



IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

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Bill Northey, Secretary of Agriculture

January 29, 2016

Governor Terry E. Branstad  
State Capitol  
LOCAL

Dear Governor Branstad:

The Watershed Improvement Review Board is pleased to provide this annual report. This report is required by Iowa Code Section 466A.4. A copy of this report has also been submitted to the Legislature.

The Watershed Improvement Review Board is an independent, self-governing body which awards grants for water quality improvement in the state. Eligible applicants include soil and water conservation districts, local watershed improvement committees, public water supply utilities, counties, county conservation boards and cities. These grants are funded by the Watershed Improvement Fund. Funding for these grants comes from annual appropriations and funds from the Animal Agriculture Compliance Fund Penalties.

The Board awarded eight grants totalling \$1,249,861 in 2015. In addition to providing environmental benefits, these implementation projects help stimulate economic activity and create jobs through the purchase of local goods and services.

The Board extends its gratitude to the Governor and the General Assembly for supporting this visionary effort to improve water quality. The Board is looking forward to continuing this initiative.

Sincerely,

A handwritten signature in cursive script, reading "Jane A. Weber".

Jane A. Weber, Chair  
Watershed Improvement Review Board

Cc: Bill Northey  
Michael Naig  
Members, Watershed Improvement Review Board

JAW:JGN

## **Watershed Improvement Review Board Calendar Year 2015 Annual Report**

The Watershed Improvement Fund and the Iowa Watershed Improvement Review Board (WIRB) were created in 2005. This statute is now codified in Iowa Code Chapter 466A.

The fifteen-member Board conducted seven meetings throughout the year in-person or via teleconference. Meetings were held January 23, February 27, April 17, June 18, July 24, September 25 and December 17. Attachment 1 lists the board members and their organization affiliation.

The Board completed one Request For Applications (RFA) for the Watershed Improvement Fund. The RFA was announced November 6, 2014 and closed December 29, 2014.

**December 29, 2014 Closing Date Request For Applications:** The Board received 16 applications in response to this RFA. These applications requested \$2.8 million in Watershed Improvement Funds and leveraged an additional \$9.1 million for a total of \$11.9 million of watershed project activity proposed.

After reviewing and ranking the applications individually from this RFA, the Board met and selected eight applications for funding. The eight applications were approved for \$1,249,861 of Watershed Improvement Funds. Data on the eight selected projects in this RFA include the following:

- These projects included portions of 12 counties.
- The \$1.2 million requested of Watershed Improvement Funds leveraged an additional \$4.2 million for a total of \$5.4 million in watershed improvements.
- Approved projects ranged in funding from \$41,980 to \$250,000.

Attachment 2 lists the approved projects' name, applicant name, project length, county or counties where located, and funding amount for the RFA.

Attachment 3 is a map showing the status of all projects funded since inception of the program. At the end of 2015 there are 111 completed projects and 39 active projects.

In cooperation with the Treasurer of State, the WIRB submitted the 2015 year-end report for the Rebuild Iowa Infrastructure Fund to the Legislative Services Agency and the Department of Management.

Attachment 4 contains the 2015 annual progress reports submitted from active projects or projects finished in 2015.

**Attachment 1. Appointed Members of the Watershed Improvement Review Board  
January 1 - December 31, 2015, Iowa Code Chapter 466A**

<b>Name</b>	<b>City</b>	<b>Term Ending</b>	<b>Sponsoring Organization</b>
Jane Weber (Chair)	Bettendorf	2018	Soil and Water Conservation Districts of Iowa
Robert Ballou (January—April)	Monticello	2015	Iowa Soybean Association
Dennis Bogaards (May—December)	Pella	2017	Iowa Soybean Association
Greg Rinehart (January—April)	Boone	2015	Iowa Farm Bureau
Curt Zingula (May—December)	Central City	2018	Iowa Farm Bureau
Carol Sweeting	Iowa City	2016	Iowa Association of Water Agencies
Dave Coppess (January—April)	West Des Moines	2015	Agribusiness Association of Iowa
Molly Toot (May—December)	Nevada	2018	Agribusiness Association of Iowa
Jacob Hansen	Des Moines	2017	Representative of IDALS
Larry Gullett	Oxford	2018	Iowa Association of County Conservation Boards
Susan Heathcote	Des Moines	2018	Iowa Environmental Council
Steve Hopkins	Des Moines	2017	Representative of DNR
Carrie Keppy	Davenport	2017	Iowa Pork Producers
Lisa Walters	West Des Moines	2016	Iowa Rural Water Association
Rita Hart	Wheatland	2017	State Senator
David Johnson	Ocheyedan	2017	State Senator
Norlin Mommsen	DeWitt	2017	State Representative
Bruce Bearinger	Oelwein	2017	State Representative

**Attachment 2. Watershed Improvement Fund Grants Awarded From the RFA Ending December 29, 2014.**

<b>Watershed Name</b>	<b>Organization</b>	<b>Project Length</b>	<b>Counties</b>	<b>Grant Amount</b>
Cooper Creek Watershed	Appanoose and Water Conservation District	2.75 years	Appanoose, Wayne	\$241,000
Fox River Watershed	Davis Soil and Water Conservation District	2.75 years	Davis, Appanoose	\$130,000
Iowa Great Lakes Watershed	Dickinson Soil and Water Conservation District	2.5 years	Dickinson	\$ 84,000
Lake LaVerne Watershed	Story Soil and Water Conservation District	16 months	Story	\$41,980
Little Bear Creek Watershed	Poweshiek Soil and Water Conservation District	2.5 years	Poweshiek	\$109,736
Twelve Mile Lake Watershed	Union Soil and Water Conservation District	2.75 years	Union, Adair	\$143,145
University Branch Dry Run Creek Watershed	City of Cedar Falls	2.75 years	Black Hawk	\$250,000
Waubonsie Creek Watershed	Mills Soil and Water Conservation District	2.75 years	Mills, Fremont	\$250,000

**Funding Approved by the Watershed Improvement Review Board****\$1,249,861**

[illegible]

#### Attachment 4. 2015 Annual Project Reports Table of Contents

<u>Project ID</u>	<u>Watershed Name</u>	<u>Organization</u>	<u>Counties Where Located</u>	<u>Page Number</u>
1210-007	Central Park Lake Watershed	Jones County Conservation Board	Jones	7
1311-004	Central Park Lake Watershed	Jones County Conservation Board	Jones	8
1302-002	Clear Creek Watershed	City of Coralville	Johnson	9
1411-004	Cooper Creek Watershed	Appanoose SWCD	Appanoose, Wayne	10
1248-023	Dry Run Creek Watershed	Dry Run Creek Watershed Improvement Association	Winneshiek	No Report Received
1243-020	Fox River Watershed	Fox River Ecosystem Development Board	Appanoose, Davis, Van Buren	11
1416-008	Fox River Watershed	Davis SWCD	Appanoose , Davis	12
1315-006	Gere Creek Watershed	Cherokee SWCD	Cherokee	13
1335-016	Hickory Grove Lake Watershed	Story County Conservation Board	Story	14
1304-003	Honey Lindsey Allison Creeks Watershed	Delaware SWCD	Delaware, Clayton	15
1234-016	Honey Lindsey Dry Run Creeks Watershed	Delaware SWCD	Delaware, Clayton	16
1321-010	Hurley Creek McKinley Lake Watershed	City of Creston	Union	17
1413-005	Iowa Great Lakes Watershed	Dickinson SWCD	Dickinson	18
1415-007	Lake LaVerne Watershed	Story SWCD	Story	No Report Received
1242-019	Lake Meyer Watershed	Winneshiek SWCD	Winneshiek	19
1325-012	Lake Miami Watershed	Monroe County Conservation Board	Monroe	20
1401-001	Little Bear Creek Watershed	Poweshiek SWCD	Poweshiek	21
1323-011	Little Lick Creek Watershed	Van Buren SWCD	Van Buren	22
1328-013	Miller Creek Watershed	Monroe SWCD	Monroe	23
1320-009	Mosquito Creek Watershed	West Pottawattamie SWCD	Pottawattamie	24
1112-004	Price Creek Watershed	Iowa SWCD	Iowa, Benton	No Report Received
1330-014	Rapid Creek Watershed	Johnson SWCD	Johnson	25

<b><u>Project ID</u></b>	<b><u>Watershed Name</u></b>	<b><u>Organization</u></b>	<b><u>Counties Where Located</u></b>	<b><u>Page Number</u></b>
1103-002	Rathbun Lake Watershed	Rathbun Land and Water Alliance	Appanoose, Clarke, Decatur, Lucas, Monroe, Wayne	26
1221-010	Rathbun Lake Watershed	Rathbun Land and Water Alliance	Appanoose, Lucas, Wayne	27
1318-007	Rathbun Lake Watershed	Rathbun Lake and Water Alliance	Appanoose, Lucas, Wayne	28
1319-008	Silver Creek Watershed	Howard SWCD	Howard	29
1223-011	South Chequest Creek Watershed	Davis SWCD	Davis	30
1414-006	Twelve Mile Creek Lake Watershed	Union SWCD	Union, Adair	31
1407-003	University Branch Dry Run Creek Watershed	City of Cedar Falls	Black Hawk	32
1202-002	Upper Otter Creek Watershed	Fayette SWCD	Fayette	33
1114-006	Walnut Creek Watershed	Montgomery and East Pottawattamie SWCDs	Montgomery, Pottawattamie	34
1331-015	Walnut Creek Watershed	Montgomery SWCD	Montgomery	35
1209-006	Waterloo Creek Watershed	Allamakee SWCD	Allamakee, Houston (MN)	36
1402-002	Waubonsie Creek Watershed	Mills SWCD	Mills, Fremont	37
1312-005	West Fork Middle Nodaway Watershed	Adair SWCD	Adair, Cass	38
1245-021	West Tarkio River Watershed	Page SWCD	Page	39
1301-001	Yellow River Headwaters Watershed	Winneshiek SWCD	Winneshiek	40

