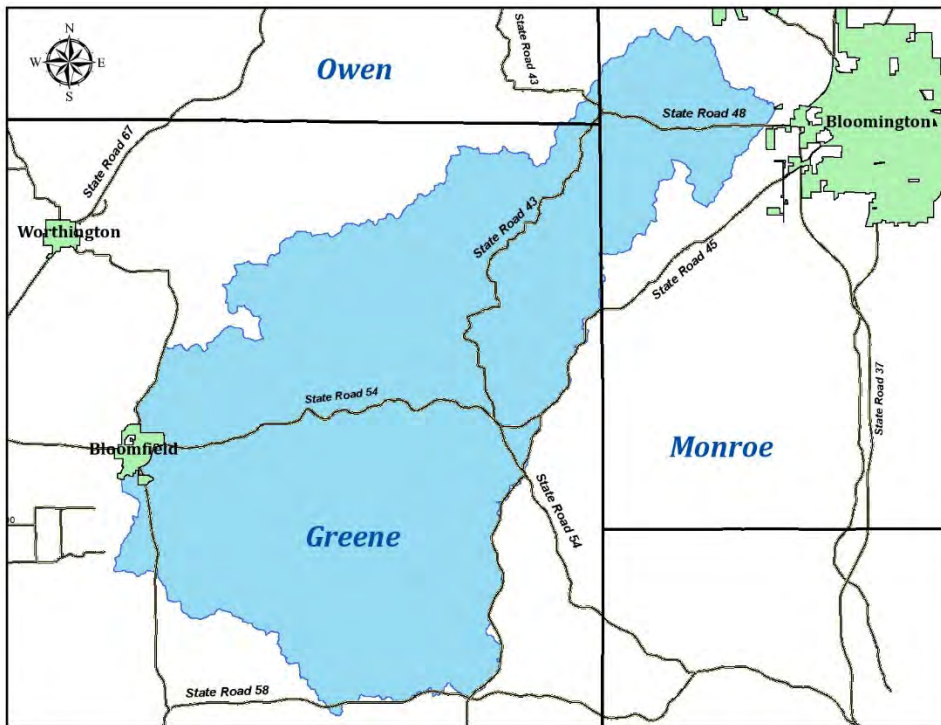


Plummer Creek Watershed 319 Implementation II Project Final Report



ARN: #30680

Project Sponsor:

Greene Co. SWCD

Report Period: March 18, 2019-
March 17th, 2023

Report Completed by:

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Watershed Coordinator

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INTRODUCTION and OVERVIEW

The PCWP 319 Implementation II project officially began on 3/18/19 and ended on 3/17/23 after being selected by EPA for additional funding and a timeline extension. It ran concurrently with the PCWP Implementation I grant (A305-6-226) for its first 3 months, allowing for the successful carryover of producers, partners, and practices. The purpose of the PCWP 319 Implementation II project was to implement a variety of conservation BMPs in critical areas, resulting in improved regional water quality and management changes at the individual farm level, in an effort to work towards achieving the goals outlined in the Plummer Creek WMP, which was approved in 2016.

The PCWP 319 Implementation II grant was primarily managed by Watershed Coordinator, Laura Demarest, with the financial oversight of the Greene SWCD Board and SWCD Coordinators, Casey Kennett (March 2019-July 2020) and Kerry Winter-Haver (September 2020-March 2023).

PROJECT GOALS AND OBJECTIVES

The original application for funding included several generalized goals, which were adapted into ‘Tasks’ for the Grant Agreement and can be found summarized below. The Grant Application also included several ‘Outcomes and Measures of Success’, which will also be discussed further.

Goals from the PCWP Watershed Management Plan (WMP pg. 131):

- Increase resources that will assist with increasing knowledge and awareness while helping implement best management practices designed to alleviate water quality concerns within the watershed.
- Decrease current nitrogen concentrations to meet target concentrations within 20 years.
- Decrease current phosphorous loads to meet target loads within 20 years.
- Decrease current total suspended solids load to meet the limit set by the IDEM within 20 years.
- Decrease current turbidity concentrations to meet target concentration limits within 20 years.
- Decrease current E. coli load to Indiana Water Quality Standard for recreational contact within 25 years.
- Increase habitat scores to meet CQHEI and QHEI standards within 20 years.
- All sites monitored show a healthy macroinvertebrate population within 25 years.

The WMP also lists various load reduction goals for specific critical area acreage, though the timeframe is for 20 years and therefore cannot be evaluated at this stage or with the amount of data collected to date. In fact, since all the goals outlined in the WMP fall within the longer-term, 20 (or more) year range, it is difficult to fairly evaluate overall success towards achieving these WMP goals at this time as more information is needed.

