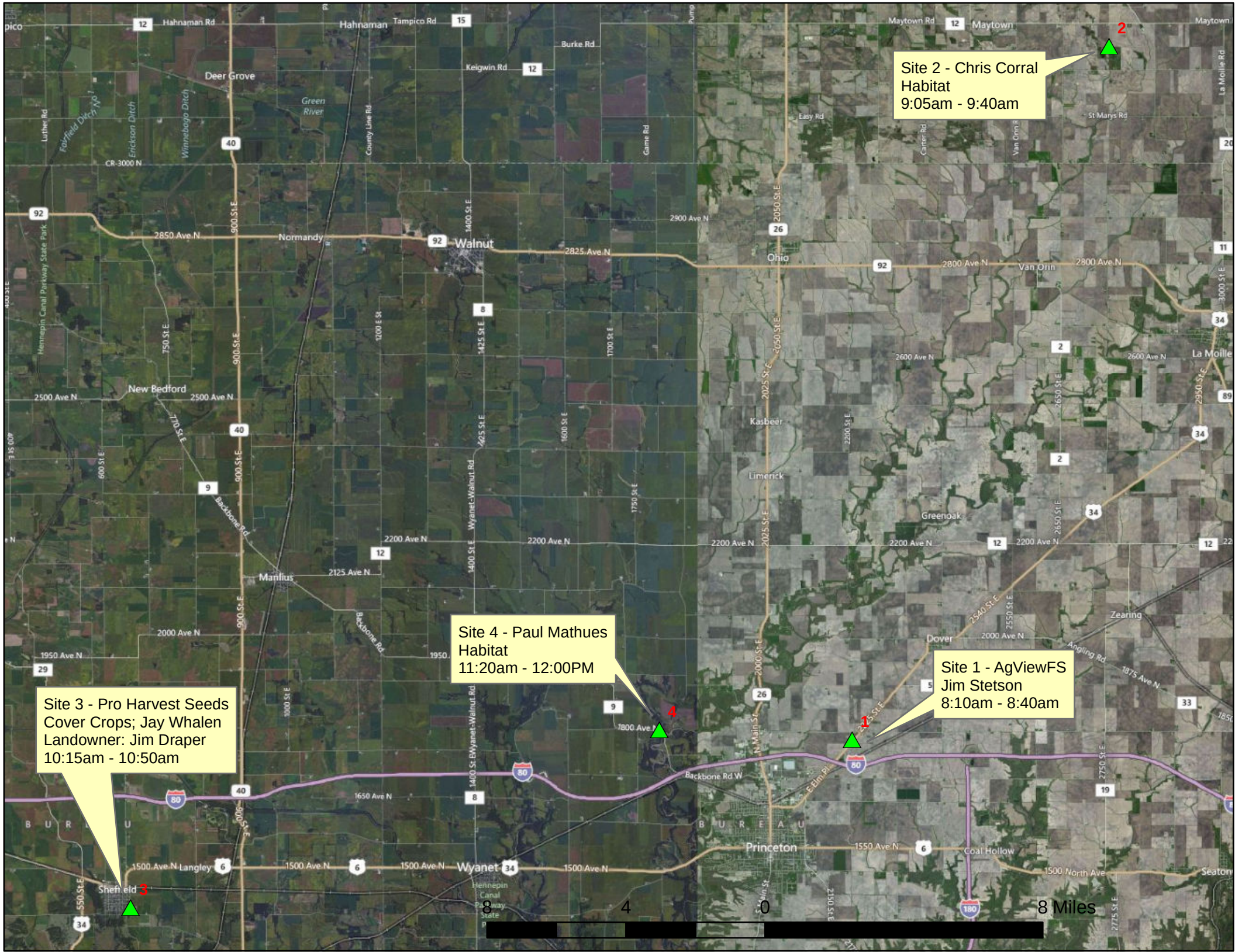
Site 2 - Chris Corral
Habitat
9:05am - 9:40am
Site 4 - Paul Mathues
Habitat
11:20am - 12:00PM
Site 3 - Pro Harvest Seeds
Cover Crops; Jay Whalen
Landowner: Jim Draper
10:15am - 10:50am
Site 1 - AgViewFS
Jim Stetson
8:10am - 8:40am
8 4 0 8 Miles
Hahnaman
Deer Grove
Walnut
Normandy
New Bedford
Manlius
Ohio
Van Orin
Kasbeer
Limerick
Greenoak
Dover
Zearing
La Moille
Princeton
Coal Hollow
Wyanet
Sheffield
Langley
Maytown
Green River
Hennepin Canal Parkway State Park
Backbone Rd
Wyanet-Walnut Rd
Backbone Rd W
Hahnaman Rd
Tampico Rd
Burke Rd
Keigwin Rd
Maytown Rd
St Marys Rd
Easy Rd
Angling Rd
1875 Ave N
2850 Ave N
2825 Ave N
2800 Ave N
2600 Ave N
2500 Ave N
2200 Ave N
2125 Ave N
2000 Ave N
1950 Ave N
1650 Ave N
1500 Ave N
1550 Ave N
1500 North Ave
7800 Ave N
2900 Ave N
CR-3000 N
B U R E A U

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

Women, Food & Agriculture Network

prairie rivers network

Women Caring for the Land: Free Conservation Discussion and Field Tour

Tuesday, August 28, 2012
8:30am-3:00pm
Shoemake Hall, Bureau County Metro Center
Princeton, IL

Women who own or manage farmland in Bureau, Lee, and LaSalle counties are invited to participate in a free conservation discussion and field tour on August 28, 2012 in Princeton. The program is called *Women Caring for the Land.*

Women Caring for the Land offers a peer-to-peer, informal discussion format to allow women landowners to talk about their individual land stewardship goals. The discussion will be facilitated by women conservationists who can share resources available such as USDA cost-share programs, state loans, and other tools. Staff will be present from the sponsoring organizations, as well as NRCS and Friends of Big Bureau Creek Watershed.

A free lunch will be provided! After the morning women-only discussion, there will be an optional 2-hour tour of conservation practices on the farmland around Princeton. Those participating in the tour should bring sturdy shoes and dress for the weather.

Space is limited for this unique opportunity so please RSVP by 5:00 p.m. Thursday, August 23 to Teresa Bullock, American Farmland Trust, by emailing her at tbullock@niu.edu or calling (815-753-6365).

Ladies: Let's talk conservation

PRINCETON — Women who own or manage farmland in Bureau, Lee and LaSalle counties can participate in a free conservation discussion and field tour Aug. 28 in Princeton. The program, "Women Caring for the Land," includes lunch and an optional field tour. The event runs from 8:30 a.m. to 3 p.m. at Shoemake Hall at the Bureau County Metro Center, 837 Park Ave. West, Princeton. Check-in starts at 8 a.m. with a continental breakfast. Participants can network, share, learn conservation options and find help with resource-related issues.

Data confirms nearly half of Illinois farmland is currently owned or co-owned by women.

"More women now own farmland on their own, as they inherit it from spouses," said Theresa Chadwick, assistant state conservationist for Illinois' Natural Resources Conservation Service. "Many women wonder whether they are doing all they can to improve soil and water quality on the land, and many are unsure of exactly how to reach their conservation goals and what resources are available to help them. This event will help address these important issues."

According to Stacy James, water resources scientist for the Prairie Rivers Network, the event offers a peer-to-peer, informal discussion format which allows women landowners to talk about their individual land stewardship goals.

"The discussion includes and is facilitated by women conservationists who can share resources available such as USDA cost-share programs and other tools," James said.

The afternoon tour visits several stops to allow participants to get out and see conservation practices and water quality monitoring stations on farms within subwatersheds of Big Bureau Creek. The tour offers a chance for these landowners to see practices up close and get a better understanding of how they work.

The group will not stray far from the road, but tour coordinators encourage guests to bring sturdy shoes and sun protection. Air-conditioned bus transportation will be provided on the tour.

