

**Rathbun Lake, Iowa Targeted Watershed Project Quarterly Performance Report**  
**Reporting Period: July to September 2004**

<b>Work Elements</b>	<b>Description</b>	<b>Measures</b>		
		<b>Infrastructural</b>	<b>Implementation</b>	<b>Environmental</b>
#1	Assign a team of professional staff.	1. As reported, the Alliance and partner organizations identified the need for a four member team of professionals to carry out the day-to-day project activities at the field level. The Alliance and its partner organizations have taken the steps to assign the staff required to the project.	1. A fourth professional has been assigned to complete the project's team of field staff. This position is supported by an agreement between two Alliance partners, the Iowa Department of Natural Resources (DNR) and Iowa Department of Agriculture and Land Stewardship's Division of Soil Conservation (DSC).  2. As reported, Alliance partners also continue to assign staff as needed to complete project activities, e.g., assist with geographic information system (GIS) applications, financial management, and public outreach.	1. The commitments of field and support staff by Alliance partner organizations have fully addressed the expected need to successfully carry out project activities. Most significant in terms of the environmental measures of project success will be the availability of field staff to assist farmers to plan and apply best management practices (BMPs) that will reduce the amount of sediment and phosphorus delivered to Rathbun Lake.

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#2	Create a project advisory team.	1. The project advisory team continues to include representatives from the following Alliance partner organizations: <ul style="list-style-type: none"> <li>• Iowa DSC;</li> <li>• Iowa DNR;</li> <li>• US Army Corps of Engineers (ACOE);</li> <li>• USDA Natural Resources Conservation Service (NRCS); and</li> <li>• US Environmental Protection Agency (EPA).</li> </ul>	1. Members of the advisory team met with the Alliance and project staff at a meeting of the Alliance's board of directors during the reporting period. Progress on project work elements was reviewed as well as actions to address topics from past meetings including changes to the criteria for the use of funds to apply BMPs, tracking and reporting project activities, GIS analysis of land in the Conservation Reserve Program (CRP), and efforts to encourage BMP application.  2. Advisory team members continued to provide guidance and assistance to the Alliance and project staff through frequent individual contacts made by phone and via email.	1. Guidance received from the advisory team has helped the Alliance and staff make adjustments in project implementation that will improve the effectiveness of activities to reduce the delivery of sediment and phosphorus to Rathbun Lake. These adjustments include better targeting of priority land for BMP application, use of different approaches to help farmers overcome barriers to BMP application, and the development of plans to address the potential conversion of land in CRP to row crop production.

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#3	Complete project technical and administrative reviews and reports.	<ol style="list-style-type: none"> <li>1. As reported, partner organizations have assigned staff and developed procedures for information collection and analysis to assist the Alliance with the completion of project reviews and reports.</li> <li>2. The Alliance, advisory committee, and staff have implemented changes to tracking and reporting procedures to improve the presentation of project accomplishments. These changes are reflected primarily in the GIS analysis and maps prepared for the project. Project maps submitted with reports are updated twice annually (April and October). A set of updated project maps accompanies this report.</li> </ol>	<ol style="list-style-type: none"> <li>1. Alliance members and partner organizations reviewed the performance of project activities at a meeting of the Alliance's board of directors conducted during the reporting period (September 2004).</li> <li>2. Project field staff and staff assigned from partner organizations continue to communicate daily and meet regularly to monitor progress on, and make any adjustments required to improve, the performance of project activities.</li> <li>3. The Alliance has prepared this performance report and associated financial reports to provide a record of progress in completing the project's work elements and managing project resources.</li> </ol>	