**Project Name:** 1210-007 Central Park Lake Watershed Project

**Project Sponsor:** Jones County Conservation Board

**Length of Project:** November 1, 2012 to January 31, 2016

**Counties included in the project area:** Jones

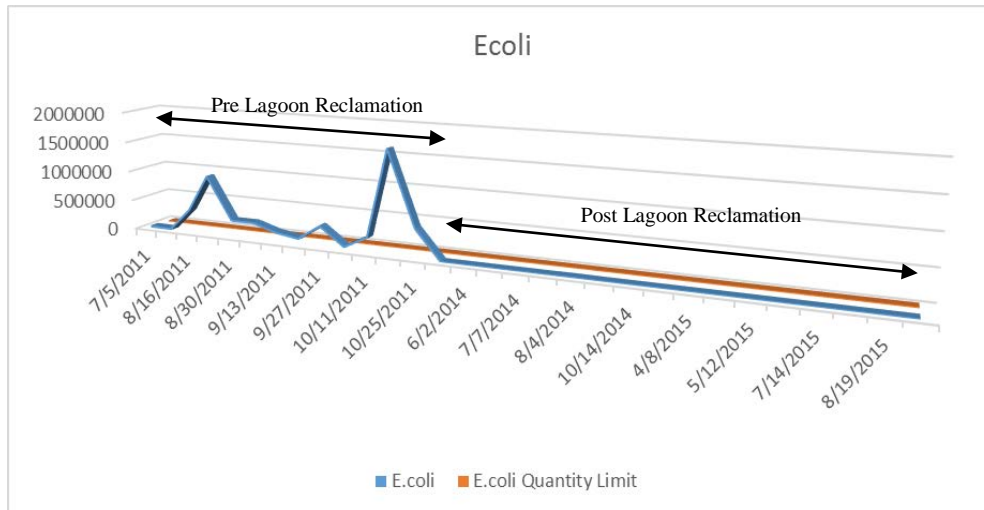
<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 3,194.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 2,618.30</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 575.70</b>

**Project objectives:**

1. Improve water quality by reducing bacteria levels to provide water safe for full body immersion when participating in water based recreational activities.
2. Improve water quality to support a healthy, self-sustaining fishery.
3. Improve water quality so the lake can be removed from Iowa's 303(d) List of Impaired Waters.
4. Provide a lake basin that will sustain a healthy fishery, improved water quality and recreation for 50 years.

**Summary of accomplishments and water quality outcomes**

The second season of water monitoring of the reclaimed lagoon that has been converted to a wetland is complete. This reclaimed lagoon/new wetland is a pivotal improvement to the Central Park Lake Watershed. A diversity of plant and animal life have begun to re-inhabit the site. Below is one example of water quality improvements that have occurred at the site. *E. coli* levels collected throughout 2011 prior to reclaiming the lagoon and converting it to a wetland averaged 397,000 bacteria per 100 ml. After the wetland conversion the *E. coli* levels dropped to an average of 297 bacteria per 100 ml. This drop in *E. coli* levels is improving both the wetland and downstream lake's water quality, a project success in Jones County.





**Project Name:** 1311-004 Central Park Lake Watershed Project

**Project Sponsor:** Jones County Conservation Board

**Length of Project:** January 10, 2014 – February 28, 2016

**Counties included in the project area:** Jones

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 121,698.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 48,238.80</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 73,459.20</b>

**Project objectives:**

- 1 Improve water quality by reducing bacteria levels to provide water safe for full body immersion when participating in water based recreational activities.
- 2 Improve water quality to support a healthy, self-sustaining fishery.
- 3 Improve water quality so the lake can be removed from Iowa's 303(d) List of Impaired Waters.
- 4 Provide a lake basin that will sustain a healthy fishery, improved water quality and recreation for 50 years.

**Summary of accomplishments and water quality outcomes**

The two sediment and nutrient retention basins have been completed. Basin C is treating 79 acres. It is projected to capture 144 tons per year of sediment and 187 pounds per year of phosphorus. Basin B is treating 131 acres. It is projected to capture 182 tons per year of sediment and 237 pounds per year of phosphorus. To put these numbers into perspective, in one year the basins will keep 22 dump truck loads (15 tons each) of sediment from entering Central Park Lake. This is an essential step in meeting the project objectives. With over 60,000 people visiting the Park annually, maintaining the lake as a high quality resource is tremendously important. In addition, these watershed improvements will greatly lengthen the life of the lake once it is fully restored in the next couple of years.

**Project Name:** 1302-002 Clear Creek Watershed  
**Project Sponsor:** The City of Coralville  
**Length of Project:** January 1, 2014 to June 30, 2016

**Counties included in the project area:** Johnson

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 263,540</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 0</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 263,540</b>

**Project objectives:**

- Administer the Coral Ridge Ave Stormwater Project to ensure all objectives and activities planned are implemented.
- Construct seven bio-retention cells and two bioswale to manage the water quality and quantity volumes generated from a four lane highway
- Conduct cost feasibility study to determine cost differences between traditional and green infrastructure.
- Conduct watershed tour to highlight Coral Ridge Avenue Stormwater Project and agricultural projects within the Clear Creek Watershed.

**Summary of accomplishments and water quality outcomes**

Construction of the Coral Ridge Avenue Stormwater Project was completed in January of 2016. The bio-retention cells and bioswale implemented into this road reconstruction project are receiving stormwater runoff, generated by the 4 lane roadway. The water quality practices in this project are reducing total suspended solids by 81 tons per year. The Coral Ridge Avenue Stormwater Project is serving as model streetscape that can be mimicked by other communities in Iowa. Part of this project includes the creation of a cost feasibility study, to determine the actual cost ensued by creating green infrastructure versus traditional gray or storm drain and gutter systems. The cost feasibility report will be completed by June of 2016. The University of Iowa along with the City of Coralville and the Iowa Department of Agriculture and Land Stewardship have been monitoring the stormwater practices located on this project to determine reductions in chloride, flow and other chemical parameters.

The practices have been implemented. During the spring of 2016 a watershed tour will be held highlighting urban and agricultural water practices, including this one, with the Clear Creek watershed. Signage will be installed at the project site explaining the benefits of the practices installed.



**Project Name:** 1411-004 Cooper Creek Watershed Project  
**Project Sponsor:** Appanoose County Soil and Water Conservation District  
**Length of Project:** April 1, 2015 – December 31, 2017

**Counties included in the project area:** Appanoose and Wayne

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$241,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 28,811.77</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 15,937.51</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b><u>\$196,250.72</u></b>

**Project objectives:**

- To reduce sediment delivery to Cooper Creek by 2,310 tons/year.
- To reduce phosphorus deliver to Cooper Creek by 3,004 pounds/year
- To raise awareness of urban best management practices (BMPs) through the installation of at least two demonstration practices.

**Summary of accomplishments and water quality outcomes**

To date, this grant has obligated funds for 2 grade stabe structures, 3,600 ft. of terraces, 7,700 ft. of basins and 20 acres of cover crops. These projects will reduce sediment delivery by 858 tons/year and phosphorus loading by 1,115 lbs./year, both of which are 37% of the projects' objectives.

Outreach is being provided by hosting a field day, newsletters to producers, and articles in the local newspaper. Interest for funding is high and with further outreach efforts, we anticipate a higher number of applications.

At this time, there are applications for 5 grade stabilization structures, 2 water and sediment control basins, 4 terrace projects, 2 grade stabilization structures with pasture improvements and 1 pasture and timber stand improvements. If approved, these 14 applications could obligate an estimated \$50,000, over twice the amount that was obligated last year alone, to high priority areas. While it would seem detrimental to spend  $\frac{3}{4}$  of the remaining funds in the second year of the grant, there is an obvious need in the Cooper Creek Watershed for additional funding for both urban and agricultural best management practices.

Storm water runoff in rural communities continues to erode property and streets. Grants and loans have addressed some of these needs, however, the damage is so severe that in some areas, urban conservation BMP's can't be utilized for the lack of space or the amount of drainage flowing into the area.

Seymour, which is at the upper end of the watershed, is using a CDBG grant to facilitate some urban BMP's. Unfortunately, the cost outweighs the needs of the community. This grant will provide \$15,000 towards an enhanced rain garden but without additional funds, it will not happen. Centerville, at the lower end of the watershed, is planning to enhance a city park with rain gardens and soil restorations. This grant will be providing \$30,000 for this project. However, the city would have been able to implement several other BMP's including pervious pavers and bio swales with additional funds.

Education is an integral part of this grant. The coordinator is utilizing the Water Rocks! program in the classroom. These two projects, which are located near the schools, would create a hands-on learning opportunity for students to apply this knowledge and take an active role in protecting the water quality in the Cooper Creek Watershed.

**Project Name:** 1243-020 Fox River Water Quality Project  
**Project Sponsor:** Fox River Ecosystem Development Board  
**Length of Project:** July 1, 2013 to December 31, 2015

**Counties included in the project area:** Appanoose, Davis and Van Buren

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 100,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 92,616.35</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 7,383.65</b>

**Project objectives:**

- Administer the Fox River Water Quality Improvement Project to ensure all objectives and activities planned are implemented.
- Construct 13 grade stabilization structures on treating 455 acres.  
Construct 10 water and sediment control basins treating 50 acres.  
Construct 7,000 feet of terraces treating 40 acres.  
Install 600 acres of cover crops.
- Reduce sediment delivery to Fox River by 2,060 tons of sediment per year.
- Conduct an information and education program to increase awareness and knowledge of Fox River Watershed water quality issues to watershed residents, and the local community.

**Summary of accomplishments and water quality outcomes**

During the course of this WIRB agreement the following Best Management Practices (BMP's) have been installed in the priority area:

<b>Practice</b>	<b>Unit</b>	<b>Goal</b>	<b>Achieved 2013</b>	<b>Achieved 2014</b>	<b>Achieved 2015</b>	<b>Percent Complete</b>
Grade Stab	No.	13	1	5	5	84.6%
W&S Basin	No.	10	11	15	26	520%
Terrace	Ft.	7,000	750	18,362	7,805	384.5%
Cover Crop	Acre	600	432.5	245	369.7	193%

- Eleven (11) grade stabilization structures installed treating 519 acres and withholding 1,289 tons of sediment and 1,586 pounds of phosphorus per year.
- Fifty-two (52) water and sediment control basins installed treating 172 acres and withholding 468 tons of sediment and 608 pounds of phosphorus each year.
- Twenty six thousand nine hundred seventeen (26,917) feet of tile outlet terrace installed treating 248 acres and withholding 694 tons of sediment and 823 pounds of phosphorus per year.
- Project coordinator attended field day for local 6<sup>th</sup> grade students, educating them about the importance of clean water and erosion prevention. Methods locally applied for resource protection were demonstrated on site.