Space is limited for this opportunity, so RSVP by 5 p.m. Aug. 23 to Teresa Bullock, American Farmland Trust, by emailing her at tbullock@niu.edu or calling 815-753-6365.

This session of "Women Caring for the Land" is sponsored by the Women, Food and Agriculture Network in partnership with American Farmland Trust, Prairie Rivers Network, and Friends of the Big Bureau Creek Watershed. Staff from these organizations as well as NRCS will be on hand to answer questions.

For more information, visit http://www.farmland.org/programs/environment/solutions/Bureau-County-Workshop.asp.

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Women Caring for the Land Program
Bureau County Metro Center, Shoemake Hall, Princeton, IL
August 28, 2012

AGENDA

8:00 a.m.	Sign-in, continental breakfast
8:30 a.m.	Welcome, brief introduction of facilitators, expectations for the meeting, meeting packets
8:45 a.m.	Each participant will have a few minutes to introduce herself and give a brief description of her land and conservation goals (*What size is your farm, where is it, what crops? If you are a landowner, do you have a tenant? What conservation practices do you use? What conservation practices do you want to know more about?*)
10:15 a.m.	Break
10:30 a.m.	Overview of the Mississippi River Basin Healthy Watersheds Initiative and Friends of Big Bureau Creek, NRCS conservation programs and practices, discussion of the top two or three concerns raised by participants in more depth
11:15 a.m.	Review of resource materials available
11:30 a.m.	Lunch
12:15 p.m.	Clean up, load bus for conservation tour
12:30 p.m.	Conservation field tour (optional)
2:30 p.m.	Return from tour, dessert, evaluations
3:00 p.m.	Meeting adjourned

Sponsored by Women, Food and Agriculture Network in partnership with American Farmland Trust, Prairie Rivers Network, and Friends of the Big Bureau Creek Watershed. Visit ***www.wfan.org*** *for more information.*

Big Bureau Creek Subwatershed MRBI Project

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
Big Bureau Creek

NRCS and partners work with producers and landowners to implement voluntary conservation practices that improve water quality, restore wetlands, enhance wildlife habitat and sustain agricultural productivity in the Mississippi River Basin.

What is the MRBI?

To improve the health of the Mississippi River Basin, the NRCS established in 2009 the Landscape Initiative called the **Mississippi River Basin Healthy Watersheds Initiative** (MRBI). One of the main goals of the MRBI is to avoid, control, and trap nutrient and sediment runoff.

The Initiative builds on the cooperative work of NRCS and its conservation partners in the basin and offers agricultural producers in selected priority watersheds the opportunity for technical and financial assistance. **Producers compete for this assistance with only applicants within the small, priority watersheds versus state-wide.** The three green watersheds highlighted in the map are part of the Big Bureau Creek Subwatershed MRBI Project.

"Through this new Initiative, the main goals of NRCS and its partners are to help producers in the Big Bureau Creek Watershed in implementing conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. Currently, the most popular practice in the watershed is Grassed Waterways. We look forward to installing a variety of conservation practices in the upcoming year."

Rod Kuykendall, NRCS District Conservationist

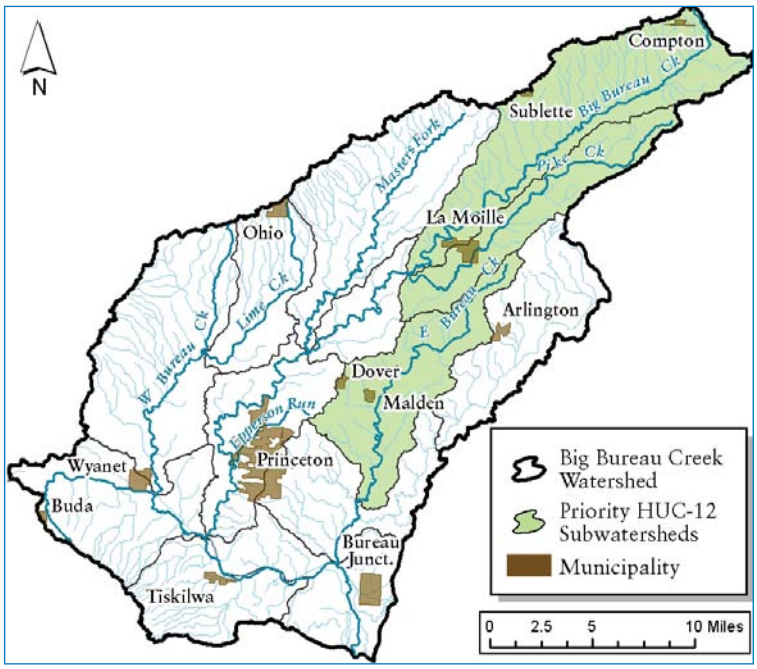
Who are the NRCS Partners in the Big Bureau Creek Subwatershed MRBI Project?

NRCS is building a foundation of partners committed to helping people help the land. Partners include non-profit and private conservation organizations, agricultural groups, technical service providers, individuals, and local, state, and federal government agencies.

The **"Friends of the Big Bureau Creek Watershed"** is the partnership supporting the Big Bureau Creek Subwatershed MRBI Project. The "Friends" include the **LaSalle and Lee County Soil and Water Conservation Districts, American Corn Growers Institute for Public Policy, Big Bureau Creek Watershed Group, IDNR, IEPA, Illinois Stewardship Alliance, Mauer Stutz, Inc., Northwater Consulting, Pheasants Forever, Prairie Rivers Network, The Wetlands Initiative, Trees Forever, and USGS.**

Coalition members are playing an instrumental role with boots-on-the-ground support by:

- augmenting funding sources,
- conducting education and outreach activities,
- providing technical and engineering assistance, and
- assisting NRCS with monitoring and evaluation activities.



The three priority MRBI subwatersheds in Big Bureau Creek are Upper Big Bureau Creek, Pike Creek, and East Bureau Creek. Producers in these three subwatersheds may be eligible for a specific pool of EQIP and CSP program money.

How does MRBI benefit producers?

NRCS and partners help producers with voluntary conservation practices that conserve and protect local natural resources while maintaining economic viability of cropland and grazing land.

Certain E**nvironmental Quality Incentives Program (EQIP)** and **Conservation Stewardship Program (CSP)** practices implemented by producers will address water quality concerns by reducing nutrient runoff, prevent soil erosion and provide essential wildlife habitat. ***Producers can participate in MRBI by signing up for practices such as nutrient management, cover crops, tillage management, grassed waterways, riparian forest buffers, filter strips and wetlands.***

These practices not only benefit the local watershed but enhance agricultural profitability by reducing field nutrient and soil losses and enhancing soil health.

Where can I get more info?

Your local USDA field office:

Bureau County (Princeton): (815) 875-8732 ext. 3
LaSalle County (Ottawa): (815) 433-0551 ext. 3
Lee County (Amboy): (815) 857-3621 ext. 3

Friends of the Big Bureau Creek Watershed Website:

www.wetlands-initiative.org/friendsofbbc

APPENDIX F: QUALITY ASSURANCE PROJECT PLAN

PROJECT:

Big Bureau Creek Mississippi River Basin Initiative (MRBI)

PREPARED FOR:

IEPA BUREAU OF WATER

PREPARED BY:

Jeff Boeckler[1]

[1] Northwater Consulting, 2854 South 11th St., Springfield, Il 62703

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A Project Management

A1 Approval Sheet

Jeff Boeckler Principal Northwater Consulting	Date
Michelle Rousey IEPA-Quality Assurance Officer Bureau of Water	Date
Jennifer Clarke IEPA-Project Manager	Date
Amy Walkenbach IEPA- Nonpoint Source Unit Manager	Date

A2 Distribution List

This document has been prepared according to the United States Environmental Protection Agency publication EPA Requirements for Quality Assurance Project Plans dated March 2001 (QA/R-5).

This Quality Assurance Project Plan (QAPP) will be distributed to individuals identified on the approval sheet and the project team listed in Project/Task Organization.

