



January 31, 2018

Governor Kim Reynolds
State Capitol
LOCAL

Dear Governor Reynolds:

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

The Watershed Improvement Review Board is an appointed 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 through the Watershed Improvement Fund. Funding for these grants comes from annual appropriations and funds from the Animal Agriculture Compliance Fund Penalties.

Statutory changes in 2016 in Chapter 466A suspended any new activities of the Watershed Improvement Review Board. In 2017, enacted legislation repealed Chapter 466A eliminating the WIRB on December 31, 2017. The remaining seven projects concluded on or before December 31, 2017.

The Board extends its gratitude to the Governor and the General Assembly for supporting this initiative improving Iowa's water quality.

Sincerely,

A handwritten signature in cursive script that reads "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 2017 Annual Report

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

The fifteen-member Board conducted three meetings throughout the year in-person or via teleconference. Meetings were held January 18, March 31 and November 15. A final board meeting was held January 22, 2018 to approve final reports of the remaining projects funded through the WIRB. Attachment 1 lists the board members and their organization affiliation.

Statutory changes were enacted in 2016 affecting the contributions to the Watershed Improvement Fund and the functions and activities of the WIRB. Animal Agriculture Compliance Fund Penalties formerly deposited into the Watershed Improvement Fund are now credited to the Iowa Nutrient Research Fund. In addition, the WIRB is suspended from establishing any new activity, including a project. Existing projects established prior to the statutory changes are allowed to conclude on their own terms. Legislation enacted in 2017 repealed Chapter 466A eliminating the WIRB effective December 31, 2017. The remaining active projects will close out by December 31, 2017.

Attachment 2 is a map showing the status of all projects funded since inception of the program. At the end of 2017 there are 152 completed projects.

In cooperation with the Treasurer of State, the WIRB submitted the 2017 year-end report for the Rebuild Iowa Infrastructure Fund to the Legislative Services Agency and the Department of Management.

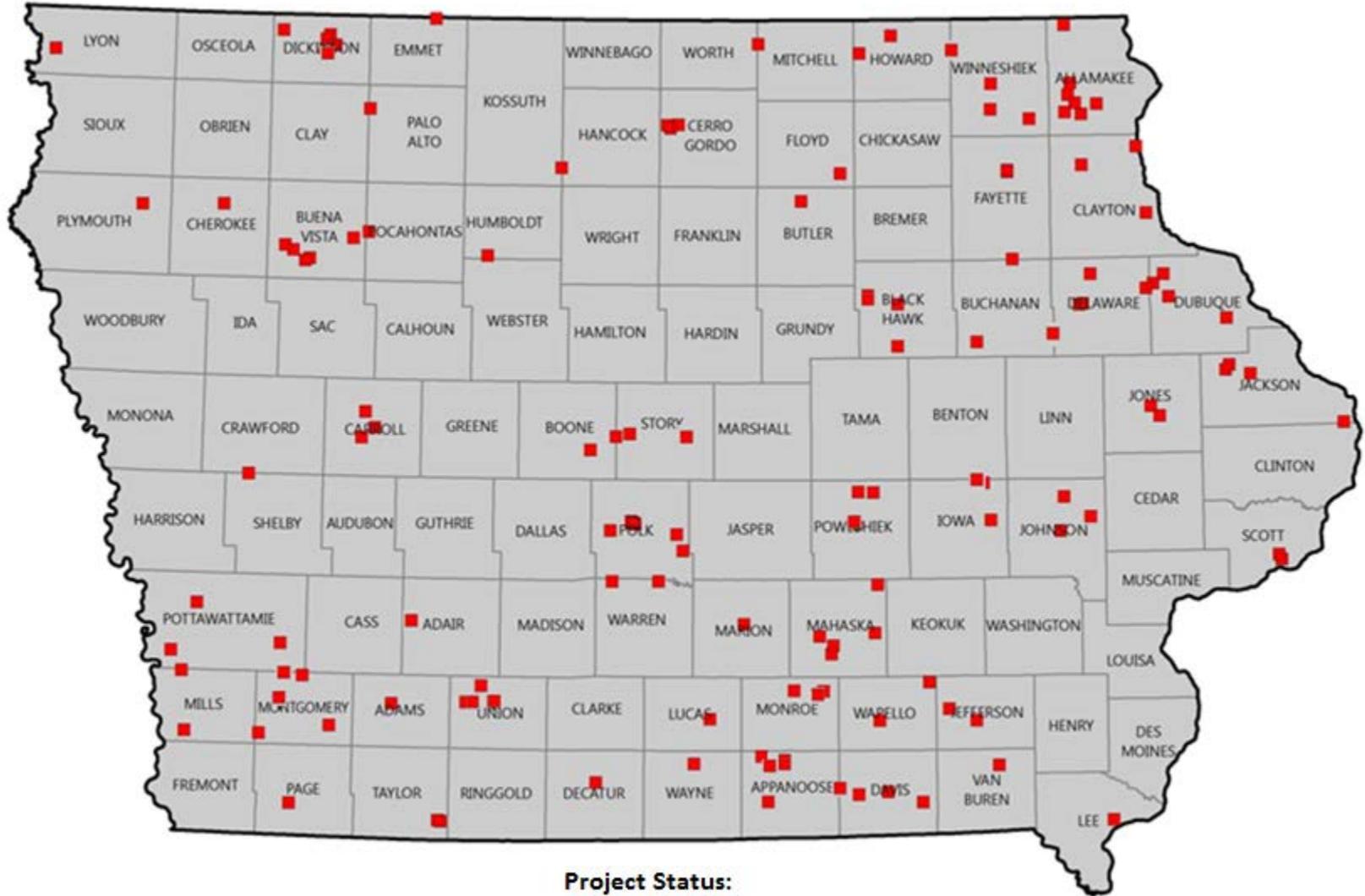
Attachment 3 contains the annual progress reports submitted from projects finished in 2017.