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#4	Identify, collect, and process information required for GIS analysis.	<ol style="list-style-type: none"> <li>As reported, project staff has identified the information needs and developed collection and processing procedures required for the GIS analysis that will be performed to support the completion of related project work elements. These needs and procedures have been expanded to include more information related to BMPs applied in targeted sub-watersheds and land in the watershed that is enrolled in CRP.</li> </ol>	<ol style="list-style-type: none"> <li>The collection and processing of information for GIS analysis associated with other work elements are ongoing activities. As reported, information being collected and integrated into the GIS includes soils data, land use, farming practices, existing BMPs, and the location, type, cost, and sources of funding for planned and applied BMPs. Information about land in the watershed that is enrolled in CRP is also being collected and processed to perform a GIS analysis of the future use of this land and any impacts on water quality in Rathbun Lake.</li> </ol>	<ol style="list-style-type: none"> <li>Activities on this work element are being conducted in a manner that is consistent with the GIS Quality Assurance Project Plan (QAPP) developed for the project.</li> <li>Activities on this work element are resulting in the development and acquisition of data layers and procedures required to perform the GIS analysis for work elements #5, #6, #8, and #10.</li> </ol>

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#5	Perform GIS analyses to identify priority land in targeted sub-watersheds.	<ol style="list-style-type: none"> <li>1. As reported, partner organizations used the results of the Rathbun Lake watershed assessment to identify seven targeted sub-watersheds in which project activities have been initiated. A map that identifies these sub-watersheds has been previously submitted.</li> <li>2. Also reported was the use of watershed assessment results to identify an additional five targeted sub-watersheds in which project activities will be expanded. A map that identifies these sub-watersheds has been previously submitted.</li> </ol>	<ol style="list-style-type: none"> <li>1. As reported, the findings of extensive field verification have been combined with ongoing GIS analysis to refine the identification of priority land in the seven targeted sub-watersheds. As a result, the revised estimate of priority land in these sub-watersheds is approximately 5,900 acres. Maps that identify priority land in the seven targeted sub-watersheds were previously submitted.</li> <li>2. Project staff continues to collect the information to identify priority land and perform the GIS analysis for other work elements in the five additional targeted sub-watersheds in which project activities will be expanded. Maps that identify priority land in the five additional targeted sub-watersheds will accompany a future report.</li> </ol>	<ol style="list-style-type: none"> <li>1. Activities on this work element are being conducted in a manner that is consistent with the GIS QAPP developed for the project.</li> <li>2. Activities on this work element have resulted in the development of GIS procedures and maps that identify priority land in targeted sub-watersheds. The maps of priority land in targeted sub-watersheds provide the basis for carrying out activities to complete project work elements #6, #8, #10, and #15.</li> </ol>

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#5 contd.	Perform GIS analyses to identify priority land in targeted sub-watersheds.		<p>3. As reported, field staff identified the need to include areas of gully erosion in targeted sub-watersheds as priority land. As a result, GIS data, field evaluation, and sediment delivery estimates are used to identify gully erosion areas as priority land. These areas are included on priority land maps as sites are identified.</p> <p>4. Advisory team members and field staff identified the need to classify priority land in targeted sub-watersheds according to the potential to deliver sediment and phosphorus to Rathbun Lake. As a result, GIS analysis has been used to identify three classes of priority land. These classes of priority land are presented on the updated project maps that accompany this report.</p>	

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#6	Utilize GIS analyses to assist with the selection of BMPs.	<ol style="list-style-type: none"> <li>1. As reported, GIS analysis has been the primary means used by field staff to identify farmers to contact regarding the application of BMPs for priority land in targeted sub-watersheds to reduce the impact of runoff from this land on water quality in Rathbun Lake.</li> <li>2. As reported, project staff developed procedures to collect and integrate information related to planned and applied BMPs into the GIS. This information includes the location, type, cost, sources of funding, and estimated effectiveness of BMPs applied to address priority land in targeted sub-watersheds.</li> </ol>	<ol style="list-style-type: none"> <li>1. Field staff continues to make follow-up contacts with farmers who own and/or operate farms with priority land in the targeted sub-watersheds. These contacts serve primarily to encourage farmers to evaluate the need for and initiate or expand the application of BMPs to address priority land through their participation in the project.</li> <li>2. As reported, the Alliance and partner organizations determined the need to identify barriers to BMP application for farmers who are not yet participating in the project and alternatives to address these barriers. As a result, staff has used feedback from farmers as an initial means to identify the following likely barriers:</li> </ol>	<ol style="list-style-type: none"> <li>1. Activities on this work element are being conducted in a manner that is consistent with the GIS QAPP developed for the project.</li> <li>2. Activities on this work element have resulted in the identification of farmers who own and/or operate farming operations with priority land in targeted sub-watersheds. Contacts with these farmers have led to the planning and application of BMPs to address this priority land and reduce the impact of runoff from this land on water quality in Rathbun Lake as described in work elements #8, #9, and #10.</li> </ol>