A3 Project/Task Organization

Refer to figure 1 and table 1 for the project team and listed individuals, figure 1 illustrates the organizational structure for the project.

Northwater Consulting, the Wetlands Initiative, Prairie Rivers Network, and local volunteers will contribute to the development of monitoring of stream and watershed conditions of Big Bureau Creek, Pike Creek, and East Bureau Creek:

Big Bureau, Pike Creek, and East Bureau Creek

The main category of evaluation that will be undertaken is water quality. Staff gages or stage recorders will be installed to measure stream stage and stream velocity will be measured manually. Stage readings will be recorded on a monthly basis (or more frequent) and, during selected storm events where manual velocity measurements are not possible. During selected storm events, sediment and nutrient sampling will be undertaken; one (1) automatic sampler will be installed. Total Suspended solids will be measured in a laboratory.

The following monitoring tasks are expected:

- Installation of staff gauges and automatic sampler and stream stage measurements.
- Stream discharge measurements
- Water quality data collection and laboratory analysis
- Suspended sediment laboratory analysis

All water quality and suspended sediment samples will be submitted to a National Environmental Laboratory Accreditation Program (NELAP) laboratory (Illinois EPA Lab), for analysis-here and after referred to as contract lab. Analytical results will be submitted upon request or by the end of the monitoring period and no later than May 1st 2013 to the Illinois Environmental Protection Agency (IEPA) and formatted for STORET specifications.

The Project Managers will be responsible for the following activities:

- Execution of monitoring programs in conjunction with the above stated project, this includes staffing, equipment, transportation and correspondence with landowners.
- Deliver to or arrange for pickup or drop-off of samples by the contract lab within the prescribed holding times.
- Update the QAPP as necessary.

The Project Manager will oversee a monitoring team consisting of field technicians and volunteers to conduct the required work and sample collection. Field staff will be responsible for equipment preparation, sample collection, field measurements, and sample transportation. The contract lab personnel shall be responsible for all their laboratory analysis and the maintenance of the laboratory's internal quality control/assurance.

A4 Problem Definition/Background

The Big Bureau Creek watershed project area lies within the 8-digit HUC designated focus area of Lower Illinois River-Lake Senachwine (07130001).The Big Bureau Creek watershed drainage area lies in north-central Illinois in the counties of Bureau, Lee, and LaSalle. There are three 12-digit HUCs included in this proposal for the Big Bureau Creek watershed. These priority watersheds are Upper Bureau (071300010502), Pike Creek (071300010501), and East Bureau (071300010602) (Figure 2). These subwatersheds drain a total of 86,700 acres or about 27% of the total 319,400 acres in the Big Bureau Creek watershed (not including Goose Lake and its watershed).

The natural resource issues for the Big Bureau Creek watershed that relate to the MRBI priorities and objectives are water quality (excessive nutrients) and soil erosion and suspended sediment in surface water. High concentrations of total

nitrogen and phosphorus are commonly detected in the watershed. Nitrogen concentrations increase upstream indicating the primary sources are located in the headwaters and are a function of land use and practices. There is an excessive input from fertilizer, waste discharges, livestock operations and natural fixation unlike nitrogen, phosphorus concentrations are high throughout the watershed and do not show any trends.

While phosphorus is naturally occurring, it is supplemented possibly by fertilizers. Phosphorus, as the primary limiting nutrient in local streams, causes the algal blooms commonly seen in the creek. These blooms affect the viability of the native fish and wildlife species inhabiting these waters. While the total suspended sediment load is naturally high within the watershed due to glacial geology, steep gradients, and flashy hydrology, there is a significant input that can be prevented through soil erosion control and water management (e.g., grade control and wetlands). Conservation or best-management practices that emphasize reduced nutrient mobilization and soil erosion will improve water quality, in-stream habitation, and overall watershed quality.

This QAPP will describe how the resources will be used to obtain quality, usable data for documenting the water quality in support of the Big Bureau Creek MRBI project.

A5 Project/Task Description

Refer to section A4 for additional information

Monitoring will be conducted at one (1) location on Pike Creek, one (1) location on Big Bureau Creek and one (1) location on East Bureau Creek. Therefore, a maximum of three (3) monitoring stations will be part of this monitoring plan. Tables 2 provides descriptions of the sampling areas.

Monitoring will take place monthly during normal flow conditions, with the exception of the storm flow monitoring in which selected storms will be monitored.

In-stream samples are to be collected from the center of the streams. An ISCO 6712 Automatic Sampler will be installed at the Pike Creek Station and manual grab samples taken at Big Bureau and East Bureau Creek. Approximately 2 samples

will be collected at each site monthly. This will include one monthly sample and one storm flow sample (if possible). Storm flow samples collected using the ISCO sampler may result in multiple samples over the storm hydrograph.

Parameters to be analyzed include Total Suspended Solids (TSS), Total Phosphorus (TP), and Nitrate/Nitrite, Total (TN). Samples will be delivered to the IEPA lab. Tables 4 and 5 describe the containers, field preservation, and holding time for the samples.

A6 Data Quality Objectives and Criteria for Measurement Performance

It is our intent to develop high quality data as a function of sound project management, utilization of optimal field techniques and protocols and the commitment of a high quality laboratory that employs methods of measurement that will detect and quantify all analyses of interest wherever possible.

The minimum measurement or detection level criteria will be established at the lowest analyte concentration required for planned uses of the measurement data (Illinois Water Quality Standards for General Use Waters). If no standards exist the parameters will be discussed with the IEPA contract manager. The monitored parameters and the established minimum measurement criteria are shown in Table 6.

The minimum measurement objectives or reporting limits are based on the current laboratory (IEPA, Springfield Lab) reporting limits used for reporting results to Illinois EPA (Table 6).

Analyte Method Detection Limits (MDL's) shall be determined by the United States Environmental Protection Agency (USEPA) method given in the Code of Federal Regulations (CFR), Volume 40, Part 136. The MDL procedure sets the limit of detection at the 99% confidence level, according the U.S. Environmental Protection Agency's (EPA) MDL procedure promulgated at 40 CFR (Code of Federal Regulations) Part 136, Appendix B, rev. 1.11. The EPA defines the MDL as the "minimum concentration of substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, and is determined from analysis of a sample in a given matrix containing the analyte".

Since the MDL procedure is based upon precision obtained for a standard greater than the MDL, it also is a measure of method sensitivity at concentrations near the MDL.

If no minimum measurement criteria exist for specific analytes, an achievable MDL value will be utilized by the laboratory.

A7 Special Training/Certification

The project manager will ensure competency of all field personnel, and ensure that the field teams are educated and trained prior to sampling events.

Chemical analyses shall be performed by trained analysts who have successfully completed performance requirements as set forth in the contract lab's Quality Assurance/Quality Control (QA/QC) Manual.

A8 Documents and Records

The Project Manager shall retain all updated versions of the QAPP and be responsible for distribution of the current version of the QAPP. The IEPA Project Manager must approve annual updates of the QAPP.

Sampling collection records, field notebooks, and all records of field activities shall be retained for five years by the Project Manager of the organization that took the samples. Sample collection records shall document proper sampling protocol performed in the field.

The Project Manager shall retain all laboratory analytical results and all correspondence with the contract laboratory. Chain-of-custody forms submitted for the laboratory shall also be retained along with analytical results.

The Project Manager shall retain copies of all monitoring project documentation and correspondence with the IEPA.

B MEASUREMENT DATA ACQUISITION

B1 Sampling Process Design

B1.1 Sampling Stations

Sampling stations may be added or deleted based on evaluation by the monitoring program Project Manager and the IEPA Project Manager. Table 2 and 3 describe the stations and directional notes.