Continuing to work towards the fulfillment of the goals of the PCWP WMP through implementation was to be accomplished through a variety of efforts that were organized according to “Tasks”. Within the scope of each Task were several objectives to be completed in order to satisfy the overall goals of the PCWP 319 Implementation II project. The completion of these tasks will be presented at length in the next section of this report. The requirements of each Task are summarized as follows:

Tasks A (and E): Develop and Promote a Cost-Share Program to fulfill goals of the PCWP WMP

- Revise and submit the Cost-Share Program for IDEM approval
- Meet 1:1 with landowners to provide technical assistance and prioritize funding for the most effective BMPs in the critical areas.
- Conduct quarterly Advisory Committee meetings
- Evaluate WMP goals, tasks, and indicators of success two times
- Conduct 3 public meetings targeting stakeholders
- Meet with agronomists, contractors, and producers to promote enrollment in the Cost-Share Program

Tasks B (and F): Cost-Share Implementation

- Implement the approved Cost-Share Program described in Task A.

- Ensure that all BMPs conform to NRCS specifications or other applicable, approved specifications.
- Implement BMPs only in critical areas as described in the PCWP WMP.
- Follow cost-share payment and reporting protocol according to IDEM 319 program requirements.
- Tabulate pollutant load reductions for every BMP funded by 319 or utilized for match.
- Create and maintain a geo-referenced database for all BMPs implemented through the 319 project.

Task C: Education and Outreach

Conduct an education and outreach program that includes the following efforts:

- Update the www.watershed-alliance.org webpage quarterly for a total of 12 updates.
- Distribute 12 quarterly newsletters to the public via mail or electronic communication.
- Participate in a minimum of 2 PARP workshops, regional conservation events local fairs, and/or community days per year (for a total of 6 events) to promote widespread use of BMPs in the watershed. Track attendance.
- Host or actively participate in 3 regional workshops to promote water quality. Topics may include grazing management, precision ag tools, efficient nutrient/manure management, cover crops, septic maintenance, stream health indicators, pasture walks, karst education, and soil health demonstrations. Track attendance.
- Update Plummer Creek Watershed governing bodies such as County Councils, Commissioners, Drainage Boards, and partnering SWCDs on the Plummer Creek watershed 3 times.
- Maintain 1 filterable database of volunteers, partners, and contacts and sort the database into groups pertaining to interest and affiliation.
- Use social networking media to provide monthly meeting notices/reminders and informational updates for a total of 36 months.
- Provide at least 6 media releases to local newspapers and/or radio and television stations.
- Install a minimum of 6 promotional signs in publicly visible locations throughout the watershed to raise public awareness about the Plummer Creek Watershed and to highlight installed BMPs.
- Install 4 large signs in public locations to indicate the entrance and exit to the Plummer Creek Watershed.
- Participate in at least 2 organized public promotional events such as field days, equipment clinics, grazing workshops, fairs, and BMP demonstrations per year to promote the Plummer Creek Cost Share Program, a total of 6 events.
- Advertise the Plummer Creek Cost Share Program via newspaper, radio, or other applicable public media a minimum of 6 times.
- Develop and distribute 2 brochures and 4 infographic flyers with topics such as proper septic care and maintenance, rotational grazing tips, streambank stewardship, cover crops, nutrient management recommendations for your farm, and protecting local water resources with BMPs.

Task D: Reporting

- Prepare and submit a progress report to the State with each invoice package, at least quarterly (a total of 15).
- Submit two electronic copies of the final report to the State via USB.

EVALUATION OF GOAL ACHIEVEMENT

Overall, the PCWP 319 Implementation II project proved to be a success, providing an abundance of BMP opportunities for producers throughout the watershed. See page 15 for a map of BMP distribution by township throughout the Plummer Creek watershed during 319 Implementation I and II, which occurred from 2016-2023. The success of the Implementation II project can also be validated by assessing the completion of the items listed in each of the previously outlined Tasks, especially those associated with the Cost-Share Program where 100% of the allocated funding was utilized and the demand was high enough to warrant the award of additional \$83,895 in cost-share funding and a timeline extension.

Favorable trends in producer interest and participation in conservation efforts continued throughout the duration of the project. During the first round of Plummer Creek 319 Implementation, there had been some concern about the level of predicted participation from local landowners as the identified Tier I critical areas focus on livestock and cropland and much of the watershed area is forested. However, after some positive interactions with a prominent local farmer in the

American Bottoms area, the word spread quickly and within one year, the cost-share funds were completely obligated and a wait list started! This momentum continued into Plummer Creek Implementation II and all cost-share funding was wait-listed within 3 months of this funding being awarded! The power of local word-of-mouth has been a vital key to success for this program and has proven more effective for generating producer interest than any sort of public advertising efforts.