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Work Elements	Description	Measures		
		Infrastructural	Implementation	Environmental
#6 contd.	Utilize GIS analyses to assist with the selection of BMPs.		<p>2. contd.            (1) limited financial resources; (2) nearness to retirement age; (3) owner-operator issues; and (4) lack of perceived need. Staff is also discussing with ISU Extension specialists the possibility of assistance to better understand these barriers as well as identify alternative approaches to address them.</p> <p>3. As reported, staff continues to use GIS analysis as a tool to integrate watershed assessment results, soil erosion and sediment delivery estimates, and information about practice cost and effectiveness to evaluate and select BMPs to address priority land in targeted sub-watersheds.</p>	<p>3. In addition, the results of activities conducted in performing this work element have enabled the Alliance, partner organizations, and staff to better develop plans for the expansion of project activities in five additional targeted sub-watersheds as described in work element #5. These plans include the anticipated type, quantity, and cost of BMPs that will most effectively address the water quality impacts of runoff from priority land in the sub-watersheds.</p>

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#7	Coordinate sources of assistance for BMP planning and application.	<p>1. As reported, the Alliance’s partners have contributed significant staff and funds to the “Rathbun Lake Special Project” as a complement to the EPA’s Targeted Watershed Grant. The value of all contributions, including the farmers’ share of costs to apply BMPs, is close to \$3.5 million. Most of this support is used to help farmers apply BMPs to address priority land in targeted sub-watersheds identified by the project’s GIS activities. In addition, approximately \$3 million has been committed to restore wetland areas that will benefit water quality in Rathbun Lake. Principal sources of project support include the EPA, Iowa DSC, Iowa DNR, NRCS, ACOE, and farmers.</p>	<p>1. As reported, the Alliance and staff continue to integrate the financial support committed by partner organizations into an overall multi-year budget for the project. The Alliance, staff, and partner organizations have also evaluated guidelines for the coordinated use of project funds to assist farmers with the application of BMPs. The guidelines have been adjusted to improve the effectiveness of BMPs applied to address priority land in targeted sub-watersheds. The adjusted guidelines increase the consideration given to the minimum percentage of priority land and estimated rate of sediment delivery associated with an area to be addressed with BMPs.</p>	

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Work Elements	Description	Measures		
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#8	Assist farmers with BMP planning.	1. As reported, the activities completed for project work elements #1, #4, #5, #6, and #7 support the efforts of the Alliance and field staff to assist farmers with the planning of BMPs that will address priority land in targeted sub-watersheds. These activities include assigning project staff, initial and follow-up contacts with farmers, and use of GIS analysis to identify priority land and select the most effective BMPs to reduce the impact of runoff from this land on water quality in Rathbun Lake.	1. Project field staff continues to provide assistance to farmers to help them evaluate, plan, and initiate the application of BMPs. As reported, this assistance is provided primarily through one-on-one contacts between project staff and farmers that occur during on-farm and field office visits.	1. As reported, activities on this work element have resulted in ongoing contacts with and assistance being provided to approximately 115 farmers to help them identify the need for, evaluate, plan, and apply BMPs that will address the impact of runoff from priority land in targeted sub-watersheds on water quality in Rathbun Lake.