Attachment 1. Appointed Members of the Watershed Improvement Review Board

January 1 – December 31, 2017, Iowa Code Chapter 466A

Name	City	Term Ending	Sponsoring Organization
Jane Weber (Chair)	Bettendorf	2018	Conservation Districts of Iowa
Dennis Bogaards (January – April)	Pella	2017	Iowa Soybean Assn
Larry Gullett	Oxford	2018	Iowa Assn of County Cons Boards
Jake Hansen	Des Moines	2020	Representative of IDALS
Susan Heathcote	Des Moines	2018	Iowa Environmental Council
Steve Hopkins	Des Moines	2020	Representative of DNR
Carrie Keppy	Davenport	2020	Iowa Pork Producers
Carolyn Sweeting	Iowa City	2019	Iowa Association of Water Agencies
Molly Toot	Nevada	2018	Agribusiness Assn of Iowa
Chad Colburn (May – December)	Victor	2019	Iowa Rural Water Association
Curt Zingula	Central City	2018	Iowa Farm Bureau
Rita Hart	Wheatland	2019	State Senator
Ken Rozenboom	Oskaloosa	2019	State Senator
Bruce Bearinger	Oelwein	2019	State Representative
Norlin Mommsen	Dewitt	2019	State Representative

WIRB-Funded Projects 2005-2017 (as of December 31, 2017)



Attachment 3. 2017 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>
1401-001	Little Bear Creek Watershed Improvement	Poweshiek Soil and Water Conservation District	Poweshiek	5
1402-002	Waubonsie Creek Watershed	Mills Soil and Water Conservation District	Mills, Fremont	6
1407-003	University Branch Dry Run Creek Watershed	City of Cedar Falls	Black Hawk	7
1411-004	Cooper Creek Watershed	Appanoose Soil and Water Conservation District	Appanoose, Wayne	8
1413-005	Iowa Great Lakes Watershed	Dickinson Soil and Water Conservation District	Dickinson	9
1414-006	Twelve Mile Lake Watershed	Union Soil and Water Conservation District	Union, Adair	10
1416-008	Fox River Watershed	Davis Soil and Water Conservation District	Appanoose, Davis, Van Buren	11

Project Name: 1401-001 Little Bear Creek Watershed Improvement Project
Project Sponsor: Poweshiek County Soil and Water Conservation District (SWCD)
Length of Project: May 1, 2015 to December 31, 2017