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**Project Name:** 1416-008 Fox River Watershed Project  
**Project Sponsor:** Davis County Soil and Water Conservation District  
**Length of Project:** April 1, 2015 – December 31, 2017

**Counties included in the project area:** Davis

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$130,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 21,255.16</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 13,774.45</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b><u>\$ 94,970.39</u></b>

**Project objectives:**

- Administer the Fox River Water Quality Improvement Project to ensure all objectives and activities planned are implemented.
- Construct 8 grade stabilization structures on treating 315 acres.  
Construct 22 water and sediment control basins treating 110 acres.  
Construct 19,500 feet of terraces treating 497 acres.  
Install 525 acres of cover crops.
- Reduce sediment delivery to Fox River by 2,058 tons of sediment per year.
- Conduct an information and education program to increase awareness and knowledge of Fox River Watershed water quality issues to watershed residents, and the local community.

**Summary of accomplishments and water quality outcomes**

<b>Practice</b>	<b>Unit</b>	<b>Goal</b>	<b>Achieved 2015</b>	<b>Percent Complete</b>
Grade Stab	No.	8	1	12.5%
W&S Basin	No.	22	6	27%
Terrace	Ft.	19,500	3,805	19.5%
Cover Crop	Acre	525	0	0%

- One grade stabilization structure installed treating 84 acres and withholding 56 tons of sediment and 73 pounds of phosphorus per year.
- Six water and sediment control basins installed treating 10 acres and withholding 17 tons of sediment and 22 pounds of phosphorus per year.
- Three thousand eight hundred five (3,805) feet of tile outlet terraces installed treating 33 acres and withholding 70 tons of sediment and 91 pounds of phosphorus per year.
- Project coordinator attended field day for local 6<sup>th</sup> grade students, educating them about the importance of clean water and erosion prevention. Methods locally applied for resource protection were demonstrated on site.

**Project Name:** 1315-006 Gere Creek Watershed Improvement  
**Project Sponsor:** Cherokee Soil and Water Conservation District  
**Length of Project:** January 1, 2014 – February 28, 2017

**Counties included in the project area:** Cherokee

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$299,942.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 87,926.31</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 76,394.88</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$135,620.81</b>

**Project objectives:**

The goal of the project was to reduce sediment loading by 376.7 tons and phosphorus loading by 489.8 pounds per year with quality conservation practices. Sediment loading has been reduced by 510.5 tons and phosphorus loading by 664 pounds per year.

**Summary of accomplishments and water quality outcomes**

Accomplishments for 2015 included installing 7 projects for a total of \$47,122.50 spent through WIRB, State Cost Share, and EQIP in the spring and fall of 2015. This included 5,970 feet of terraces, 6 water and sediment control basins, 4,765 feet of waterways, 15 new acres of No Till, and 57 acres of cover crops. Two waterways had tile installed this fall, but the earthwork was not completed before the weather turned bad. Those projects will be finished next spring. In addition, two CRP waterways were built, but the seeding will not be completed until spring. Currently one terrace project, one water and sediment control basin project, and one grade stabilization structure have been approved, but not started. The plan is to do those projects next spring.

We have had multiple education and information outreach programs in 2015, including articles in the Chronicle Times and Aurelia Star and the District's Annual Report, an appearance on the "What's Happening Show" on KCHE 92.1 FM, and promotion of the Gere Creek watershed at the Cherokee Ag Show and annual SWCD Conservation Tour. We designed a logo for the Gere Creek Watershed and had some hats made to give out to producers in the watershed. The Watershed Coordinator attended numerous training sessions and meetings including Rusle2 training in Cherokee, the Iowa Water Conference and Spring Project Coordinator's Meeting in Ames, the Area 1 Livestock Engineering meeting in Storm Lake, Toolkit Training/Refresher session in Sioux City, Conservation for New Employees Application Training at Prairie City, and the Pasture Management Field Day in Denison.

The end of July the Watershed Coordinator took another position and we have been unable to fill it. Field office staff along with volunteer work from commissioners has enabled us to continue to make progress on meeting the goals of the project.

We submitted an amendment to the project agreement in October to realign the goals of the project with our current demand for practices. The amendment was approved and dollars were moved around between the practices.

**Project Name:** 1335-016 Hickory Grove Lake Watershed

**Project Sponsor:** Story County Conservation

**Length of Project:** July 1, 2014 – December 31, 2016

**Counties included in the project area:** Story

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 223,095.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 172,580.90</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 44,853.10</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 5,661.00</b>

**Project objectives:**

- Reduce bacterial loading by providing cost share to replace nine septic systems and eliminate livestock access to 1,640 feet of streambed by providing alternative water sources and fencing the stream.
- Reduce sediment loading by 285.97 tons/year (42.24% of the WMP goal) by reshaping and stabilizing 1,640 feet of streambank, installing grass buffers, and constructing a grade stabilization structure.
- Reduce nitrogen into the lake through the installation of one saturated buffer.

**Summary of accomplishments and water quality outcomes**

2015 was a very productive year for the Hickory Grove Lake Watershed project. The work being conducted on private property is permanently protected through a conservation easement. The list below identifies the structures/practices installed and the environmental benefits by practice:

Streambank stabilization 310.6 lbs/year total P reduction; Grade stabilization structure 61.1 lbs/year total P reduction; Vegetative buffer total bacteria reduction by 49%; Septic system upgrades (6) 2.63E + 13 orgs/yr reduction in bacteria

Load reductions were calculated using guidelines set by the Iowa Department of Natural Resources for failing septic systems, which assumes each household is approximately 2.5 persons. The watershed coordinator worked with the IDALS staff to calculate sediment and phosphorous load reductions for the as-built agricultural practices using the IDALS/DNR Pollutant Reduction Calculator.

Many educational and outreach activities were conducted. A radio interview about watershed projects was aired on KHOI community radio in Ames. Several pictures of construction progress were posted via our social media outlets. A project update article was printed in the Story County Conservation newsletter, *Prairie Horizons*, a project summary was distributed to public and private engineering customers in central Iowa, and a Powerpoint presentation was given to the Nevada Lions Club.

IDNR Lakes Restoration is also contributing significantly to this project. Updates to the project ledger will reflect reimbursement from WIRB funds, however contributions from the Lakes program have not yet been reconciled. A saturated buffer was installed except for the monitoring wells. Therefore, monitoring and reporting of that practice will begin in 2016.

**Project Name:** 1304-003 Honey-Lindsey-Allison Watershed Project

**Project Sponsor:** Delaware SWCD

**Length of Project:** January 1, 2014 to February 28, 2017

**Counties included in the project area:** Delaware, Clayton

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 60,000</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 54,835</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 5,165</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 0</b>

<b>Total Funds Spent Jan. 1, 2014 to Dec 31, 2015</b>	<b>\$1,388,107</b>
<b>EQIP-MRBI Funds Spent Since July 1, 2014</b>	<b>\$ 684,191</b>

**Project objectives:**

Administer the project and implement all activities and objectives in the Honey-Lindsey- Allison Creek Watershed, using primarily NRCS-MRBI funds to implement conservation practices. Specifically, the goals is to improve water quality in the entire watershed by reducing surface runoff of sediment and nutrients, including lowering the nitrates in Manchester's well to below Iowa's drinking water standard.

**Summary of accomplishments and water quality outcomes**

This project initially supplemented the efforts of **WIRB Project 1234-016** in promoting and implementing conservation practices provided through EQIP-MRBI in the project area. When that project expired on June 30, 2014, this project became the means for Delaware SWCD to maintain staff to oversee and implement its MRBI contract.

This project has picked up where the other left off. Participants have constructed 44.4 acres of grassed waterways, 5 grade stabilization structures, 3 sediment control basins, 1365 feet of terraces, and 651 acres of cover crops. One notable accomplishment was the installation of over 6 acres of waterways, as well as the commitment to three years of no-till planting, in the watershed above Silver Lake, a popular fishing destination adjacent to Delhi. This will hopefully assist the local DNR Fisheries to gain funding for Lake Restoration, which was dependent on treating the watershed above the lake.

This project has also continued the emphasis on treating livestock facilities at risk of allowing nutrients and bacteria to reach the stream. Five such ag waste facilities were built to either collect manure into a storage tank, or close lots and put livestock under roof. Several more sites were in need of treatment, and landowners were interested in doing so, until the worsening economics of the cattle industry caused them to re-evaluate large expenditures, and most of these ag waste contracts did require the landowner to make a major investment in their project. All MRBI contracts done required the development of a nutrient management plan to assist the farmer in using manure and commercial fertilizer in a more efficient manner, so as to avoid over-application of nitrogen and phosphorous.

Landowners made a substantial investment in this project, investing approximately \$700,000. **All practices installed decreased sediment delivery to the stream by 1238 tons annually, and led to 1610 pounds less phosphorous reaching the stream each year.**



**Project Name:** 1234-016 Honey-Lindsey-Dry Run

**Project Sponsor:** Delaware SWCD

**Length of Project:** July 1, 2013 to June 30, 2015

**Counties included in the project area:** Delaware, Clayton

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 100,000</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 100,000</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 0</b>

<b>Total Funds Spent on Project July 1, 2013 to Dec 31, 2015</b>	<b>\$ 2,606,999</b>
<b>EQIP-MRBI Funds Obligated Since July 1, 2013</b>	<b>\$ 1,342,964</b>

**Project objectives:**

Administer the project and implement all activities and objectives in the Honey-Lindsey- Dry Run Watershed, using primarily NRCS-MRBI funds to implement conservation practices. Specifically, the goals is to improve water quality in the entire watershed by reducing surface runoff of sediment and nutrients, including lowering the nitrates in Manchester's well to below Iowa's drinking water standard.

**Summary of accomplishments and water quality outcomes**

Since this project started on July 1, 2013, WIRB funds have provided staff for the Delaware SWCD to promote the NRCS-MRBI project in the watershed area. The \$100,000 has been leveraged to implement conservation practice installation worth \$2,606,999 when state funds, federal funds, and landowner investment are all tallied.

This includes the construction of 40.4 acres of grassed waterways, 3 grade stabilization structures, 9910 feet of terraces, 1 sediment control basin, and 1617 acres of cover crops. One wetland adjacent to city limits was improved to allow increased nutrient-reducing function in its 7 acres while expanding temporary water-holding capacity in order to alleviate flooding issues in the Dry Run within a Manchester residential area. This was done through the cooperation of multiple landowners, the City of Manchester, and Delaware County.