In addition to using every cent of the 319 grant funding, exceeding the match goal, and delivering a variety of conservation projects to producers in critical areas, many of the participants were completely new to conservation programs. Nutrient Management in the form of precision agriculture technology upgrades gained the most traction during the course of implementation, netting the highest load reductions and number of interested inquiries. Also popular were livestock-related practices such as HUAPs, spring developments, frost-free tanks, and interior fence.

When considering the specific goals stated in the PCWP Watershed Management Plan, it is premature to gauge overall completion. As previously mentioned, the goals of the WMP are outlined to be completed within 20-25 years and will not be discussed in this report, though IDEM will likely conduct performance monitoring in the future to determine if any stream impairments are eligible for delisting.

A series of “Project Outcomes’ and ‘Measures of Success’ was posited in the PCWP 319 Implementation II grant application (presented below). Each ‘Measure of Success’ below will receive a check mark to indicate if it was completed during the project timeline. Additional discussion may be included, as necessary.

Project Outcomes and Measures of Success:

1. Execute a Cost-Share Program, reducing at a minimum Sediment by 4,000 t/year, Phosphorus by 3,000 lbs/yr, and Nitrogen by 20,000 lbs/year ✓ All load reduction goals were exceeded
 - ✓ Develop a Cost-Share Program to be implemented in critical areas as defined by the Plummer Creek WMP
 - ✓ Install a minimum of 25 BMPs affecting at least 1,000 acres to minimize nutrients, sediment, and E.coli.
 - ✓ Geolocate all BMPs to be used for pollution load desktop modeling/mapping
 - ✓ Calculate and report all load reductions generated through the 319 Cost-Share Program.
2. Educate a minimum of 500 stakeholders in critical areas (Primary and Secondary) about BMPs.
 - ✓ Host a minimum of 6 field days and participate in at least 6 promotional events – track attendance.
 - ~ Track number of individuals reached via newsletters, brochures, and social media.
 - ✓ Tabulate total number of cost-share program participants and event volunteers.
 - ✓ Install promotional signs in at least 6 locations with publicly visible BMPs.
 - ✓ Expand contact database to reach new stakeholders via email updates.
3. Develop and distribute education materials to be used during and after the Implementation project
 - ✓ Create at least 2 brochures and 4 infographic flyers focusing on topics that will reduce nutrients and E.coli.
 - ~ Track number of brochures/flyers distributed and people reached.
4. Achieve 3-year load reduction goals as outlined in the Plummer Creek WMP
 - ✓ Track total BMPs installed and tabulate load reductions using Region5, StepL or other approved method
 - ✓ Geolocate each BMP and use a desktop modeling program (L-THIA or other applicable software) to determine which portions of the watershed have received the most beneficial load reduction impacts. Map results.
 - ✓ Evaluate WMP goals twice to determine if load reduction goals have been reached.

Comments: Though it seemed like a good idea at the time, it is difficult to quantify the exact number of people reached through the distribution of brochures, newsletters, and social media though a fair estimate would be approximately 100 stakeholders per month based on the social media reach of the Greene Co. SWCD Facebook page, monthly USDA office traffic, event attendance, and WCIWA Twitter followers.

Event attendees and volunteers were tracked throughout the PCWP II grant and the total number is well over 5,000, though much was due to organic word-of-mouth promotion, which is nearly impossible to track.

When it comes to the distribution of BMPs completed in the watershed, a map for both PCWP Implementation grants I and II can be viewed on page 15. To protect the privacy of individual landowners and to reduce visual ‘clutter’ when creating the map, these BMPs were summarized according to township, which indicates the general distribution of BMPs implemented as well as areas where more funding was utilized. Richland township received the highest concentration of BMPs throughout PCWP Implementation 2016-2023, though other townships were well-represented. Load reductions were calculated for every installed BMP and a watershed total is reflected in this report.

COMPLETION OF TASKS

One straightforward way to quantify the success of the PCWP Implementation II grant project is to review the completion of the objectives outlined in each Task. More complex topics will be further discussed and analyzed as necessary. Supporting documentation can be found in the Final Report USB Appendices.