Monitoring will focus on assessing water quality at the outlet of each priority project subwatershed. The location of the samples sites are as follows (See Figure 2, Map):

- East Bureau Creek; Bureau County, 0.2 Mi E of I180 at 1300N road crossing
- Pike Creek: Bureau County, at 2750E road crossing, 0.2 Mi S of 2515N and 2750E (IEPA station Code DQG-LM-C4)
- Big Bureau Creek, Bureau County, at 2600N road crossing, 0.2 Mi E of 2725E and 2600N

B1.2 Sample Process Design

A staff gauge will be installed at each sample site. In addition, an Isco 6712 automatic sampler will be installed and referenced to the staff gauge at the Pike Creek site. The equipment will be housed in a secured metal box and powered by a deep cycle marine battery and may be recharged by a solar panel.

Hand flow measurements will be taken with a Marsh McBirney Flow-Mate model 2000 and grab samples done in accordance with the Illinois Environmental Protection Agency, 1994, Quality Assurance Project Plan: Integrated Water Monitoring Program Document, Bureau of Water, Springfield, IL. If maintenance of the Isco 6712 becomes problematic the systems will be shut down unless IEPA feels that there is value in maintaining the systems and provides additional support to continue electronic data collection.

A cross-section survey will be conducted to determine the cross-sectional area at each station and to develop area to level data points. The survey may not necessarily be tied into mean sea level unless bench marks are in reasonable proximity. If no bench mark controls are available a rebar with an aluminum cap will be installed and stamped with a reference elevation of 100.00.

The Isco 730 Bubbler Flow Module or the 720 Submurged Flow Module will activate the 6712 sampler at a one foot rise in stage and record streamflow. The 6712 sampler will continue to collect samples in fifteen minute intervals until all twenty four bottles are filled or the descending limb reaches the one foot trigger set in the flow module. The sampling interval may be adjusted to one half hour or one hour intervals after observing the flashiness of the events occurring. To utilize the current sample analysis funding with maximum efficiency samples may be selected for analysis according to the hydrograph where selected samples represent the rising limb, peak, and descending limb of the storm event. Samples will be logged in and assigned a reference number that correlates with the sample collection data in the flowmeter and the laboratory assigned reference number.

Approximately 2 samples will be collected at each site monthly. This will include one monthly sample and one storm flow sample (if possible). Storm flow samples collected using the ISCO sampler may result in multiple samples over the storm hydrograph. No sample blanks will be taken for this project

B1.3 Sampling Frequency

Sampling will be completed on a monthly basis and during selected rain events over a maximum period of two (2) years. Sampling will begin in May of 2011. Sampling is driven by available funding for analysis of samples thus the rain event sampling schedule may be adjusted accordingly.

B1.4 Sample Methods

Sample analysis conducted for all three sites includes Total Suspended Solids (TSS) (method number SM 2540D), Total Phosphorous (TP) (method number EPA 365.3), Nitrate/Nitrite, Total (TN) (method number EPA 353.2)

B2 Sampling Methods

Manual samplings are conducted by a minimum of one person at the locations specified in this monitoring plan.

Water Quality

Samples are taken from the stream using sample jars provided by the contract lab. When possible, samples will be taken at the center of the stream. Sample bottles are filled, labeled, and packed on ice.

Stream Discharge Measurements and Cross Section Development

A stream cross section will be measured and flow velocity will be measured with a velocity meter at 0.6 of the depth for depths below 3 feet and at 0.2 and 0.8 of the depth for depths above 3 feet at regularly spaced intervals across the cross section. These measurements will be tabulated into discharge measurement units of cubic feet per second (cfs).

Suspended Sediment Data Collection

Suspended sediment will be collected using sample jars provided by the contract lab. When possible, samples will be taken at the center of the stream.

B3 Sample Handling and Custody

All sample containers are chilled in an ice-filled cooler immediately after collection and kept on ice during transport to or pick up by the contract laboratory. The IEPA lab always supplies coolers, containers, labels and necessary preservatives. Table 4 describes field collection containers and field preservation. All samples will be delivered and analyzed with respect to their holding times. Tables 4 and 5 describe field collection containers, preservatives, and holding times.

The laboratory shall record temperature upon arrival at the laboratory using a thermometer calibrated against a NIST traceable certified thermometer. Samples that require thermal preservation are refrigerated after sample acceptance at the laboratory.

When received by the laboratory, the samples are logged into the laboratory logbook and/or laboratory database. Maximum holding times before analysis, as stated in applicable laboratory method standard operating procedures (SOPs) are followed.

B4 Analytical Methods

All methods used by the laboratories for data analysis shall be USEPA approved methods listed in 40 CFR Part 136. Table 5 in the Appendix describes holding times as established in 40 CFR Part 136.

Illinois EPA Lab will perform all laboratory analyses. In the event a new contract lab needs to be chosen, the Project Manager will provide the name and address of the new contract lab for approval to the IEPA Quality Assurance Officer (QAO) and provide a revised QAPP.

B5.1 Field Quality Control

All field personnel are responsible for ensuring that proper sampling methods, sample preservation, and sample custody of the delivered samples to the designated laboratory are followed. It is also field personnel responsibility to correspond with Project Managers when important field based decisions are to be made. Field Blanks will not be collected as part of this project.

An investigation and corrective action report prepared by the responsible supervising field personnel in the event of a quality control or noncompliance issue will be submitted to his Project Manager. The Project Manager will then forward this report to the Project QAO. The accuracy and precision of all data measurements must be quantifiable. Analytical procedures used for data analysis must be performed according to approved standard methods. Data measurements should be recorded in a controlled environment in which a quality control program can be maintained.

B5.2 Laboratory Quality Control

The contract lab is responsible for implementing their QA/QC Manual which is an internal quality assurance plan for laboratory procedures. The contract lab is responsible for the accuracy and reliability of analytical methods and final data reports according to their QA/QC Manual. An investigation and corrective action report will be submitted to the Project Manager and the Project QAO from the Laboratory's District Manager as quality control or noncompliance issues arise. The contract lab is responsible for providing data qualifiers and/or case narratives to inform Project Manager and the Project QAO of any analytical exceptions that fall outside of routine method protocols. The lab's QA/QC Manual contains the procedures for quality control and for calculating QC statistics.

B6 Instrument/Equipment Testing, Inspection and Maintenance

All laboratory equipment shall be routinely maintained according to the manufacturer's manuals. Any equipment used for field data measurements shall be visually tested and inspected for defects prior to sampling events and after the equipment returns from the field. Any required spare parts or equipment will be located in Springfield at the Northwater Office. Were necessary, this information will be documented in a log book

The following equipment listed is necessary for sampling procedures.

1. 1-gallon stainless steel bucket
2. Flow Meter (model type TBD)
3. Sample bottles (provided by IEPA lab):
    a. Plastic bottle with applicable preservative for Nitrate/Nitrite Total, and Total Phosphorus.
    b. Plastic or glass bottle for TSS.
4. Latex gloves and waders
5. Cooler and ice
6. Antibacterial soap
7. Sharpie markers and labels
8. Field logbooks/log sheets

B7 Instrument Calibration and Frequency

Instruments used in the field and in the laboratory shall be calibrated prior to use according to the manufacturer's manual. The laboratory shall calibrate instruments according to internal quality assurance plans. The laboratory is also to keep adequate records of equipment calibration and to use NIST traceable standards when possible.

A portable flow meter will be calibrated prior to sampling based on manufactures specifications. The automatic sampler will be calibrated according to the manufactures specifications and recorded in a logbook

B8 Inspection/Acceptance of Supplies and Consumables

Critical field supplies include protective equipment such as gloves, pens/markers, logbooks, and coolers. Supplies and consumables used in the field shall be visually inspected by the field operations teams to guarantee their usability. Supplies will be deemed acceptable if no visible defects are noted. Supplies and consumables used in laboratory procedures shall be inspected by laboratory managers to confirm compliance with laboratory QAPs and SOPs.

B9 Nondirect Measurements

Data mining will be conducted throughout the project period. Databases may include GIS information, historical information and local anecdotal information on landuse and stream channel changes. Databases obtained from EPA sources such as STORET, basin surveys, and facility surveys are expected to be high quality in nature. Any questionable information shall be labeled as provisional.