This project also made a concerted effort to address livestock production facilities identified as affecting water quality within the project area. This was done by closing feedlots and putting livestock under roof, or by treating the lots by constructing manure storage. The project assisted with 5 such ag waste facilities, all helping to reduce nutrient and bacteria delivery to the stream. All MRBI contracts also required the farmer to develop a nutrient management plan to best use manure and commercial fertilizers to avoid over-application.

Landowners made a substantial investment in this project, spending over \$1.1 million on the conservation practices. **Projections show a decrease of 2416 Tons of sediment annually, with a drop of 1610 pounds of Phosphorous delivery to the stream.** Available tools do not quantify the nutrient savings from improved manure storage, handling, and application rates of manure and commercial fertilizers provided by this project.

**Project Name:** 1321-010 Hurley Creek McKinley Lake Watershed Project

**Project Sponsor:** City of Creston

**Length of Project:** January 2, 2014-February 28, 2017

**Counties included in the project area:** Union

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 300,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 12,053.51</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 287,946.49</b>

**Project objectives:**

- Administer the Hurley Creek Watershed Improvement Project and work with all stakeholders to ensure all objectives and activities planned are implemented as scheduled.
- Educate the public about the Best Management Practices (BMP) and the benefits of work in the watershed.
- Implement wetland restoration (7 acres), riparian buffer plantings (3 acres), grass waterways (252 feet), and 2 demonstration urban watershed practices. Document the environmental benefits of the practices installed.
- Assist the Hurley Creek Watershed Committee with inventory, evaluation, and water monitoring activities for water quality improvements on Hurley Creek and at McKinley Lake.

**Summary of accomplishments and water quality outcomes**

The project started in 2014 and is 24 months old. In the first year, we completed several committee meetings, a public meeting, and a mailing with brochures. We started work on the ledger, plan of work, water monitoring, and engineering/permitting. An engineering contract, a project management contract, and the State's WIRB contract were signed. Work started in 2014 and continued through 2015 on final design, permits, and a project website. Several people have signed up to have a tour of their property for possible urban and/or agricultural practices to be built (buffers, grass waterways, etc.). Meeting with five owners were held in April 2015 but no final projects have been suggested, although four owners were considered favorable for BMPs that might including grassed waterways, buffers, bioswales, and rain gardens. More owners are being sought. In December 2015, the engineering firm presented to the City updated design for the wetland piece based on an approach acceptable to the IDNR, ACoE, and FWS permitting agencies. The new proposal is somewhat changed from the original design, so the engineer is now tasked with quantifying the environmental benefits of the new proposal and will soon share those results with the City and with the WIRB for approval. In 2015 also the City continued water monitoring of the stream just above and below where the work will take place. Results show acceptable ranges of chemicals in the water but the physical assessment shows continued deterioration of the stream, mainly in the form of soil erosion. So far no practices have been installed, but all this work will proceed in 2016. Work shall commence in the spring and be well underway by the summer of 2016, with final completion of all projects next fall. The final closeout of the grant should be on budget and on schedule. Work is still needed in the wetland area and upstream from the site. With an additional \$200,000, all phases of the wetland improvement could be accomplished within two years.

**Project Name:** 1413-005 Iowa Great Lakes Watershed Project  
**Project Sponsor:** Dickinson Soil and Water Conservation District  
**Length of Project:** May 1, 2015 – December 31, 2017

**Counties included in the project area:** Dickinson

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 84,000</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 2,493</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 15,000</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 66,507</b>

**Project objectives:**

- Install 20 tile intake treatments (14 obligated)
- Repair 600 feet of actively eroding shoreline (190 feet certified, 810 feet obligated)
- Install 3 Fish barriers (2 completed)

**Summary of accomplishments and water quality outcomes**

To date, \$15,000 has been obligated to support tile intake treatments for 14 intakes along DD35. That project will be out for bid this winter with construction set to start in the spring of 2016. \$15,000 from project partners will be matched to the WIRB contribution as well as \$10,000 from the landowners. \$1,184 has been spent to support water monitoring of Center Lake, this sampling program will span four years with the help of partner match dollars to determine if the investment in LID and shoreline work for Center Lake is impacting water quality. \$125 was used to help support an information and education campaign to raise awareness in the community to the ecological benefits of prairie restoration. The signage funded in part by WIRB will be used at outreach events for several years to come. \$896 was spent to run a radio advert on KICD.

Project partners have hired an engineering firm to finalize the shoreline stabilization design, which is slated to start construction in July 2016. Two of the three fish barriers were completed this fall with the third barrier construction planned for fall/winter of 2016.

**Project Name:** 1242-019 Lake Meyer Water Quality Project  
**Project Sponsor:** Winneshiek Soil and Water Conservation District  
**Length of Project:** September 1, 2013 - September 30, 2016

**Counties included in the project area:** Winneshiek

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$63,357.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$50,960.00</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$12,397.00</b>

**Project objectives:**

**Goal 1:** Reduce delivery of sediment and nutrients to Lake Meyer by target placement of BMP's on Winneshiek CCB lands: **Objective I:** Expand upon achievements thus far in targeted areas of the LMP and in the progression of watershed project is to construct a rock chute retention wetland and associated grade stabilization structure to reduce sediment and nutrients delivered to the lake, pinpoint construction on lands of the Winneshiek CCB thus reducing impacts by sediment and nutrient loading.

**Goal 2:** Increase the culture of conservation of the Lake Meyer Watershed: **Objective 1:** Highlight producer's contributions and investment into project participation and promotion of conservation participation. This will be done to ensure the longevity of the Lake Meyer Area and use promotional materials to highlight the importance of water quality projects and BMPs.

**Summary of accomplishments and water quality outcomes**

The Winneshiek SWCD and Winneshiek CCB have completed the sediment and nutrient loading BMPs as projected in the comprehensive POW during our past construction season. The Lake Meyer Project advisory board has met and is very pleased with the completion of the BMPs. The entire construction process was closely monitored by NRCS engineering staff that was on site daily to ensure all tolerances and parameters of construction were adhered to.

This report will quickly outline the timeline of the construction phase of project beginning with drawing down of the lake to implement construction. The lake's water began to be lowered at the end of May; a drop of 10 feet below normal pool was held throughout the summer to ensure site construction feasibility, safety and to recycle/consolidation of nutrients into vegetation that grew on exposed mudflats. Bids were requested from interested contractors, a contractor was accepted and construction began in September and the rock chute wetland and grade stabilization were completed by late October due to perfect weather conditions. Also, during this time frame the county secondary roads department removed 700+ dump truck loads of sediments from the lakebed that had been washed in over 40 years. The removal of sediments played two important roles; first it will decrease the available phosphorous that can be re-suspended during flooding events or excessive wave action thus causing algae blooms and secondly, it will be used to reclaim a county-owned rock quarry that is a nuisance and water quality hazard.

During this same time frame as previously mentioned the Winneshiek SWCD lead a WSPF funded project within the Lake Meyer watershed to address a large open lot and earthen manure storage facility in the watershed. A settling basin/stacking pad system replaced the last open lot within the watershed, a cement manure tank replaced the last earthen manure storage tank in the watershed; and consequently all manure from this farm will be land applied following the guidelines of a Certified Nutrient Management Plan.

**Project Name:** 1325-012 Lake Miami Watershed Project

**Project Sponsor:** Monroe County Conservation Board

**Length of Project:** July 1, 2014 – December 31, 2016

**Counties included in the project area:** Monroe

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 150,835.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 1,125.00</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 149,710.00</b>

**Project objectives:**

- Reduce sediment delivery to Lake Miami by 1,167 tons per year.
- Reduce phosphorus delivery to Lake Miami by 802 pounds per year.
- Evaluate use of Publically Owned Lakes (POL) and EQIP funds for private lands within the watershed.
- Development and implementation of Forestry Stewardship Plan for the Wildlife Area at Lake Miami.
- Host 1 kickoff meeting and 1 field day to inform the public
- Develop a photographic journal documenting installation, construction or implementation of key practices.

**Summary of accomplishments and water quality outcomes**

In 2014, Monroe SWCD installed four water and sediment control basins using Publicly Owned Lake funds. **These four structures benefitted six acres and reduced sediment delivery to Lake Miami by 22 tons/year and phosphorous delivery by 30 pounds/year.** Additionally, 1,000 feet of lakeshore armoring was installed.

In 2015, the remaining 9,000 feet of lakeshore armoring was installed. **The 10,000 feet of lake shoreline protection reduced sediment delivery by 280 tons/year and reduced phosphorus delivery by 241 pounds/year.** Monroe SWCD installed 3 water and sediment control basins on private land from Publicly Owned Lake funds received in 2014. The SWCD expended a total of \$6,750 on these three structures. **The three structures benefitted 8 acres and reduced sediment delivery by 49 tons/year and reduced phosphorus delivery by 63 pounds/year.** The Monroe SWCD received another \$25,000 in Publicly Owned Lake funds in 2015 and obligated \$19,297.82 to construct four (4) water and sediment control basins in 2016.

There are 6 water and sediment control basins planned for State-owned land placed in the 5 priority drainage areas. For these structures, the Environmental Review and field work for the Archeological Report were complete in December. Designs will be completed in spring 2016 with construction in summer and fall 2016.

To date, **installed practices reduce sediment delivery by 351 tons per year (30% of the overall target goal) and reduce phosphorus delivery by 334 pounds per year (42% of the overall target goal.)**

**Project Name:** 1401-001 Little Bear Creek Watershed Improvement Project

**Project Sponsor:** Poweshiek County Soil and Water Conservation District

**Length of Project:** May 1, 2015 to December 31, 2017

**Counties included in the project area:** Poweshiek

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 109,736.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 7,507.44</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 102,228.56</b>

**Project objectives:**

- Reduce annual sediment delivery by roughly 1,583 tons and associated phosphorus delivery by 2,058 pounds; and
- Develop an information and education program aimed at producers and residents within the headwaters of Grant and Malcom townships.

**Summary of accomplishments and water quality outcomes**

In the first 8 months of the project 4landowners worked with the Poweshiek County SWCD to complete 327.5 acres of cover crops, and 2landowners re-enrolled 43 acres in the Conservation Reserve Program (CRP). These practices will improve water quality by reducing sediment delivery by an estimated 217 tons/year and phosphorus by an estimated 284 pounds/year in Malcom Township. One of the landowners received cost share through the Environmental Quality Incentive Program (EQIP) for a two species cover crop of radishes and rye, and the other landowners decided to complete rye cover crops on their own. Three additional landowners in Bear Creek Township, downstream of Malcom Township, completed 257 acres of rye cover crops on their own as well. It is very exciting to see more cover crops being planted within the watershed.