Tasks A (and E): Develop and Promote a Cost-Share Program to fulfill goals of the PCWP WMP

- Revise and submit the Cost-Share Program for IDEM approval
- Meet 1:1 with landowners to provide technical assistance and prioritize funding for the most effective BMPs in the critical areas
- Conduct quarterly Advisory Committee meetings

The PCWP Advisory Committee was required to meet at least quarterly (a minimum of 16 with the timeline extension) during the time of the PCWP 319 Implementation grant. Applicable supporting documentation for meetings can be found in **Appendix A** on the PCWP #30680 Final Report USB.

Advisory Committee scheduled meeting dates via Zoom:

3/19/19, 4/14/19, 4/30/19, 9/4/19, 11/18/19, 10/28/20, 2/3/21, 2/8/22, 5/31/22, 8/9/22, 10/11/22, 11/8/22, 12/1/22, 1/11/23, 2/14/23, 3/14/23

Lessons Learned: The PCWP Advisory Committee was severely impacted by COVID-19, which made it nearly impossible to hold meetings due to restrictions on in-person gatherings. Zoom meetings were offered as an alternative but due to the largely rural area and participant base, there was basically zero interest. By the time COVID-19 restrictions began to ease in late 2021, a prominent member of the Advisory Committee had unfortunately passed away and the Advisory Committee was basically defunct. Meeting dates continued to be offered via Zoom with dates posted on the www.watershed-alliance.org website and instructions for interested individuals to request a link to the Zoom meeting if they wished to attend.

It should also be noted that when cost-share funding is completely obligated so quickly within the first few months of the grant, quarterly Advisory Committee meetings can seem mostly perfunctory. The trend of diminished attendance could be due to the fact there is less ‘heavy’ decision-making involved during implementation when compared to the planning phase, especially after funding is wait-listed. In the future, it is worth considering that fewer meetings be required during the implementation phase as there may not be as

strong of a need for frequent feedback from the Advisory Committee through the entire project (as opposed to during Planning). A group can always meet more often than the Task requirement states, if necessary.

- Evaluate WMP goals, tasks, and indicators of success two times.

The WMP goals, tasks, and indicators of success were evaluated at the start of PCWP Implementation II grant and again for this Final Report. As previously stated, the earliest WMP goals for load reductions don't take effect until 20 years from the project date, making it effectively too early to properly evaluate this progress. Instead, this Final Report serves as a progress marker for summarizing and documenting success at this stage.

- Conduct 3 public meetings targeting stakeholders.

The Greene County SWCD Annual Business meetings served this function, where approximately 35-60 stakeholders were in attendance each year. These meetings were held in February each year and even with COVID-19 meeting restrictions in 2021, a 319 Annual Report was provided to the public and (except for 2020) an individual was selected to receive the 'Friend of the Watershed' award.

Public Meetings: Greene Co. SWCD Annual Meetings in 2020, 2021, and 2022.

- Meet with agronomists, contractors, and producers to promote enrollment in the Cost-Share Program

Tasks B (and F): Cost-Share for BMP Implementation

- Implement the approved Cost-Share program described in Task A

The PCWP Implementation Cost-Share Program Guidelines were updated and submitted to IDEM in July 2019 and later updated towards the end of implementation to lift the per customer funding cap. Documentation regarding the Cost-Share Program can be found in **Appendix B**.

Within three months of the PCWP 319 Implementation II grant, all of the cost-share funding had been completely obligated and more producers were still asking to apply. In 2021, IDEM selected the PCWP project for a timeline extension and additional funding though this was not officially approved by EPA until late spring 2022 and took effect in May 2022, giving less than 10 months to use \$83,895 in cost-share funding.

All BMPs were installed according to NRCS (or other approved) specifications and in accordance with IDEM 319 program guidelines. See below for a summary of BMP Implementation projects and **Appendix B** on the PCWP Final Report USB for related BMP documentation. For an overview of BMP distribution by township, see the map on page 15.

In summary, the PCWP 319 Implementation II grant was very successful, resulting in the installation of an impressive number BMPs on critical area acreage. Many of these producers were first-time participants and younger farmers who showed keen interest especially when it came to cover crops, precision agriculture, and spring developments. This is a promising observation for future conservation sustainability in the Plummer Creek watershed region.