B10 Data Management

Field books, field measurement records, and other data gathered in the field shall be maintained for five years in project files by the Project Manager (Jeff Boeckler). The contract lab will convey all laboratory analytical data to the Project Manager in the contract laboratory's standard report form. All data communicated to the IEPA shall be verified by the Project QAO and the IEPA Project Manager (Jennifer Clarke) for usability.

C ASSESSMENT/OVERSIGHT

C1 Assessment and Response Actions

Performance evaluations of the sampling teams will be conducted by the sampling team but led by the Project QAO. The sampling team will be evaluated to determine if sampling protocol is followed, and evaluations will be documented by the Project QAO annually. Quality control and noncompliance issues related to field activities will require an investigation and corrective action plan submitted to the Project Manager and the Project QAO.

The lab contracted for data analysis shall maintain internal quality assurance programs described in their quality assurance plans. The IEPA Laboratory maintains quality control checks for procedures. When the possibility of quality control problems or noncompliance issues arise that may affect the usability of data, an investigation and corrective action report will be submitted by the Laboratory District Manager to the Project Manager and reviewed by the Project QAO.

Also, the Project Manager shall make certain that the project data associated with any quality control or other nonconformance issue is made available to data users with the appropriate data qualification. When data previously released to data users may have been affected by a quality control problem or other nonconformance issue, the Project Manager shall notify other data users of the problem.

C2 Reports to Management

The Project Manager will receive investigation and corrective action reports in case of any quality control or noncompliance issue and will forward any reports to the Project QAO. Reports shall be prepared by the Project QAO in the area related to the quality control issue. The Project QAO shall annually prepare and review performance evaluations and audits, and data quality assessments. Any QA problems affecting the final reported values shall be reported to all data users.

A summary water quality report will be generated at the conclusion of this project showing pre and post project implementation results for water quality (loadings). The report will highlight any changes in water quality resulting from project implementation. The data will be used to show if significant water quality benefits have resulted from MRBI funds being used to stimulate conservation on Agricultural ground in the priority watersheds.

D DATA VALIDATION AND USABILITY

D1 Data Review, Validation, and Verification Requirements

The Project Manager and the Project QAO will review final analytical data reports and address any issue related to data reliability as mentioned in pertinent investigation and corrective action plans. Qualified laboratory data will be listed as such in any reports or data submitted to the IEPA (see Section B5.2). It will be the responsibility of the IEPA Project Manager to determine the usability of any qualified data.

D2 Verification and Validation Methods

Sample collection and field measurement records shall be verified by field technicians and the records kept by the Project Manager. Laboratory data shall be verified by the IEPA laboratory managers that produced the data. Field and laboratory records shall be archived by each Project Manager.

In the case of data verification resulting in a change to data, the Project Manager shall inform all data users and make corrections. The Project Manager and the Project QAO shall be responsible for resolving issues with the IEPA.

The Project Manager shall be informed if data accuracy, reliability, or usability has been reduced as the result of errors in stored data or corrupted data files. All data users shall be notified of the problems and corrections made. The Project Manager shall submit a report documenting the problem.

D3 Reconciliation with User Requirements

The IEPA Project Manager shall review project data and its usability and determine if it meets requirements of the project objectives. The project objectives

are stated in Section A4, Problem Definition/Background and in Section A6, Data Quality Objectives and Criteria for Measurement Performance.

The execution of the project shall follow the procedures outlined in this QAPP. Personnel listed are responsible for implementation of the quality control measures during each stage of the project. Updates of the QAPP shall be submitted to the IEPA Project Manager and Project QAO for review and comment.

The QAPP shall be reviewed annually by all persons listed on the approval page. The review shall determine issues to be addressed as the project progresses. Issues to be discussed may include:

1. The number and location of sampling stations.
2. The frequency of sampling.
3. Sampling procedures.
4. Parameters measured.
5. Data quality objectives and minimum measurement criteria.
6. Analytical procedures.
7. Project reporting.
8. Corrective actions taken.

The project shall be modified as directed by the Project Manager. Changes in procedures shall not be made without the approval of the Project Manager and the IEPA Project Manager. All changes shall be documented in a memorandum that will be distributed to those listed on the approval sheet.

The Project Manager shall update the QAPP after review and keep a separate record of changes.

References

Illinois Environmental Protection Agency, 1994 Quality Assurance Project Plan Bureau of Water (BOW).

Illinois Environmental Protection Agency, Bureau of Water (BOW), Quality Management Plan, Revision 2, May 2001.

Illinois Water Quality Standards for General Use Waters, Environmental Regulations for the State of Illinois, Title 35 of the Illinois Administrative Codes, Subtitle C: Chapter I: Pollution Control.
http://www.ipcb.state.il.us/SLR/IPCBandIEPAEnvironmentalRegulations-Title35.asp

Spring Brook Creek & West Branch DuPage River, Quality Assurance Project Plan: An example QAPP provided by the IEPA BOW

U.S. Environmental Protection Agency, EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001.