The SWCD received EQIP applications from 3 landowners for 3 water and sediment control basins and 5.5 acres of grassed waterways to be completed during the summer of2016. They will be ranked in March and if approved, these practices will provide a total estimated sediment delivery reduction of 359 tons/year and phosphorus reduction of 467 pounds/year for Grant and Malcom townships. The District has also received two applications for Iowa Financial Incentive Program (IFIP) cost share; however, there is currently no funding available so they will be ranked if more funds are received.

The information and education goals for the first 8 months of the project were exceeded with assistance from supporting organizations. Eight newspaper articles were published locally, 2 radio interviews, and 23 posts/announcements were made on a new SWCD Facebook page. Five events were held that included a kick-off meeting in Malcom, Grinnell Library recognition activity showcasing the permeable paver practice from a previous WIRB project (152 in attendance), tours of urban conservation practices in Grinnell, and the Center for Prairie Studies with Grinnell College coordinated and hosted 2 additional educational events. Project booths were on display at the County Fair, Ag Appreciation Day and farmers market in Grinnell, and a local STEM Festival with 421 in attendance. The project coordinator also completed soil and water conservation activities with approximately 80 Clover Kids during four meetings.

**Project Name:** 1323-011 Little Lick Creek Watershed Project  
**Project Sponsor:** Van Buren County Soil and Water Conservation District  
**Length of Project:** July 1, 2014 through June 30, 2017

**Counties included in the project area:** Van Buren

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 270,762.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 36,425.71</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 62,688.12</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 171,648.17</b>

**Project objectives:**

- Establish 1,000 acres of **cover crops** to protect soil quality and reduce storm water driven phosphorous loading as well as demonstrate nitrogen management benefits.
- Establish 7 **grade stabilization structures** to protect 560 high priority acres and trap 4,480 tons of sediment and 5,824 lbs. of Phosphorous per year.
- Establish 6 **water and sediment control basins** to protect 210 high priority acres and trap 1,512 tons of sediment and 1,965 lbs. of Phosphorous per year.
- Establish 6,000 feet of **terraces** to protect 60 high priority acres and prevent the loss of 1,512 tons of sediment and 156 lbs. of Phosphorous per year.
- Establish 10 acres of **wildlife habitat and native perennial vegetation** in critical CRP areas to increase water infiltration and reduce soil erosion.

**Summary of accomplishments and water quality outcomes**

The Little Lick Creek Project has completed practices thru December 31, 2015 reducing sediment loading by 863 tons/year and phosphate loading by 1146 lbs. /year. There are 15,150 feet of terraces, 1 grade stabilization structure, and 4 more structures designed and funds obligated. Sites and planning for 6 water sediment control basins are planned for 2016. Allocations from other funding sources is \$98,175.69 and obligated from other sources is \$66,862.00.

So far interest has been low in establishing cover crops. We seeded 41 acres in the fall of 2015. Efforts to educate and more one on one contacts along with participation of landowners demonstrating benefits of cover crop in or out of the watershed, we hope to generate more interest and applications for cover crops next fall. The District plans to work through Pheasants Forever (PF) Field Biologist and PF's seed program to promote native grass and forb plantings using the next and current CRP programs targeting upland wildlife habitat.

**Project Name:** 1328-013 Miller Creek Phase III Nutrient and Sediment Reduction Project

**Project Sponsor:** Monroe County SWCD

**Length of Project:** July 1, 2014 to June 30, 2017

**Counties included in the project area:** Monroe

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 213,489.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 77,356.94</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 22,138.50</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 113,993.56</b>

**Project objectives:**

1. Install BMP's aimed at trapping, treating and tying up phosphorus and nitrate loads in surface water entering Miller Creek using grade stabilization structures, sediment basins and terraces benefitting an estimated 176 acres of high priority land.
2. Maximize nutrient efficiency with soil sampling to gain knowledge of nutrient levels
3. Improve soil health with cover crops @240ac/year/ for 3 years benefitting 720 acres.
4. Implement nutrient mgt. practices in high priority areas based on the 4R concept utilizing soil sampling and nitrate testing methods to ensure proper applications.
5. Monitor treated waters from selected BMP's and in the main channel of Miller Creek to get a base line to help determine future reduction and benefits.
6. Demonstrate a denitrifying bioreactor during a field day to show the effectiveness of nitrogen reduction practices that can be installed at the edge of the field.

**Summary of accomplishments and water quality outcomes**

- The Sediment reductions projects completed to date are 1400ft of terrace and 7 sediment control basins along with 1 grade stabilization structure staked and ready for construction. There is 15 sediment control basin and 2 grade stabilization structures planned this spring. Nutrient management reduction practices to date 1 denitrification bioreactor installed, along with 240 acres of cover crops and 50 acres and of CRP
- We are able to meet our goal of 6 producers to conduct the LSNT, FSNT but with minimal interest in enrolling more producers.
- Completed Water monitoring of Miller and sent to MESI a certified lab for testing and accurate results.

Interests still greater for sediment reduction practices vs nutrient management practices except for the seeding of cover crops. WIRB funding that was designated for sediment reductions such as basins and terraces have already been exhausted so we are now having to work with all partnering funds such as IFIP and EQIP which impose a challenge. Varying financial allotments from the state and timing to utilize federal funds because the project started in the middle of a ranking period, creates problems on when producers can begin a practice. Producers have commented if incentives were greater than the 50% cost share offered that would help offset the expense would entice producers to try new practices and continue them in the future.



**Project Name:** 1320-009 Mosquito Creek Watershed Project  
**Project Sponsor:** West Pottawattamie Soil and Water Conservation District  
**Length of Project:** January 1, 2014 - February 28, 2017

**Counties included in the project area:** West Pottawattamie

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 279,811</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 84,263</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 31,023</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 164,525</b>

**Project objectives:**

- Reducing runoff and thus delivery of nutrients, sediment and other pollutants.
- Reduce intermittent flooding in the cities of Neola and Underwood.
- To educate residents of the watershed on how their actions and land use practices affect watershed health.
- Promote the Iowa Nutrient Reduction Strategy; Federal, State, SWCD cost share programs; and State Revolving Fund loans

**Summary of accomplishments and water quality outcomes**

In addition to the totals above, there is \$43,036 obligated to, and \$139,770 spent on conservation practices from other funding sources; IFIP, REAP, LOST. Landowners have spent \$173,608.

Cumulative loading reductions for terraces and basins:

Sediment – 5,485 tons/year

Phosphorous – 7,132 pounds/year

This exceeds the overall goals of the project, and we have one year left.

BMP installation really took off in this second year of the project. An unusually long fall construction season this year has allowed more things to get done. Some landowners are using cover crops without cost share this fall, and the city of Neola is installing a rain garden!

**Project Name:** 1330-014 Rapid Creek Watershed Project  
**Project Sponsor:** Johnson Soil and Water Conservation District  
**Length of Project:** July 1, 2014- June 30, 2017

**Counties included in the project area:** Johnson

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$247,650.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 73,995.01</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 21,215.68</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$152,439.31</b>

**Project objectives:**

- Implement water quality initiative BMPs to reduce nutrient delivery to Rapid Creek
- Reduce sediment delivery by 2,103 tons/year or 21%
- Reduce phosphorus by 2,734 lbs/year or 21%
- Reduce/ limit livestock access by 10% or 1 mile
- Increase water quality by implementing infiltration practices

**Summary of accomplishments and water quality outcomes**

The Rapid Creek Watershed Project saw continued progress in its goals to reduce the loss of soil and nutrients from landscapes within the Rapid Creek watershed. In 2015, two sediment basins were installed and a total of 1,150 acres of cover crops planted. In addition, two urban storm water management practices have been installed. As a result of practices funded in the Rapid Creek watershed, sediment and phosphorus loading was reduced by 330.12 tons/ year and 431 lbs/ year, respectively. Sediment reductions account for 15.7% of the total contract goals and phosphorus reductions account for 15.8% of the total contract goals. The paired watershed monitoring study with Keith Schilling and the University of Iowa will provide valuable, detailed information on the response of water quality to climatic events, however, landowners in both watersheds implemented similar best management practices in 2015.

An informational meeting was held on January 22<sup>nd</sup> to discuss the project with landowners in the Rapid Creek watershed. Additional outreach within the watershed included nutrient management meetings/workshops held in partnership with ISU extension, and NRCS on March 2<sup>nd</sup> and December 16<sup>th</sup>, 2015. The Iowa Soybean Association and Iowa Learning Farms partnered with the project for the March and December meeting, respectively. At the December meeting landowners/ operators were encouraged to bring in soil tests for analysis by presenters to determine the most economical nutrient applications that would reduce the loss of applied nutrients to Rapid Creek and surrounding water systems. Two meetings attended by close to 30 people were held with Westcott Heights home owners association to discuss BMP's for storm water management. Rapid Creek Watershed project included a newsletter for participants on a tour of Women Land Legacy farms within the watershed.

The current agricultural economic environment has been a limitation for some producers to implement conservation practices. Efforts will continue in 2016 to establish and educate landowners/operators on conservation practices in the watershed.

**Project name:** 1103-002 Rathbun Lake Special Project: BMPs for  
**Priority Land in Targeted Sub-Watersheds 2011**  
**Project Sponsor:** Rathbun Land and Water Alliance  
**Length of Project:** March 1, 2012 to February 28, 2017

**Counties included in the project area:** Appanoose, Clarke, Decatur, Lucas, Monroe and Wayne

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$125,300.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 74,208.80</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 16,495.58</u></b>
<b>Watershed Improvement Funds unobligated balance as of 12/31/2015:</b>	<b><u>\$ 34,595.62</u></b>

**Project Objectives:**

- Apply best management practices for priority land that will reduce annual sediment and phosphorus delivery to Rathbun Lake by 1,050 tons and 3,490 pounds respectively
- Conduct geographic information system analysis, water quality monitoring, and watershed outreach activities to support the application of best management practices for priority land
- Perform all administrative requirements as per grant agreement and approved application

**Summary of Accomplishments and Water Quality Outcomes**

Rathbun Land and Water Alliance members and partners have used geographic information systems and field work to identify priority land owned and/or farmed by landowners in the Upper and Lower Dick Creek and Chariton River #4 and #8 targeted sub-watersheds. The Alliance has assisted eleven landowners plan and apply best management practices for 531 acres, approximately 265 acres of which was priority land. These practices will reduce sediment and phosphorus delivery to Rathbun Lake by an estimated 972 tons and 5,528 pounds per year respectively. Practices applied by landowners included terraces, water and sediment control basins, grade stabilization structures, and the conversion of priority land to grassland. The Alliance continued to contact landowners in the targeted sub-watersheds to help them evaluate the need for, and benefits of, applying practices for the priority land that they own and/or farm.