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#9	Assist farmers with BMP application.	<ol style="list-style-type: none"> <li>1. As reported, the activities completed for project work elements #1, #4, #5, #6, #7, and #8 support the Alliance's efforts to assist farmers with the application of BMPs to address priority land in targeted sub-watersheds.</li> <li>2. As reported, the Alliance and Monroe County Extension District have entered into a cooperative agreement to implement the integrated crop management (ICM) practice component of the project. The agreement provides the Alliance, partner organizations, and farmers with technical assistance from Iowa State University (ISU) Extension specialists to complete the ICM activities associated with this work element.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ongoing assistance by project staff has helped farmers apply BMPs to address priority land in the targeted sub-watersheds. BMPs applied include terraces, grade stabilization structures, water and sediment control basins, waterways, filter strips, conversion of cropland to forage production, and nutrient management.</li> <li>2. Project staff and ISU Extension specialists have used input received from farmers and agricultural service providers during a field day and workshop at the McNay Research Farm to focus the project's ICM activities on soil fertility management. Farmers in the watershed interested in assistance to improve their soil fertility management are being contacted by ISU Extension specialists.</li> </ol>	<ol style="list-style-type: none"> <li>1. Activities on this work element have resulted in 27 farmers applying BMPs that will reduce the impact on water quality of runoff from priority land in the targeted sub-watersheds.</li> <li>2. As reported, activities on this work element resulted in an ICM field day that provided 13 participating farmers with information to improve their use of fertilizer and herbicide on land in the watershed. In addition, an ICM workshop held for local agricultural service providers was attended by representatives of the agribusinesses that operate in the watershed.</li> </ol>

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#10	Evaluate the impact of BMPs.	<ol style="list-style-type: none"> <li>1. As reported, activities completed for project work elements #4, #5, and #6 support the use of GIS to evaluate BMP effectiveness in terms of reducing the impact that runoff from priority land in targeted sub-watersheds has on water quality in Rathbun Lake.</li> <li>2. The Alliance and partner organizations continue to carry out water quality monitoring activities according to the work plan developed for 2004, which will include the entering of data into STORET by the Alliance and its partners in the monitoring efforts, the ACOE and Iowa DNR.</li> </ol>	<ol style="list-style-type: none"> <li>1. As previously reported, project staff continues to collect information required for the use of GIS analysis to estimate the impact of BMPs on water quality in Rathbun Lake. Again, this information is related primarily to the type and location of BMPs.</li> <li>2. As reported, the Alliance and partner organizations will present the results of water quality monitoring activities completed in 2003 in a separate written report. This report is expected to be completed by the end of 2004. In addition, water quality monitoring data from 2003 activities will be input into STORET by the Alliance, ACOE, and Iowa DNR.</li> </ol>	<ol style="list-style-type: none"> <li>1. Activities on this work element are conducted in a manner that is consistent with the GIS QAPP developed for the project.</li> <li>2. GIS analysis is used to evaluate the impact of BMPs on water quality in Rathbun Lake. Updated results of the GIS analysis indicate that: <ul style="list-style-type: none"> <li>• BMPs planned and applied will address an estimated 3,122 acres of land in the targeted sub-watersheds, including 1,544 acres of priority land; and</li> <li>• These BMPs will reduce the annual delivery of sediment and phosphorus to Rathbun Lake by an estimated 4,549 tons and 22,151 pounds respectively.</li> </ul> <p>Results of the GIS analysis are presented on the project maps that accompany this report.</p> </li> </ol>

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#10 contd.	Evaluate the impact of BMPs.			3. Water quality monitoring activities are performed according to the quality assurance procedures established by the ACOE and ISU, the two Alliance partner organizations primarily responsible for these activities.
#11	Design the watershed protection enhancement agreements and associated activities.	1. As reported, the Alliance and staff have continued to receive input from the advisory team, partner organizations, and farmers regarding the development and implementation of the project's watershed protection enhancement work element. Input received by the Alliance and staff encouraged an emphasis on watershed outreach activities that may include farmer recognition, educational signage, field days, tours, and media campaign.	1. The Alliance and staff have developed and revised proposed guidelines for a "Rathbun Lake Protectors Program" as the project's watershed protection enhancement work element. As proposed, this program may consist of: <ul style="list-style-type: none"> <li>• Activities to recognize farmers in the watershed as "Rathbun Lake Protectors" for their efforts to apply BMPs that protect water quality in the lake. Activities may include financial incentives and on-farm signage;</li> </ul>	

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#11 contd.	Design the watershed protection enhancement agreements and associated activities.		1. contd. <ul style="list-style-type: none"> <li>• Activities that facilitate an exchange of information between farmers to encourage their use of BMPs to protect water quality in Rathbun Lake. Activities may include field days and tours hosted by farmers recognized as "Rathbun Lake Protectors";</li> <li>• A media campaign targeted at farmers in the watershed to encourage their use of BMPs to protect water quality in Rathbun Lake. Campaign activities will involve local print, radio, and television media and include press releases, articles, interviews, and advertisements.</li> </ul>	
#12	Develop and implement watershed protection enhancement agreements and associated activities.	1. Please refer to the measure reported for work element #11 above.	1. Please refer to the measure reported for work element #11 above.	