FIGURES

Figure 1: Project Organizational Chart/ Project Personnel

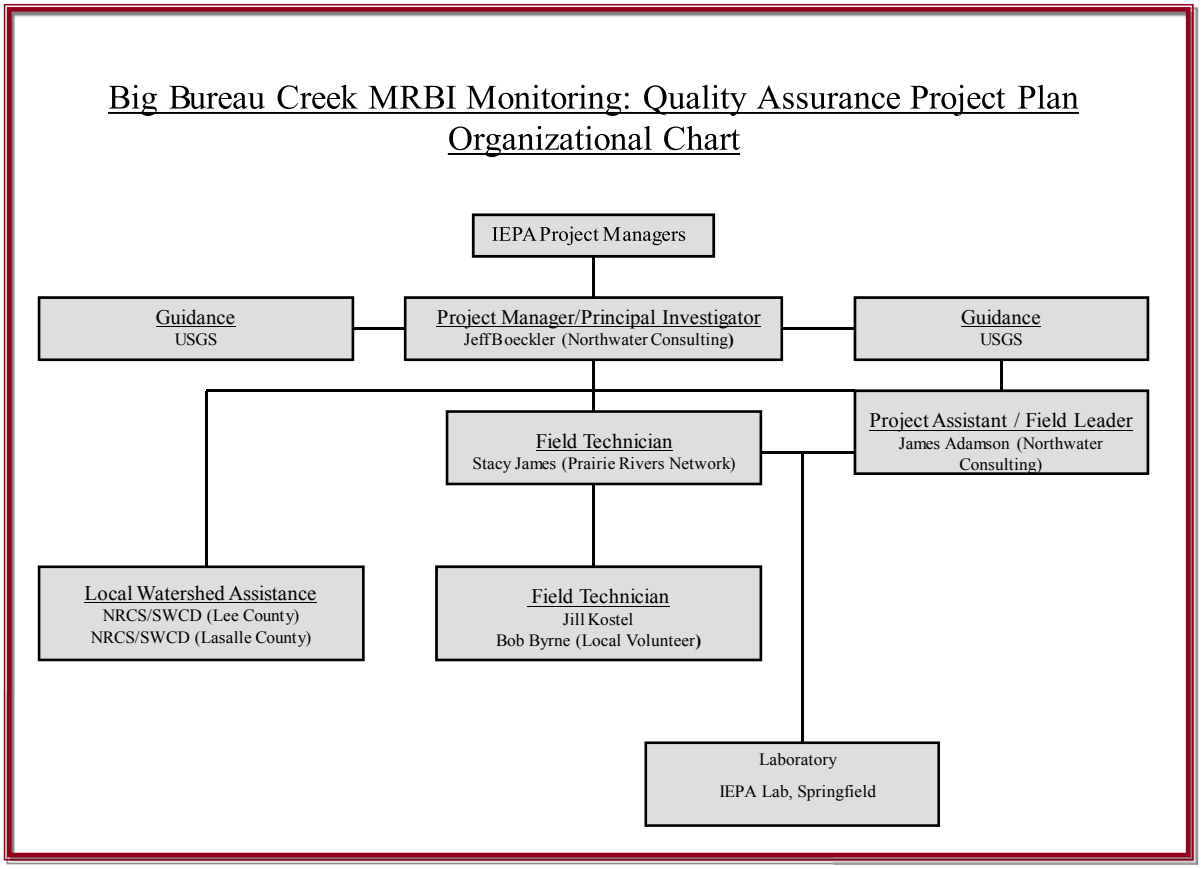
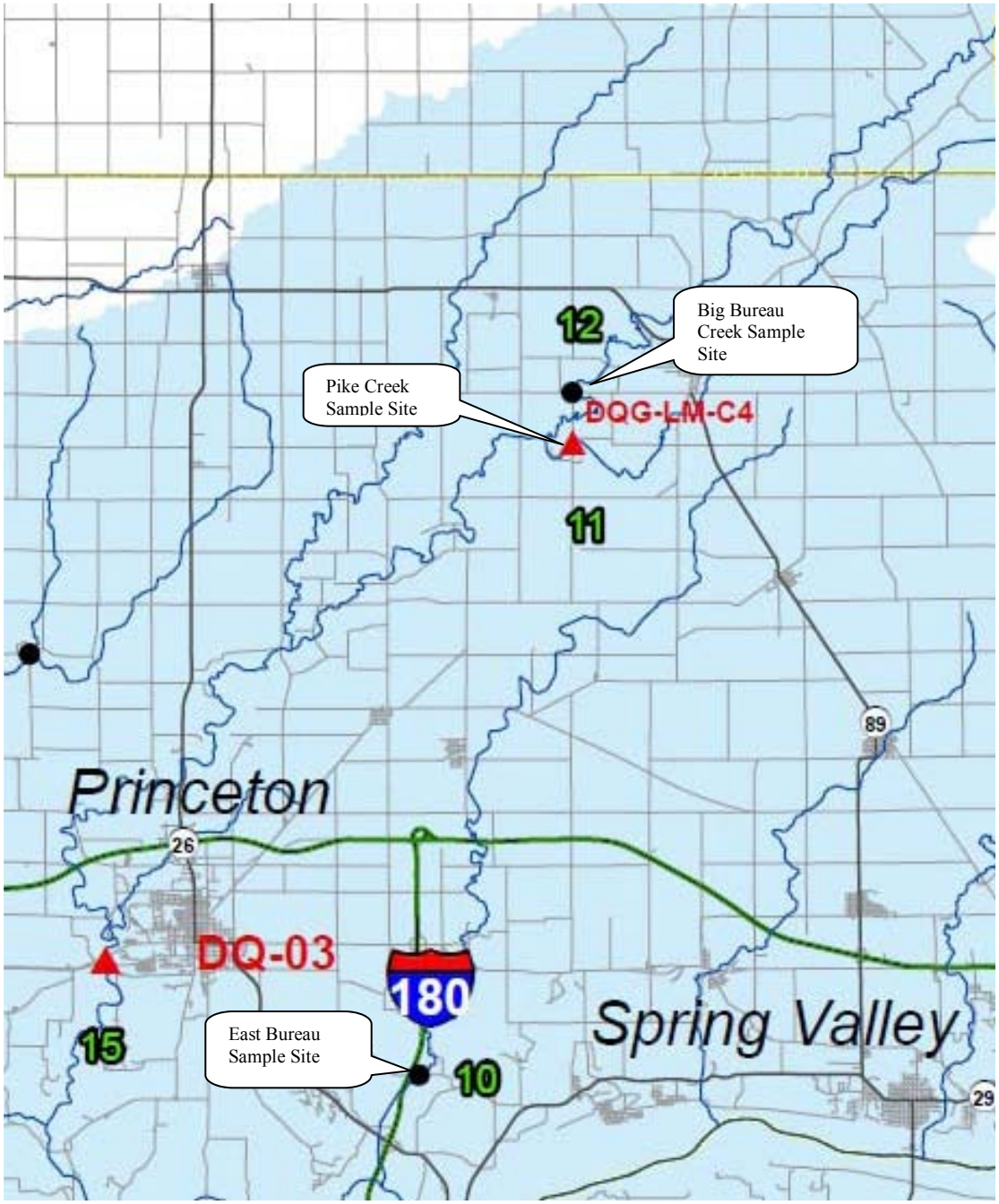


Figure 2 - Location of Monitoring Stations



TABLES

Table 1: Project Personnel

Organization	Project Role	Staff
Northwater Consulting	Project Manager/ Principal Investigator	Jeff Boeckler
Northwater Consulting	Project Assistant/ Field Leader	James Adamson
Prairie Rivers Network	Field Technician	Stacy James
The Wetlands Initiave	Field Technician	Jill Kostel
Private Resident	Field Technician	Bob Byme
USGS	Guidance	Paul Terrio
Illinois Environmental Protection Agency (IEPA)	Project Manager	Jennifer Clarke
IEPA	Quality Assurance Officer	Michelle Rousey

Table 2: Sample Locations

Station Code	General Description	Lat. DD N	Long. DD W
DQG-LM-C4	Pike Creek: Bureau County, at 2750E road crossing, 0.2 Mi S of 2515N and 2750E (IEPA station Code DQG-LM-C4)	41.509477	-89.324684
10 (IEPA station code DQA-02)	East Bureau Creek; Bureau County, 0.2 Mi E of I180 at 1300N road crossing	41.334932	-89.382041
12 (IEPA station code DQ-10)	Big Bureau Creek, Bureau County, at 2600N road crossing, 0.2 Mi E of 2725E and 2600N	41.524387	-89.323139

Table 3: Directional Notes for Sampling Locations

Location	Station Code	Notes
Pike Creek	DQG-LM-C4	Samples will be taken on the upstream side of the bridge crossing
East Bureau	DQA-02	Samples will be taken on the upstream side of the bridge crossing
Big Bureau	DQ-10	Samples will be taken on the downstream side of the bridge crossing

Table 4: Sample Containers and Field Preservation

Version 1.0

Parameter	Container and Preservation*
Total Phosphorus (TP)	250 milliliter plastic bottle with H_2SO_4 preservative, chill with ice to 6 °C or less.
Total Suspended Solids (TSS)	500 milliliter plastic bottle, chill with ice to 6 °C or less.
Nitrate/Nitrite, Total	250 milliliter plastic bottle with H_2SO_4 preservative, chill with ice to 6 °C or less.

Notes

*All preservatives if necessary come in the containers provided by the contract laboratory

* Samples should be subjected to a cool down period of at least 12 hours before shipping to the Laboratory

Table 5: Holding Times

Version 1.0

Parameter	Maximum Holding Time*†
Total Phosphorus (TP)	28 days, Refrigerate (H_2SO_4 to pH<2)
Total Suspended Solids (TSS)	7 days, Refrigerate
Nitrate/Nitrite, Total	28 days, Refrigerate (H_2SO_4 to pH<2)

* After preservatives, if necessary, are added.

† Holding time is defined as from time and date of collection to time and date of laboratory analysis.