Counties included in the project area: Poweshiek County

Total Watershed Improvement Funds awarded for this project:	\$ 109,736.00
Total Watershed Improvement Funds spent:	\$ 74,313.21
Total Watershed Improvement Funds obligated:	\$ 0.00
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 35,422.79

Project objectives:

- Reduce annual sediment delivery by roughly 1,583 tons and associated phosphorus delivery by 2,058 pounds.
- 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 last year landowners worked with the Poweshiek County SWCD to complete 9 water and sediment control basins, 4 acres of grassed waterways, 1,046 feet of terraces, and 328 acres of cover crops. These practices had a total estimated sediment delivery reduction of 662 tons/year and phosphorus reduction of 862 pounds/year. BASF in Malcom and the City of Grinnell at Central Park completed a combined 9,758 sq. ft. of demonstration permeable pavers that will treat 35,794 sq. ft. of impervious surface, reduce total suspended solids by 787 pounds, reduce the phosphorus load by 1 pound/year, reduce the nitrogen load by 3 pounds/year and treat 288,663 gallons of stormwater each year. Assistant Commissioner, Roger Van Ervelde, completed a bioreactor through Water Quality Initiative (WQI) cost share that will treat tile discharge from 50.5 acres of agricultural land within the watershed in Warren Township. Iowa Financial Incentive Program (IFIP), Environmental Quality Incentive Program (EQIP) and WQI were all programs used along with WIRB to provide cost share to landowners this year.

Throughout the entire project landowners completed 12 water and sediment control basins, 9.3 acres of grassed waterways, 1,046 feet of terraces, 750.5 acres of cover crops, and 10,956 sq. ft. of urban conservation practices. The rural practices had a total estimated sediment delivery reduction of 1,387 tons/year and phosphorus reduction of 1,807.5 pounds/year, which is 88% of the project goal. The SWCD exceeded the goal of establishing 2,699 sq. ft. of demonstration urban conservation practices, and these practices will treat 331,947 gallons of stormwater each year, reduce total suspended solids by 905 pounds, reduce the phosphorus load by 1 pound/year, and reduce the nitrogen load by 3 pounds/year.

The SWCD assisted the City of Grinnell with a State Revolving Fund (SRF) Water Resource Restoration Sponsored Projects application. The application was approved for \$1 million to go toward sponsored projects per the \$10 million wastewater loan. The city is considering rain gardens and permeable paver projects within the watershed through the SRF. The SWCD also received a Natural Resources Conservation Service (NRCS) Conservation Collaboration Grant, which started on August 24, 2017 and will continue efforts within the watershed through September 30, 2020.

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

Counties included in the project area: Mills and Fremont Counties

Total Watershed Improvement Funds awarded for this project:	\$250,000
Total Watershed Improvement Funds spent:	\$ 69,384
Total Watershed Improvement Funds obligated:	<u>\$ 0</u>
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$180,616

Project Objectives:

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

Summary of Accomplishments and Water Quality Outcomes

Three terrace, one waterway, and six basin projects were completed this year. Twenty-four acres of cover crop got seeded this fall.

WIRB-funded and privately-funded projects completed this year combine for a total sediment load reduction of 703 tons per year, reducing the amount of sediment produced by sheet and rill erosion.

Six grade control structure projects completed this year combine for a total sediment load reduction of 4,040 tons per year, reducing the amount of sediment produced by gully erosion.

The sediment load reductions described above result in an annual phosphate load reduction of 6,165 pounds per year.

2017 Watershed Improvement Fund Project Annual Report

Project Name: 1407-003 University Branch Dry Run Creek Watershed Project
Project Sponsor: City of Cedar Falls
Length of Project: April 17, 2015 – December 31, 2017

Counties included in the project area: Black Hawk

Total Watershed Improvement Funds awarded for this project:	\$250,000.00
Total Watershed Improvement Funds spent:	\$201,624.41
Total Watershed Improvement Funds obligated:	\$ <u>0</u>
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 48,375.59

Project objectives:

- Stabilize the toe and banks of 1170 lineal feet of stream;
- Reduce sediment loading by 42.3 tons/year;
- Treat adjacent parking lot runoff through a permeable pavement section; and
- Continue to achieve Public Education and Outreach components.