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#13	Establish and manage the forage and livestock production demonstrations.	<ol style="list-style-type: none"> <li>As reported, the Alliance and Lucas County Extension District have entered into a cooperative agreement to implement the forage and livestock demonstration component of the project. The agreement provides the Alliance, partner organizations, and farmers with technical assistance from ISU Extension specialists needed to successfully conduct the forage and livestock demonstrations.</li> </ol>	<ol style="list-style-type: none"> <li>ISU Extension specialists and project staff are assisting interested farmers and staff at the McNay Research Farm to plan the establishment and management of field-scale forage and livestock production demonstrations.</li> <li>ISU Extension specialists and project staff are also assisting interested farmers in the watershed to conduct a forage quality testing demonstration as part of developing an effective livestock feed resource management plan.</li> </ol>	

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#14	Plan and conduct forage and livestock production field days and workshops.	1. Please refer to the measure reported for work element #13 above.	1. As reported, ISU Extension specialists and project staff have conducted a series of four forage and grazing workshops for farmers and veterinarians in the Rathbun Lake region, with particular emphasis on those individuals who farm and provide veterinary services in the watershed. Additional forage and grazing workshops are being planned by ISU Extension specialists and project staff for later in 2004 and early 2005.	1. As reported, activities on this work element resulted in four workshops being conducted that provided more than 150 farmers and veterinarians with information to improve their management of forage and livestock production. Workshop topics included managing fescue pastures, selecting forage species and varieties, planning grazing systems, watering system alternatives, and predicting animal forage needs.

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#15	Conduct outreach activities directed at farmers in targeted sub-watersheds.	<p>1. As reported, activities completed for project work elements #1, #5, #6, #8, #9, #11, #13, and #14 support the Alliance's outreach efforts directed primarily at farmers in the targeted sub-watersheds. Again, these activities include assigning project field staff, identifying priority land, contacting farmers, developing the watershed protection enhancement component, and planning and conducting the ICM and forage and livestock production field days, workshops, and demonstrations.</p>	<p>1. As reported, the Alliance and project staff continue to rely primarily on one-on-one contacts with farmers during field and office visits to inform and educate them about the project and water quality protection efforts in the watershed. Please refer to measures reported for work elements #6, #8, and #9. In addition, direct contacts with farmers in the watershed are made during activities reported for work elements #13 and #14.</p> <p>2. Project staff prepared a second project-related article that was included in the Rathbun Regional Water Association's newsletter. Staff also prepared a press release regarding the forage quality testing demonstration conducted as part of work element #13.</p>	<p>1. Activities completed on this work element, specifically the project's emphasis on providing assistance to farmers primarily through one-on-one contacts, have contributed significantly to accomplishments reported for project work elements #6, #8, #9, and #14.</p>

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#16	Perform public information activities.	1. As reported, the Alliance has made arrangements with a local Internet Service Provider (ISP) to assist project staff with the re-design of, and posting of updates to, the organization's Internet site as one of the principal means of informing and educating the public about water quality protection efforts at Rathbun Lake.	1. Project staff and staff with the local ISP continue to re-design the Alliance's Internet site. The Alliance's existing site continues to be available on the Internet during the current re-design efforts.  2. Alliance representatives and staff developed and attended a project-related display during the 2004 Farm Progress Show held in Alleman, Iowa (August/September 2004).  3. The Alliance and staff conducted a meeting for residents, elected officials, and public agency staff during which presentations were delivered on all of the water quality protection activities at Rathbun Lake including those that are part of the Rathbun Lake Special Project (September 2004, 20 participants).	