Table 6: Minimum Measurement Criteria and Objectives

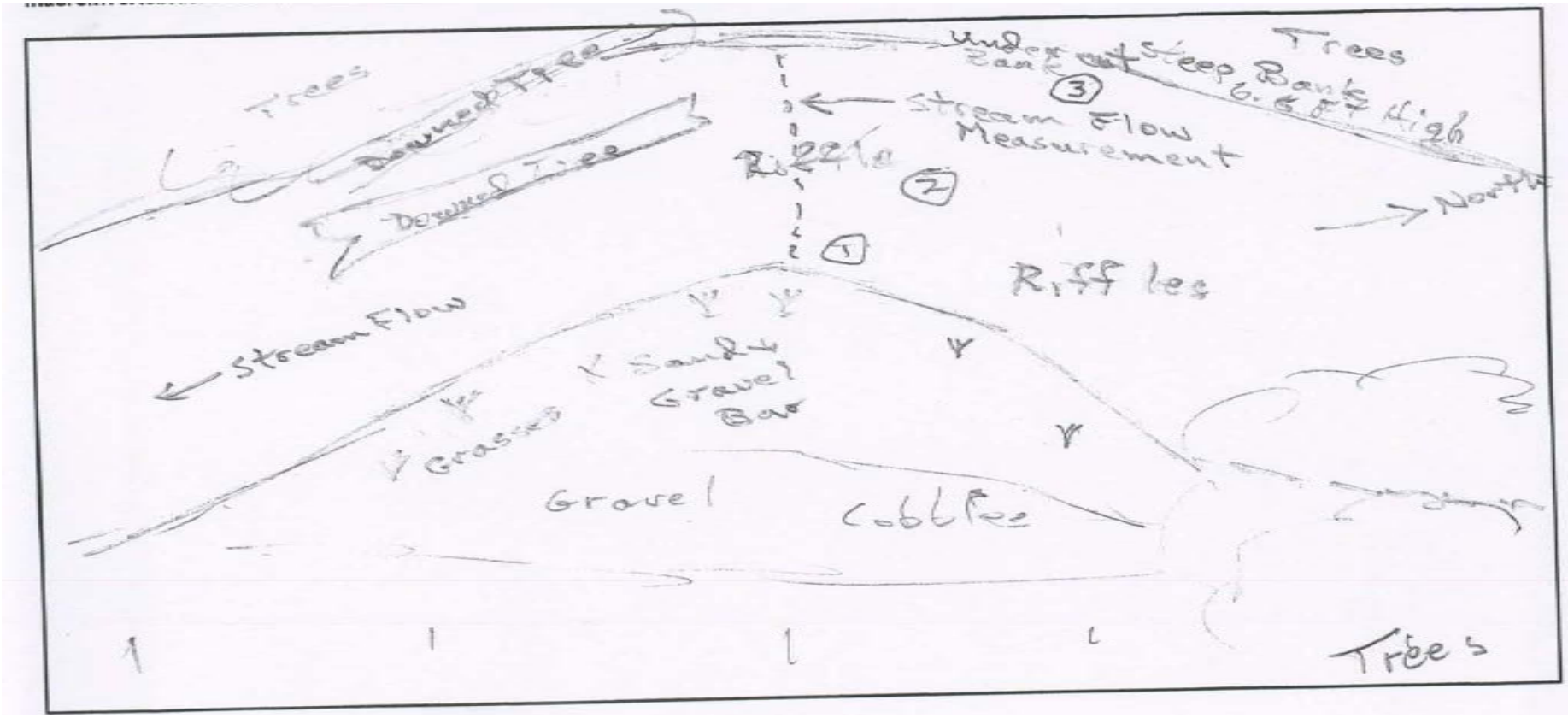
Parameter	Method	Container	Preservation	MDL	MRL	BS limits	MS limits	RPD limits
Nitrate/Nitrite, Total	EPA 353.2	Plastic	H_2SO_4 to pH <2; ≤ 6° C	0.018 mg/L	0.1 mg/L	90 - 110	90 - 110	20
Phosphorus, Total	EPA 365.3	Plastic	H_2SO_4 to pH <2; ≤ 6° C	0.002 mg/L	0.005 mg/L	80 - 120	70 - 130	20
Total Suspended Solids	SM 2540D	Plastic	≤ 6° C	N/A	4 mg/L	N/A	N/A	34.5

APPENDIX G: MACROINVERTEBRATE SURVEY

Site Sketch Sheet

SITE ID #:
STREAM: East Bureau Creek
DATE: June 7, 2012
COUNTY: Bureau
WATERSHED: Spoon River
RIVERWATCH TEAM:
(If applicable)

Sketch an aerial view of your 200 foot stream site every year. Indicate the direction of North and the direction of stream flow. Indicate features such as riffles, runs, pools, ditches, wetlands, dams, riprap, tributaries, landscape features, vegetation, and roads. Indicate the types of habitat and locations where macroinvertebrates were collected. Also include the location where discharge was measured. Include any notes you feel are necessary. (pgs 29 and 41)



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Habitat Survey Sheet

SITE ID #: _____
STREAM: East Bureau Creek
DATE: June 7, 2012

Names of trained volunteers: Glenn E. Clayton
Names of untrained volunteers: Jeff Boeckler, Bob Byrne

Start Time 10 : 30 **am** *Please circle the correct time period* **End Time** 1 : 00 **pm**

Present Weather (pg 30)
- x Clear/Sunny
- ___ Overcast
- ___ Showers (intermittent rain)
- ___ Rain (steady rain)
- ___ Storm (heavy rain)

Worst Weather in past 48 hrs. (pg 30)
- ___ Clear/Sunny
- x Overcast
- ___ Showers (intermittent rain)
- ___ Rain (steady rain)
- ___ Storm (heavy rain)

Temperature (pg 30)
Air 76 °F °C
Water 64 °F °C
Circle unit of measurement

Water Appearance (pg 30)
- x Clear
- ___ Milky
- ___ Foamy
- ___ Dark Brown
- ___ Oily Sheen
- ___ Reddish
- ___ Green
- ___ Other_____

Water Odor (pg 30)
- x None
- ___ Sewage
- ___ Chlorine
- ___ Fishy
- ___ Rotten Eggs
- ___ Petroleum
- ___ Other _____

Turbidity (pg 31)
- x Clear
- ___ Slight
- ___ Medium
- ___ Heavy

Canopy Cover (pg 31) ☐ 0% ☐ 1-5% ☐ 6-25% ☒ 26-50% ☐ 51-75% ☐ 76-100%

Algal Growth (pg 32) ☐ 0% ☐ 1-5% ☐ 6-25% ☐ 26-50% ☒ 51-75% ☐ 76-100%

Substrate Siltation Coverage (pg 33) Estimate the percentage of the stream bed that is covered by silt.

☐ 0% ☒ 1-5% ☐ 6-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

Are there Submerged Aquatic Plants? (pg 33) NO
If Yes, types? _____

List the types of **riparian (stream side) vegetation** present at your site. (pg 33) Mixed deciduous trees

Bottom Substrate (pg 34) Using the percent codes below, record the percentage of each of the materials that make up the stream bottom by writing the percent code letter in the blank next to the bottom substrate type. If the substrate is not present at the site, write letter A in the blank.

Percent cover codes: A = 0%, B = 1 - 5% C = 6 - 25%, D = 26 - 50%, E = 51 - 75%, F = 76 - 100%

- A Bedrock
- A Boulder (> 10 in)
- A Hard Pan Clay
- D Cobble (2.5 in. - 10 in.)
- C Gravel (0.1 in – 2.5 in.)
- ___ Other _____(describe other substrate)
- C Sand (< 0.1 in.)
- B Silt

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Biological Survey Sheet

SITE ID #: _____
STREAM: East Bureau Creek
DATE: 6/7/12

Check the TWO habitats you sampled. Habitats are listed most diverse (riffle) to least diverse (sediment). (pgs 47-50)

1. RIFFLE x 2. LEAF PACK _____ 3. SNAG _____ 4. UNDERCUT BANK x 5. SEDIMENT_____

Macroinvertebrates of Special Interest (pg 54)

Indicate whether or not you noticed any of the following organisms at your stream site by circling YES or NO. Circle YES only if the organism is alive. If you only observed empty shells, circle NO and record that empty shells were observed in the Notes section of the Biological Survey data sheets.

NATIVE MUSSELS?	NO	
ZEBRA MUSSELS?	NO	← **Please collect one specimen for verification.**
FINGERNAIL CLAMS?	NO	
ASIATIC CLAMS?	NO	
CHINESE MYSTERY SNAILS?	NO	← **Please collect one specimen for verification.**
RUSTY CRAYFISH?	NO	

Subsampling Procedure (pg 51-53)

NOTE: If 100 or less organisms are collected, there is no need to subsample. Simply preserve the whole sample and circle NO below to indicate the procedure was not conducted. If you collected more than an estimated 100 organisms, then proceed with subsampling procedures. Use the grid below to keep track of the number of organisms removed from each block in the subsampling tray.