The Alliance's outreach efforts included: one-on-one contacts with landowners; three landowners recognized as *Rathbun Lake Protectors* at the 2015 *Protect Rathbun Lake* meeting, bringing the number of landowners selected as *Protectors* to 55; interviews of *Rathbun Lake Protectors* on WHO radio; installed *Rathbun Lake Protectors* signs; articles on *Rathbun Lake Protectors* in *Wallaces Farmer*; 20 *Rathbun Lake Protectors* have now received the Governor's Iowa Farm Environmental Leader Award; displays for Iowa Water Conference, Water Utility Day, and regional REAP meeting; newsletters for Alliance members and partners; and the Alliance's Internet site at <http://www.rlwa.org/>. The Alliance cooperated on a Farm Bureau Iowa Minute and Des Moines Register feature to showcase conservation efforts of landowners in the watershed and across the state. Alliance partners also completed activities associated with the water quality monitoring program for Rathbun Lake and tributaries in the lake's watershed.

Alliance members and partners worked with the project's team of experts to plan, carry out, and assess activities. The Alliance's board and team members regularly reviewed progress in project implementation. The Alliance submitted required project progress reports and financial ledgers.

**Project Name:** 1221-010 Rathbun Lake Special Project: BMPs for Priority  
Land in Targeted Sub-Watersheds 2012

**Project Sponsor:** Rathbun Land and Water Alliance

**Length of Project:** January 1, 2013 to February 28, 2016

**Counties included in the project area:** Appanoose, Lucas and Wayne

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 97,790.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 71,262.33</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0.00</b>
<b>Watershed Improvement Funds unobligated balance as of 12/31/2015:</b>	<b>\$ 26,527.67</b>

**Project Objectives:**

- Apply best management practices for priority land that will reduce annual sediment and phosphorus delivery to Rathbun Lake by 1,800 tons and 6,000 pounds respectively
- Conduct geographic information system analysis, water quality monitoring, and watershed outreach activities to support the application of best management practices for priority land
- Perform all administrative requirements as per grant agreement and approved application

**Summary of Accomplishments and Water Quality Outcomes**

Rathbun Land and Water Alliance members and partners have used geographic information systems and field work to identify priority land owned and/or farmed by landowners in the Middle Wolf Creek #2 and Chariton River #5 and #10 targeted sub-watersheds. The Alliance has assisted twelve landowners plan and apply best management practices for 341 acres, approximately 170 acres of which was priority land. These practices will reduce sediment and phosphorus delivery to Rathbun Lake by an estimated 700 tons and 3,148 pounds per year respectively. Practices applied by landowners included terraces, water and sediment control basins, and grade stabilization structures. The Alliance continued to contact landowners in the targeted sub-watersheds to help them evaluate the need for, and benefits of, applying practices for the priority land that they own and/or farm.

The Alliance's outreach efforts included: one-on-one contacts with landowners; three landowners recognized as *Rathbun Lake Protectors* at the 2015 *Protect Rathbun Lake* meeting, bringing the number of landowners selected as *Protectors* to 55; interviews of *Rathbun Lake Protectors* on WHO radio; installed *Rathbun Lake Protectors* signs; articles on *Rathbun Lake Protectors* in *Wallaces Farmer*; 20 *Rathbun Lake Protectors* have now received the Governor's Iowa Farm Environmental Leader Award; displays for Iowa Water Conference, Water Utility Day, and regional REAP meeting; newsletters for Alliance members and partners; and the Alliance's Internet site at <http://www.rlwa.org/>. The Alliance cooperated on a Farm Bureau Iowa Minute and Des Moines Register feature to showcase conservation efforts of landowners in the watershed and across the state. Alliance partners also completed activities associated with the water quality monitoring program for Rathbun Lake and tributaries in the lake's watershed.

Alliance members and partners worked with the project's team of experts to plan, carry out, and assess activities. The Alliance's board and team members regularly reviewed progress in project implementation. The Alliance submitted required project progress reports and financial ledgers.

**Project Name:** 1318-007 Rathbun Lake Special Project:  
BMPs for Priority Land in Targeted Sub-Watersheds 2013  
**Project Sponsor:** Rathbun Land and Water Alliance  
**Length of Project:** January 1, 2014 to February 28, 2017

**Counties included in the project area:** Appanoose, Lucas and Wayne

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 144,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 11,823.25</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 29,584.55</u></b>
<b>Watershed Improvement Funds unobligated balance as of 12/31/2015:</b>	<b>\$ 102,592.20</b>

### **Project Objectives:**

- Apply best management practices for priority land that will reduce annual sediment and phosphorus delivery to Rathbun Lake by 1,500 tons and 5,000 pounds respectively
- Conduct geographic information system analysis, water quality monitoring, and watershed outreach activities to support the application of best management practices for priority land
- Perform all administrative requirements as per grant agreement and approved application

### **Summary of Accomplishments and Water Quality Outcomes**

Rathbun Land and Water Alliance members and partners have used geographic information systems and field work to identify priority land owned and/or farmed by landowners in the Middle Wolf Creek #1 and South Fork Walker Branch targeted sub-watersheds. The Alliance has assisted three landowners plan and apply best management practices for close to 100 acres, approximately 50 acres of which was priority land. These practices will reduce sediment and phosphorus delivery to Rathbun Lake by an estimated 134 tons and 616 pounds per year respectively. Practices applied by landowners included terraces, water and sediment control basins, and grade stabilization structures. The Alliance continued to contact landowners in the targeted sub-watersheds to help them evaluate the need for, and benefits of, applying practices for the priority land that they own and/or farm.

The Alliance's outreach efforts included: one-on-one contacts with landowners; three landowners recognized as *Rathbun Lake Protectors* at the 2015 *Protect Rathbun Lake* meeting, bringing the number of landowners selected as *Protectors* to 55; interviews of *Rathbun Lake Protectors* on WHO radio; installed *Rathbun Lake Protectors* signs; articles on *Rathbun Lake Protectors* in *Wallaces Farmer*; 20 *Rathbun Lake Protectors* have now received the Governor's Iowa Farm Environmental Leader Award; displays for Iowa Water Conference, Water Utility Day, and regional REAP meeting; newsletters for Alliance members and partners; and the Alliance's Internet site at <http://www.rlwa.org/>. The Alliance cooperated on a Farm Bureau Iowa Minute and Des Moines Register feature to showcase conservation efforts of landowners in the watershed and across the state. Alliance partners also completed activities associated with the water quality monitoring program for Rathbun Lake and tributaries in the lake's watershed.

Alliance members and partners worked with the project's team of experts to plan, carry out, and assess activities. The Alliance's board and team members regularly reviewed progress in project implementation. The Alliance submitted required project progress reports and financial ledgers.

**Project Name:** 1319-008 Silver Creek Watershed  
**Project Sponsor:** Howard Soil and Water Conservation District  
**Length of Project:** January 1, 2014 to December 31, 2016

**Counties included in the project area:** Howard

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 240,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 178,400.00</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 61,600.00</b>

**Project objectives:**

- Construct 6 manure structures to reduce open lot runoff and improve management of manure application.
- Limit livestock access to Silver Creek and its tributaries.
- Reduce bacteria loading by breaking the delivery network on the most critical areas.
- Reduce bacteria loading from failing septic systems.

**Summary of accomplishments and water quality outcomes**

2015 was a very productive year for the project. Two WIRB funded ag waste projects broke ground. The first project is a concrete 100' by 100' by 8' manure pit with ramp. This 250 head dairy operation will now have 6 months storage for manure scraped from their free stall barn. Earth work began fall 2014 and some concrete was poured before cold weather halted construction. Construction resumed during the summer of 2015 and the project was completed by mid-July 2015. The funding for this project was leveraged with EQIP funding. The project was included in a tour of Silver Creek held during the Howard SWCD annual conservation awards luncheon. The second ag waste project is a similar 100'x100'x 8' square pit with ramp. This 175 head dairy farm had no storage prior to the completion of this project. Manure was applied to the land year round. Now they will have 6 months of storage. This project was completed in early December 2015 using WIRB and EQIP funding to reach 75% cost share.

Two Comprehensive Nutrient Management Plans (CNMPs) that are funded with EQIP were completed in 2015. This is a requirement before any EQIP funds for an ag waste structure can be contracted and will pave the way for additional projects in 2016. At least 2 additional ag waste projects are expected to be awarded EQIP and or 319 funding in 2016. Surveys of the proposed sites have been completed and design work has begun on the projects. As soon as estimates for additional projects are completed and EQIP ranking and contracts are awarded, we will submit applications for WIRB funding.

Promotion of other conservation practices continues with a total of 32 Conservation Reserve Program (CRP) contracts awarded in FY2015 with approximately 350 acres enrolled. An additional 297 acres of No-till/Strip-till and 375 acres of cover crops were funded with EQIP. Bi-monthly water monitoring continued at six sites with IA DNR and IOWATER. Interest remains high and has increased over last year's total conservation practices installed.

**Project Name:** 1223-011 South Chequest Creek Watershed  
**Project Sponsor:** Davis County Soil and Water Conservation District  
**Length of Project:** January 1, 2013 to December 31, 2015

**Counties included in the project area:** Davis

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 99,687.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 97,287.81</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 2,399.19</b>

**Project objectives:**

- Administer the South Chequest Creek Watershed Improvement Project to ensure all objectives and activities planned are implemented.
- Construct six grade stabilization structures on treating 1,060 acres.
- Construct thirty water and sediment control basins treating 120 acres.
- Construct 5,000 feet of terraces treating 20 acres.
- Reduce sediment delivery to South Chequest Watershed by 2,541 tons of sediment per year.
- Conduct an information and education program to increase awareness and knowledge of South Chequest Watershed water quality issues to watershed residents, and the local community.