Summary of accomplishments and water quality outcomes

This project has been completed. One of the many project goals was to reduce pollutant runoff adjacent to the stream. Pollutants were reduced as shown below:

	Nitrogen Reduction (lbs./yr.)	Phosphorus Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	Stormwater Treated (gal./yr.)
Merner Streambank Stabilization	90	58	45	0
Merner Permeable Paver Strip	4	1	0.521	382,035
Totals	94	59	46	382,035

Combination of practices that were installed include 1,170 feet of streambank stabilization, 4 areas of channel grade stabilization, 2,483 square feet of permeable pavement and 1.5 acres of native grass buffer.

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

Counties included in the project area: Appanoose and Wayne Counties

Total Watershed Improvement Funds awarded for this project:	\$241,000.00
Total Watershed Improvement Funds spent:	\$220,132.07
Total Watershed Improvement Funds obligated:	<u>\$ 0</u>
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 20,867.93

Project objectives:

- To reduce sediment delivery to Cooper Creek by 2,310 tons per year.
- To reduce phosphorus deliver to Cooper Creek by 3,004 pounds per year.
- To raise awareness of urban BMP's through the installation of at least two demonstration practices.

Summary of accomplishments and water quality outcomes

This grant has expended funds for 12 grade stabilization structures, 4,416 feet of terraces, 55 water and sediment control basins, 88 acres of pasture interseeding, 3,425 feet of exclusion fencing and 96 acres of livestock exclusion. These projects have reduced sediment delivery by 3,094 tons per year and phosphorus loading by 4,037 pounds per year, both of which are well over the objectives of the project. As an added bonus, a couple producers constructed more water/sediment control basins than what was planned without cost share which added to the sediment reduction totals in the watershed.

With funds from the statewide Water Quality Initiative, we were able to exceed the cover crop goal of the watershed and move WIRB funds originally allocated to cover crops to other practices for further reduction of sediment and improved water quality.

The urban component to this grant was quite a challenge in this rural area of the state. Of the two communities in the watershed, the larger community and county seat of Appanoose County, decision makers had limited knowledge of urban conservation practices. Decision makers in the smaller community of Seymour were in the process of developing bio-retention cells in the city park with assistance of a Conservation Development Block Grant. A lack of awareness of green infrastructure urban practices and their maintenance requirements were some of the challenges preventing any urban practices form being installed using Watershed Improvement Funds. Although the urban practice goals of the project were not accomplished, this project created an opportunity to educate and bring awareness of urban conservation practices and the benefits that they provide.

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

Counties included in the project area: Dickinson

Total Watershed Improvement Funds awarded for this project:	\$ 84,000
Total Watershed Improvement Funds spent:	\$ 82,048
Total Watershed Improvement Funds obligated:	\$ <u>0</u>
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 1,952

Project objectives:

- Construct 3 fish barriers.
- Restore and stabilize 1,600 feet of shoreline.
- Install 20 tile intake treatments.
- Renovate 1 lake.

Summary of accomplishments and water quality outcomes

- Tile Intake Treatments – 6 were installed and 20 were projected. The cost for the treatments was more expensive than anticipated and therefore, the 6 that were installed were all that could be accomplished with the dollars available.
- Shoreline Stabilization – 1,600 feet of shoreline stabilization was the goal of this project but as we started doing some rather large segments of shoreline it made sense to do more protection and stabilization. A total of 4,235 feet were stabilized cumulatively.
- Fish Barriers – one was installed in the location identified this year. Cumulatively, three barriers were installed.
- Public Outreach – 5, Newsletter articles, 9 signs that highlight projects, and 2, 4-minute radio interviews in regards to water quality were conducted as part of this project. In addition, 4 lake association meetings were attended to discuss the goals of this project.
- Wetland Detention – This was not part of the original application but it is a significant part of the project and a good addition to the overall project goal. One Extended Wetland Detention was built as part of this project by partners.
- Low Impact Development – This was not anticipated in the original project application but 3 practices were installed by project partners that will make a big difference for water quality.
- The project application called for a full-time employee and that has been accomplished with project partners funding for the entire time of the project.