1 _____	2 _____	3 _____	4 _____
5 _____	6 _____	7 _____	8 _____
9 _____	10 _____	11 _____	12 _____

Subsampling conducted? (circle one) YES NO

Total Number of Organisms Subsampled: _____

** PLEASE ENTER **END TIME** ON THE HABITAT SURVEY DATA SHEET WHEN FINISHED **

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Flow

Jeff Boeckler
Fri 6/08/12 2:35 PM
GLENN CLAYTON
Bob Byrne

Glen, Bob

Good day out there yesterday – thank you for your help on this project. Here is the flow data – let me know if you have any questions.

6/7/2012	10:43		
Dist L Bank (ft)	Depth (ft)	Velocity (ft/sec)	
0	0.083	0	0
2	0.5	1.8	1.8
4	0.708	2.52	7.13664
6	0.875	3.03	15.9075
8	0.75	4.82	28.92
10	0.683	3.5	23.905
12	0.625	2.26	16.95
14	0.667	1.76	16.43488
16	0.591	1.49	14.08944
18	0.358	1.42	9.15048
20	0.5	1.79	17.9
22	0.333	0.68	4.98168
23	0.125	0	0
		Discharge	157.1756

CODE	ORGANISM	N	T_i	T_v
FLW	Flatworm		6.0	
AQW	Aquatic Worm	4	10.0	40.0
LEE	Leech		8.0	
SBG	Sowbug		6.0	
SCD	Scud		4.0	
DGF	Dragonfly		4.5	
DM1	Broadwinged Damselfly		3.5	
DM2	Narrowwinged Damselfly		5.5	
HLL	Dobsonfly		5.5	
ALF	Alderfly		7.5	
MF1	Torpedo Mayfly	12	3.0	36.0
MF2	Swimming Mayfly	16	4.0	64.0
MF3	Clinging Mayfly	9	3.5	31.5
MF4	Crawling Mayfly		5.5	
MF5	Burrowing Mayfly		5.0	
MF7	Armored Mayfly		3.0	
MF6	Other Mayfly		3.0	
STF	Stonefly		1.5	
CF1	Hydropsychid Caddisfly	32	5.5	176.0
CF2	Snail Case Caddisfly		3.0	
CF3	Saddle Case Caddisfly		0.0	
CF4	Other Caddisfly		3.5	
RFB	Riffle Beetle	1	5.0	5.0
WHB	Whirligig Beetle		4.0	
WPB	Water Penny Beetle		4.0	
CRF	Crane Fly	1	4.0	4.0
BIM	Biting Midge	1	5.0	5.0
BLW	Bloodworm Midge		11.0	
MID	Midge	24	6.0	144.0
BLF	Black Fly	3	6.0	18.0
SNF	Snipe Fly	2	4.0	8.0
OTF	Other Fly		10.0	
LHS	Left-Handed Snail	23	9.0	207.0
RHS	Right-Handed Snail		7.0	
PLS	Planorbid Snail		6.5	
LIM	Limpet		7.0	
OPS	Operculate Snail		6.0	

Macroinvertebrate Biotic Index Calculator

This tool automates the calculation of the **Macroinvertebrate Biotic Index** as an indicator of water quality. Javascript must be enabled on your browser.
Enter number of organisms in the **N** column at left, then click **Calculate**.
Click on an aquatic orgnism for an identification guide. Nonindicator species are shown here.

Reset Calculate

ORGANISMS SAMPLED=ΣN =	128
TAXA RICHNESS = ΣTAXA =	12
EPT TAXA RICHNESS =	4
MBI = $\Sigma T_v \div \Sigma N$ =	5.77

Tentative Quality Ratings: Revised 2004

	Taxa Ruchness	EPT Taxa Ruchness	MBI
Excellent	**>= 14**	**>= 5**	**<= 4.35**
Good	**12 - 13**	**4**	**4.36 - 5.00**
Fair	**9 - 11**	**3**	**5.01 - 5.70**
Poor	**7 - 8**	**2**	**5.71 - 6.25**
Very Poor	**<= 6**	**0 - 1**	**>= 6.26**

NOTES (MNT)

****PLEASE VERIFY YOUR DATA SHEETS****

CITIZEN SCIENTIST INITIALS JCS DATE 6/12/12
CITIZEN SCIENTIST INITIALS JCS DATE 7/7/12
RW STAFF INITIALS _____ DATE _____

This guide is designed to aid Illinois RiverWatch Citizen Scientists to identify stream macroinvertebrates.
Only those stream indicator taxa used in the assessment of stream quality by Illinois RiverWatch are listed in this guide. Not all macroinvertebrates collected can be identified with this guide.

The use of these organisms for stream quality assessment is restricted to the state of Illinois.

Size ranges given are for mature individuals.

Photography: C. Nixon, M. Jeffords, P. Nixon, and M. Rosales
Illustrations: C. Nixon and Loren Kirkwood
Designed by Peter Chen for Illinois RiverWatch Stream Monitoring. Updated: 1/1/2011

Mirrors: http://www.nicerweb.com/doc/class/pix/RiverWatch/MBI_calculator.html
http://www.cod.edu/people/faculty/chenpe/RiverWatch/MBI_calculator.html

	TOTALS	128		738.5

Stream Discharge Estimate (pgs 35-37)

Jeff used automatic flow meter for discharge volume.

Stream Width: 23 feet (ft)
A

If you can only record two depth or velocity measurements, please calculate the average by dividing the sum by 2.
If only one measurement is taken, use the single value as the average.

Depth Measurements:
1. .9 ft
2. .9 ft
3. .9 ft

Average Depth ____ feet
B

Velocity Calculations:
10 ft ÷ _____seconds = _____ft/sec
10 ft ÷ _____seconds = _____ft/sec
10 ft ÷ _____seconds = _____ft/sec

Average Velocity _____ft/sec
C

Discharge (width x depth x velocity) _____ **ft** x _____ **ft** x _____**ft/sec** = 157.2 **ft^3/sec**
A B C

Land Uses (pgs 37-39)

Record all visible land uses occurring upstream and on either side of the stream site. Indicate which land uses are **dominant (D)** and which **affect small areas (X)**. If a listed land use is not present, leave blank.

x	Forest (W1)		Logging (W2)		Golf Course (W3)
	Grassland and Ungrazed Field (W4)		Commercial (W5)		Scattered Residential (W6)
	Moderate-High Density Residential (W7)		Cropland (W8) Type? (W8T) Corn Beans		Sewage Treatment (W9)
	Park (W10)		Mining (W11) Type? (W11T)_____		Sanitary Landfill (W12)
	Livestock Pasture (W13)		Construction (W14) Type? (W14T) _____		Industrial (W15)
	Other (W16) _____				

Please circle Yes or No and provide the necessary information to answer the following questions:

1. **Upstream Dam?** (including beaver dams) NO
   If Yes, approximately how far upstream is the dam from the site? _____
2. **Wastewater treatment discharge upstream?** NO
   If Yes, approximately how far upstream is the discharge from the site? _____
3. **Any pipes emptying directly into or near your study site?** NO
4. **Channel Alteration.** Has the stream been channelized (straightened) at your site? NO
   If Yes, what percentage of your site has been channelized? _____%

Habitat Survey Notes

(include sediment odors, appearance, and/or the presence of silt, watershed features present but not listed on this data sheet, and any other information you feel is important or interesting to mention):

****PLEASE VERIFY YOUR DATA SHEETS****

CITIZEN SCIENTIST INITIALS RC DATE 6/9
CITIZEN SCIENTIST INITIALS RC DATE 7/2
CITIZEN SCIENTIST INITIALS _____ DATE _____
RW STAFF INITIALS _____ DATE _____

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