**Summary of accomplishments and water quality outcomes**

During the course of this WIRB agreement the following Best Management Practices (BMP's) have been installed in the priority area:

<b>Practice</b>	<b>Unit</b>	<b>Goal</b>	<b>Achieved 2013</b>	<b>Achieved 2014</b>	<b>Achieved 2015</b>	<b>Percent Complete</b>
Grade Stab	No.	6	3	4	12	316%
W&S Basin	No.	30	4	0	104	360%
Terrace	Ft.	5,000	5,100	1,250	0	127%

This project was able to leverage a total of \$1,027,280.14 for project implementation resulting in the following:

- Nineteen (19) grade stabilization structures installed treating 1,144 acres and withholding 2,894 tons of sediment and 3,762 pounds of phosphorus per year.
- One hundred eight (108) water and sediment control basins installed treating 193 acres and withholding 611 tons of sediment and 795 pounds of phosphorus each year.
- Six thousand three hundred fifty (6,350) feet of tile outlet terrace installed treat 46.7 acres and withhold 183 tons of sediment and 238 pounds of phosphorus per year.

Funding from WIRB provided 9% of the total project funds, other funding sources included: landowner contributions, IFIP, EQIP, and Community Development Block Grant funds as part of the Iowa Watersheds Project/Iowa Flood Center at the University of Iowa. There are nine (9) additional grade stabilization structures to be completed that are funded with Flood Center/CDBG funds, these will be built in the spring of 2016.

**Project Name:** 1414-006 Twelve Mile Creek Watershed Project

**Project Sponsor:** Union Soil and Water Conservation District

**Length of Project:** April 1, 2015 –December 31, 2017

**Counties included in the project area:** Adair and Union

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 143,145</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 1,776</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 22,500</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b><u>\$ 118,869</u></b>

**Project objectives:**

- Implement 5 grade stabilization structures, 4 sediment control basins, 35,000' terraces, and 2 acres waterways to reduce sediment delivery by 1,361 tons, and phosphorus delivery by 1,769 pounds.
- Contact 10 landowners each year to discuss implementation of practices.
- Conduct 2 Information and Education activities per year and conduct cover crop demonstration and promote use of cover crops to producers in the watershed.

**Summary of accomplishments and water quality outcomes**

**Practices:**

Two landowners are approved to enroll some areas in CRP, three producers have funds obligated to install terraces—6,500' of these will be completed with WIRB funding. Construction on these practices is expected to start spring of 2016.

**Contacts:**

Seven landowners have been contacted about installing conservation practices on their land.

**Information and Outreach:**

Talked to several producers about using cover crops on their fields. Plan to follow up with a meeting or field day demonstrating cover crops during the 2016 growing season.

This is the second stage of the 12-Mile Lake Watershed project. With assistance from a previous WIRB grant, Public Owned Lakes, federal conservation programs (EQIP, CRP) plus landowner's contributions, over \$460,000 of conservation practices have been installed in the watershed since 2013. These practices should reduce sediment delivery to the lake (which is a water source for the city of Creston and Southern Iowa Rural Water Association) by 2,241 tons of sediment per year and phosphorus delivery by 3,204 pounds per year.



**Project Name:** 1407-003 University Branch Dry Run Creek Watershed

**Project Sponsor:** City of Cedar Falls

**Length of Project:** April 17, 2015 – December 31, 2017

**Counties included in the project area:** Black Hawk

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 250,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 33,486.79</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ <u>0</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 216,513.21</b>

**Project objectives:**

- Stabilize the toe and banks of 584 lineal feet of stream
- Reduce sediment loading by 42.3 tons/year
- Treat adjacent parking lot runoff through a permeable pavement section
- Continue to achieve Public Education and Outreach components

**Summary of accomplishments and water quality outcomes**

We are currently under design for the channel/box culvert improvements with an anticipated letting date in April/May of 2016.

All of the permanent easements have been acquired. As part of our design, three building structures were acquired and will need to be removed as part of the improvements. These structures have been tested for asbestos and are currently undergoing the abatement process.

Demolition of these structures will occur in the month of March 2016.

We anticipate construction of the channel/box culvert to be completed in the spring of 2017.

Measurable progress in achieving the environmental goals will begin in the fall of 2016 when the streambank stabilization work begins (during the low-flow period). The permeable pavement section to treat adjacent parking lot runoff will be completed in 2017.

**Project Name:** 1202-002 Upper Otter Creek  
**Project Sponsor:** Fayette Soil and Water Conservation District  
**Length of Project:** January 1, 2013 to February 28, 2016

**Counties included in the project area:** Fayette

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 75,076.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 64,274.98</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 850.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 9,951.02</b>

**Project objectives:**

- Protect and improve water quality to establish sustainable population of trout.
- Reduce sediment delivery to Otter Creek by 20% (3,900 tons/year).
- Address manure runoff issues on 15% of priority livestock sites.
- Conduct an information and education campaign to increase public participation.

**Summary of accomplishments and water quality outcomes**

The Upper Otter Creek Watershed Project, 16,740 acre watershed, encompasses the City of West Union and a rural agricultural community. Otter Creek is a class B(CW) HQ trout stream, which provides significant economic and recreational opportunities for the area.

Through this project, 2 terrace projects, 14 waterway projects and 3 water and sediment control basin projects and 1 grade stabilization project were able to be implemented. Additional practices that have been implemented are 103.1 acres of cover crop, 113.6 acres of strip till and 61 acres of hay. The implemented projects reduced sediment delivery to Otter Creek by 1,854 tons/year of sediment and 2,464 lbs/year of phosphorus. Reducing the amount of sediment being delivered to Otter Creek benefit landowners, the stream system, recreational users, downstream communities and municipalities.

As part of the project's outreach there has been one-on-one interaction with landowners, 8 newspaper articles, 3 newsletters, and a watershed conservation practice tour. The project experienced staff changes in the first year of the project with the hiring of a new project coordinator.

In regards to outreach and education, the current coordinator had presentations at two different elementary schools covering the importance of water quality. The Fayette SWCD also conducted its annual third grade field day, providing hands on natural resource conservation learning. Another educational component of the watershed effort was using Otter Creek signage on stream crossings in the Upper Otter watershed, which involved a total of fourteen signs on state and county roads. A cover crop field day was also hosted in 2014.

Water quality monitoring was conducted with Upper Iowa University. The Iowa DNR has assisted with installation of 4 temperature monitors along Otter and Glovers Creek. The Iowa Flood Center has installed 4 stream-stage sensors in Otter Creek and 2 shallow ground water wells.

**Project Name:** 1114-006 Walnut Creek Watershed Project  
**Project Sponsor:** Montgomery and East Pottawattamie SWCD's  
**Length of Project:** July 15<sup>th</sup>, 2012-February, 2016

**Counties included in the project area:** Montgomery and East Pottawattamie

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 335,600.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 309,849.75</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ <u>25,679.36</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 70.89</b>

**Project objectives:**

- Construct 100,000 feet of terraces.
- Construct 2 grade stabilization structures.
- Reduce sediment delivery to Walnut Creek by 1,800 tons per year and phosphorus by 2,340 pounds.

**Summary of accomplishments and water quality outcomes**

The 1114-006 Walnut Creek Watershed Project is near completion with only one grade stabilization structure left to construct. This structure is a wet site so the rainy summer and fall did not allow for construction. Farmers continue to apply for conservation work and many are doing the work without cost share instead of waiting years for their project to receive money. The following tables summarize work completed thus far through this grant.

**Summary of Completed Practices**

<b>Grant Agreement Conservation Practices and Activities</b>	<b>Unit</b>	<b>Approved Application Goal</b>	<b>Accomplishments</b>	<b>% Completion</b>
Terrace Systems	Feet	100,000	141,465	141%
Grade Stabilization Structures	Num	2	2 completed-1 obligated	100%
Sediment Delivery Reduction	Tons/Year	1,800	1933.6	100+%
Phosphorous Reduction	Lbs/Year	2,340	2513	100+%

<b>Funding Source</b>	<b>Cash</b>		<b>In-Kind Contributions</b>		<b>Total</b>	
	<b>Approved Application Budget (\$)</b>	<b>Actual (\$)</b>	<b>Approved Application Budget (\$)</b>	<b>Actual (\$)</b>	<b>Approved Application Budget (\$)</b>	<b>Actual (\$) Expended,</b>
WIRB	\$0	\$0			\$335,600	\$309,849.75
IFIP	\$0	\$0			\$110,000	\$44,996.33
EQIP						\$48,065.00
Landowners	\$0	\$0			\$92,500	\$333,555.72
HC	\$0	\$0			\$0	\$5,000.00
Totals	\$0	\$0	\$0	\$0	\$538,100	\$741,466.80

**Project Name:** 1331-015 Walnut Creek Watershed Project  
**Project Sponsor:** Montgomery Soil and Water Conservation District  
**Length of Project:** July 1, 2014- June 30, 2017

**Counties included in the project area:** Montgomery

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 300,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 227,856.89</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 24,543.80</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 47,599.31</b>

**Project objectives:**

- Educate landowners and operators on Nutrient Reduction Practices
- Demonstrate and install Nutrient Reduction Practices in accordance with goals set forth in the grant.

**Summary of accomplishments and water quality outcomes**

The first year and a half of this Walnut Creek project has been a success. We have held three landowner meetings as well as set a booth up at the Montgomery County Fair both summers. We established a cover crop plot in the watershed for landowners to come learn about covers, and also purchased signs to put up on fields where cover crops have been planted. Interest in nutrient reduction practices has been mixed, a much tougher sell than traditional, proven soil erosion practices. Thus far with WIRB dollars we have planted 889.6 acres of cover crops and received bills for 932.3 acres of deep placement of phosphorus and 926.4 acres of nitrogen inhibitor. Most of the bills from this fall have not been turned in yet and we anticipate many of them this next month. We have constructed 103,453 feet of terraces with this grant and sold an astounding 35 acres of filter strips! We also have a Water Quality Initiative grant we are working with so much more work has been done in addition to the WIRB grant, although WIRB has been and is the most relied upon source of funds for our watershed!