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, Union

Total Watershed Improvement Funds awarded for this project:	\$143,145.00
Total Watershed Improvement Funds spent:	\$ 99,342.10
Total Watershed Improvement Funds obligated:	\$ <u>0</u>
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 43,802.90

Project objectives:

Twelve Mile Lake is a source-water lake that provides drinking water for the city of Creston and seven counties served by the Southern Iowa Rural Water Association. Excessive sedimentation and a decline in water quality were concerns for local stakeholders. Goals of the project are:

- Implement 5 grade stabilization structures, 4 sediment control basins, 35,000 feet terraces, and 2 acres of 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: Since the start of this project in 2015, 5 water and sediment control basins, 1 grade stabilization structure, 59,925 feet of terraces, 8 acres of waterways, 210 acres of cover crops, 4.87 acres of filter strips, and 266 acres of Conservation Reserve Program have been installed in the watershed. These practices have been funded through the WIRB, Public Owned Lakes, and federal programs (CRP).

Contacts: Conducted farm or office visits with 13 landowners to discuss conservation practices on their farm in 2017. Thirty landowners have been personally contacted since the start of the project.

Information and Outreach: An update on the 12-Mile Project was published in the *Creston News Advertiser* in Feb. Hosted a Cover Crop Field Day in conjunction with Iowa Learning Farms in March with 25 producers attending. Conducted a Watershed Tour in June with 35 people attending including 5 legislators. Hosted a Farm-City Twilight Tour of 12-Mile and 3-Mile Watersheds in August to showcase conservation work completed and the water treatment plant-50 people attended. Set up a soil health display at the Union County Fair. Presented soil health information at Women Landowners meeting in Osceola. Demonstrated Rainfall Simulator to Southwestern Community College Ag Studies students.

Outcomes: The conservation programs installed during this project will reduce the sediment loading of the water-source lake by 1,620 tons/year and the phosphorus load by 2,108 pounds/year.

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

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

Total Watershed Improvement Funds awarded for this project:	\$130,000.00
Total Watershed Improvement Funds spent:	\$124,165.24
Total Watershed Improvement Funds obligated:	\$ 0.00
Watershed Improvement Fund unobligated balance as of 12/31/2017:	\$ 5,834.76

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

Practice	Unit	Goal	Achieved 2017	Total Achieved to Date	Percent Complete
Grade Stab	No.	8	3	8	100%
W&S Basin	No.	22	18	39	177%
Terrace	Ft.	19,500	3,135	21,084	108%
Cover Crop	Acre	525	731	1,257	239%

The Fox River Water Quality Project has had a successful 2017. Three grade stabilization structures, 18 water and sediment control basins, 3,135 feet of terraces, and 731 acres of cover crop were completed. The completed projects to date provide a sediment reduction of 1,366 tons per year and a phosphorus reduction of 1,763 pounds per year to the Fox River. The currently funded WIRB project will be ending at the end of this calendar year and the project has far exceeded the objectives of the agreement with exception of the Grade Stabilization structures. This is due to the drought we experienced this year. Because of this construction a few of our structures had to be shut down due to the lack of moisture.

The project will continue to be funded with WPF funds as well as funding from the Regional Conservation Partnership Plan in the amount of \$900,000.00.

Watershed Improvement Review Board Program Summary 2005-2017

The WIRB funded 152 projects between 2005 and 2017. Each of these projects focused on a local waterbody that was a priority to local users and was desired to improve or maintain the water quality of the waterbody.

Cumulatively, these projects have annually reduced the delivery of the following pollutants to lakes, streams and rivers in their locale:

- 279,000 tons of sediment
- 68 tons nitrogen
- 215 tons of phosphorus
- treat or prevent direct delivery of 118 million gallons of urban stormwater

In addition, WIRB funds helped provide proper septic collection and treatment systems to eight unsewered communities. Fifteen projects helped protect drinking water sources.

Project managers were able to leverage state-appropriated WIRB funds as match when requesting Farm Bill funds including Mississippi River Basin Initiative (MRBI) and the Regional Conservation Partnership Program. A total of \$280,000 of WIRB funds leveraged \$6,634,500 in MRBI practices. WIRB provided the technical assistance support to help install the water quality practices being funded through the federal programs on these projects.