**Project Name:** 1209-006 Waterloo Creek Watershed Project  
**Project Sponsor:** Allamakee Soil and Water Conservation District  
**Length of Project:** October 15, 2012 – December 31, 2015

**Counties included in the project area:** Allamakee (Iowa) and Houston (Minnesota)

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 100,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 35,031.49</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 0.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 64,968.51</b>

**Project objectives:**

- Administer the Waterloo Creek Watershed Improvement Project to ensure all objectives and activities planned are implemented.
- Expand upon current partnering and develop a formal working relationship amid technical staff in both states to allow consistent, focused BMP implementation.
- Identify specific locations for BMP implementation.
- Install 10,000 feet of new terraces, 12 grade stabilization structures, 2,500 feet of streambank, and 3 pasture management projects

**Summary of accomplishments and water quality outcomes**

Large strides were made in meeting the project goals, however not as many practices were implemented in comparison to the number of cost estimates generated. A significant outreach effort was organized in the Waterloo Creek Watershed to contact all landowners. Face-to-face meetings were conducted with a majority of landowners in the watershed to discuss available funding to assist with the implementation of conservation practices. This effort yielded the completion of 3,450 feet of terraces, three grade stabilization structures, 2,401 feet of streambank and two pasture management systems in the Iowa portion of the watershed. Cost estimates were generated for all interested landowners/producers. Additional proposed practices included at least 21,700 feet of terraces, 1,473 feet of streambank stabilization, 8 grade stabilization structures or water and sediment control basins, and two pasture management systems.

A temporary employee was hired by NRCS to work in the Waterloo Creek Watershed across the state line. This individual spearheaded the outreach effort in the Minnesota portion of the watershed and worked on BMP development to allow for a consistent, focused approach to BMP implementation.

Articles about the project were printed annually in the district's annual report, which is published in the local newspaper, in the district newsletter, and on the Allamakee SWCD website. Newsletters were sent out twice a year in 2013 and 2014 to all watershed landowners. Letters were also mailed in 2015. Articles were printed in the Waukon Standard newspaper at least twice a year. A pasture walk was held at one site in 2013. An informational meeting was held for any interested landowners (both Iowa and Minnesota) in March 2013 to describe the water sampling results and available cost-share opportunities. Powerpoint presentations were given at the 2013 Driftless Symposium and 2015 Spring Regional Commissioners meeting.

**Project Name:** 1402-002 Waubonsie Creek Watershed Project  
**Project Sponsor:** Mills and Fremont County Soil and Water Conservation Districts  
**Length of Project:** April 1, 2015-December 31, 2017

**Counties included in the project area:** Mills and Fremont

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 250,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 413.31</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 32,841.00</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b><u>\$ 216,745.69</u></b>

**Project Objectives:**

- 1) To reduce the amount of sediment produced by gully erosion by 3,088 t/yr using grade control structures.
- 2) To reduce the amount of sediment produced by sheet and rill erosion by 367 t/yr using terraces, waterways, no-till hay establishment, cover crops, contour grass strips, and filter strips.

**Summary of Accomplishments and Water Quality Outcomes**

Hired a Project Coordinator  
Held a Project Kickoff meeting.

NRCS approved and added specifications for IA-620A UNDERGROUND OUTLET Waubonsie Creek Watershed Directional Drilled Conduits to the field office technical guide in July. Approved for Waubonsie Creek Watershed only. This approval is critical to the success of the project. The grant will feature this new cost effective method of gully control.

Over the last seven years, the Hungry Canyons Alliance (HCA) has pioneered the use of directional drilling technology to control gullies. A terrace is built upstream of the headcut, and a water control basin is excavated uphill of the terrace. Directional drilling techniques are used to bore a hole at an angle through the loess soil from the basin floor to the base of the gully wall below the headcut. A plastic PE pipe is inserted into the borehole and the bentonite slurry, used to drill the hole, also acts as a sealant that makes the borehole watertight as it dries. The basin allows a larger storm event to be controlled by a smaller pipe. No work is done in the gully and there is no filling of the gully, dramatically reducing earthwork costs. The near-vertical gully walls will gradually slump to a stable slope over time because collapsed debris will not be carried away by runoff. Expanding the use of this kind of gully control structure is a point of focus for the watershed project.

A Fall BMP tour, planned for December 2, was postponed due to wet site conditions. The first round of applications were received and scored. Four grade control structures, one waterway and one terrace project have been approved. None of these projects have been completed, so there are no water quality benefits to report – yet. All the pieces are in place and we’re beginning to roll.

**Project Name:** 1312-005 West Fork of the Middle Nodaway River Watershed

**Project Sponsor:** Adair Soil and Water Conservation District

**Length of Project:** January 1, 2014 – February 28, 2017

**Counties included in the project area:** Adair and Cass

<b>Total Watershed Improvement Funds awarded for this project:</b>	\$ 298,563.00
<b>Total Watershed Improvement Funds spent:</b>	\$ 79,825.33
<b>Total Watershed Improvement Funds obligated:</b>	<u>\$ 25,248.55</u>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	\$ 193,489.12

**Project objectives:**

- 1) To reduce the amount of sediment produced by gully erosion using 24 grade control structures.
- 2) To reduce the amount of sediment produced by sheet and rill erosion using 30,000 feet of terraces, 6 acres of waterways, 150 acres of a no-till hay establishment and 1200 acres of cover crops.

**Summary of Accomplishments and Water Quality Outcomes**

- We are starting the third and final year of this project which includes 23,327 acres.
- In the first two years I have met with 31% of the 148 landowners on their farms and discussed their resource concerns and have done conservation planning with them.
- The following chart shows the percentage of funds utilized for the practices:

	<b>WIRB</b>	<b>IFIP</b>	<b>CRP</b>	<b>EQIP</b>	<b>Hungry Canyons</b>
Terraces	37% completed + 14% obligated	68% completed + 6% obligated	na	5% obligated	na
Waterways	53% completed	66% completed	105% obligated	0	na
Grade Stab Structures	5% completed + 12% obligated	7% completed + 23% obligated	0	153% obligated	13% obligated
Cover Crops	14% completed	220% completed	na	na	na
Filter Strips	na	na	28% completed 14% obligated	na	na

- We are still looking for adequate funding for a large rock chute (\$111,600.00 estimate), from the partners involved in the watershed project.
- For the past two years, because of the practices we have helped put into the ground, the sediment delivery into the West Fork of the Middle Nodaway River has been reduced by 1,699 tons per year and the phosphorus reduced by 2,392 pounds per year. We have reached 68% of our goal of 2500 tons/year.
- When the obligated projects, new projects in the upcoming year, and if the rock chute gets built, we will exceed our sediment delivery reduction goal.
- We will continue to work with the landowners, to put more conservation practices on the ground.

**Project Name:** 1245-021 West Tarkio Watershed  
**Project Sponsor:** Page County Soil Water Conservation District  
**Length of Project:** July 1, 2013 to February 28, 2016

**Counties included in the project area:** Johnson

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 52,633.43</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 39,656.77</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b><u>\$ 3,844.61</u></b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 9,132.05</b>

**Project objectives:**

- Install 2 Water Sediment Control Basins
- Install 1 Grade Stabilization Control Structure
- Use Pollutant Reduction Calculator for each project

**Summary of accomplishments and water quality outcomes**

In 2015 we were able to complete one grade stabilization structure. We were also able to complete one water sediment control basin. Largely due to the extreme rain fall events we were unable to complete any other water sediment control basins. However we do have one of them planned and staked. Hopefully we can complete it this winter or early spring at the latest.

We continue to use the Iowa Pollutant Reduction Calculator for each project. For the one grade stabilization structure we have figured we are saving 510 tons/year of sediment reduction, 662 lbs./year of phosphorus reduction. I also computed the reductions for the water sediment control basin showing 536 tons/year in sediment reduction and 697 lbs./year in phosphorus reduction. As a whole since July 1, 2013 we have reduced sediment by 3,325 tons/year and phosphorus by 4,322.9 lbs./year.

We are still showing a bigger need for terraces in the West Tarkio Watershed area with close to 40 applications for terraces.



**Project Name:** 1301-001 Yellow River Headwaters Watershed  
**Project Sponsor:** Winneshiek Soil and Water Conservation District  
**Length of Project:** January 1, 2014 thru February 28, 2017

**Counties included in the project area:** Winneshiek

<b>Total Watershed Improvement Funds awarded for this project:</b>	<b>\$ 300,000.00</b>
<b>Total Watershed Improvement Funds spent:</b>	<b>\$ 127,401.72</b>
<b>Total Watershed Improvement Funds obligated:</b>	<b>\$ 1,600.00</b>
<b>Watershed Improvement Fund unobligated balance as of 12/31/2015:</b>	<b>\$ 170,998.28</b>

**Project objectives:**

**Goal 1: Decrease sediment delivery to the YRHW by 50% over the next 3 years.**

- **Objective I:** Work with landowners in targeted areas of the YRHW to implement the most effective BMPs to reduce sediment delivery to the stream, thus reducing impact to water quality to the stream

**Goal 2: Decrease bacteria loading to the YRHW by 35% over the life of the project.**

- **Objective 1:** Work with landowners in the YRHW to implement BMPs to reduce bacteria run-off from open feedlots, change grazing techniques and work on updating/improving septic systems function to reduce bacteria loading

**Goal 3: Reduce livestock access to the stream by 75% over the life of the project.**

- **Objective 1:** Work with landowners in the YRHW to restrict livestock access to the stream.

**Objective 4: Increase the culture of conservation among landowners in the YRHW.**

- **Goal 1:** Highlight producer's contributions and investment into project participation and promotion of conservation participation.

**Summary of accomplishments and water quality outcomes**

The Yellow River Headwaters Water Quality project has been ongoing since 2009. Motivated partners such as WIRB, producer and landowners in the watershed have invested over \$700,000 (WIRB 15%) into stewardship practices throughout the project.

Best Management Practices installed this past year have resulted in the reduction of 1,919 t/y of sediment and 2,463 lbs. of phosphorus from being loaded in the Yellow River annually. Continued focusing of limited resource dollars to BMP implementation allows the project to specifically highlight the completion projects within the watershed such as over 2,100 ft. of streambank stabilization. Another producer has installed over 3 miles of stream corridor fencing that will utilize a rotational grazing system that compliments over 19 acres of riparian buffers. A total of 32.6 acres of Use Exclusion filters were implemented; these filter strips ensure pasture or manure applied cropland stormwater washoff has the capability to be strained through a vegetative material such as native grasses or tree plantings. An additional 3+ miles of stream have been protected through 47.6 acres of filter strips this past calendar year.

The enthusiastic willingness of the producer to install practices this far into a project illustrates the grassroots support towards the long-term success of the watershed project and bodes well to the continuation of support to install BMPs that endure.