Total BMPs implemented in Plummer Creek critical areas (2019-2023):

- *Nutrient Management (Precision Ag. Upgrades) = 1,978.44 acres*
- *Residue and Tillage Management (No-Till Planter Upgrades) = 500.38 acres*
- *Cover Crops (Seeders) = 4 seeders, 560.56 acres total*
- *Cover Crops = 825.07 acres planted*
- *HUAP = 52,015 ft²*
- *Prescribed Grazing/Exclusion = 60.6 acres (5,280' fence total)*
- *Frost-Free Tank(s) = 5*
- *Spring Development = 4 (3 concrete tanks, 2 tire tanks)*
- *Frost-Free Hydrants = 2*
- *Critical Area Seeding = 2,470' gully erosion repaired*
- *WASCOBs = 5 total (1,701' gully erosion repaired)*
- *Pasture Seeding = 39 acres*
- *Conservation Cover w/ No-Till Drill (MATCH) = 66.4 acres*

The total pollutant load reduction estimates of the BMPs installed as a direct result of the PCWP 319 Implementation II project are summarized as follows:

- *Sediment: 6,824.8 tons/year*
- *Nitrogen: 35,783.64 lbs/year*
- *Phosphorus: 11,003.5 lbs/year*

Lessons Learned #1: Livestock producers have different needs and cash-flow restrictions compared to large-acre grain farmers, so many of the projects required more oversight and sometimes followed an extended schedule of getting a few components completed as funding allowed. Incidentally, there were some delays, most of which were weather-related or, in a few cases, the result of a producer signing up for a too-ambitious project load. It should also be noted that COVID-19 caused a number of supply chain issues and increased costs for certain materials, which caused engineering design cost estimates to be inaccurate. In the future, it may be prudent to assign an earlier 'deadline' for engineered projects to be completed or to consider limiting the number of projects for a first-time applicant.

Lessons Learned #2: This project was fortunate to be selected for additional funding and an extension, however the timing of the official approval and eventual allocation of funding from EPA made it a challenge to effectively plan and implement projects. Though all of the additional cost-share funding was utilized, the execution was urgent and stressful. Because the additional funding was ear-marked for at least a year before the official grant agreement update was issued, there was some reluctance to definitively plan projects and promise payments to producers on the off-chance that a decision from higher-up may abruptly re-allocate it a different project. When the funding was finally available, there was a very short timeline for engineering design, and construction windows of favorable weather were limited for some projects. There were also several projects that came in significantly under budget when completed and it was necessary to seek projects in the final months that would be eligible to receive this unexpected surplus of funding.

- Ensure that all BMPs conform to NRCS specifications or other applicable, approved specifications.
- Implement BMPs only in critical areas as described in the PCWP WMP.
- Follow cost-share payment and reporting protocol according to IDEM 319 program requirements.
- Tabulate pollutant load reductions for every BMP funded by 319 or utilized for match.
- Create and maintain a geo-referenced database for all BMPs implemented through the 319 project.

Pollutant load reduction totals corresponding to each individual project are reported in the Quarterly Progress Reports submitted to IDEM with each Invoice Package. See **Appendix D** to review QPRs and/or **Appendix E** for collected Invoice Package documentation. Shapefiles for the implemented practices are in **Appendix B**.

Task C: Education and Outreach

Conduct an education and outreach program that includes the following efforts:

- Update the www.watershed-alliance.org webpage quarterly for a total of 12 updates

The www.watershed-alliance.org website is maintained by the Watershed Coordinator and updated regularly. During the summer of 2022, the website underwent a major redesign and upgrade. This final report and other related PCWP documentation will be archived on this website for future reference.

Documented quarterly updates are as follows: 2019 (April, June, July, November), 2020 (February, April, May, August), 2021 (January, February), 2022 (August, October)

- Distribute 12 quarterly newsletters to the public via mail or electronic communication – CANCELLED
 - *Replaced with social media posts on Greene Co. SWCD Facebook Fall 2020-Spring 2023*

This deliverable was based on the Greene Co. SWCD Coordinator’s original intention to release quarterly SWCD newsletters with regular 319 updates included. However this initiative was abandoned and the SWCD Coordinator left the position during the summer of 2020. By this time, the quarterly newsletters were significantly behind schedule and there was little material to convey in newsletter updates with all of the cost-share funding wait-listed and COVID-19 curtailing almost all events and meetings. Based on discussion with the IDEM Watershed Specialist, it was agreed that this item could be cancelled in a minor change of scope (included as a letter submitted with the final invoice package).

However, when a new Greene Co. SWCD Coordinator took over in the fall of 2020, several SWCD newsletters were created and distributed widely via mail and email. These items included 319 updates and were counted for match and towards PCWP advertising efforts. Also, in an effort to compensate for the cancellation of the quarterly newsletters, an abundance of social media posts on the Greene Co. SWCD were shared. From the time the new Greene Co. SWCD Coordinator took over, a weekly social media post was shared based on conservation, upcoming events, and other water quality education. This method of outreach also seems to garner more interaction and appreciation from the public and seems a very suitable replacement for mailed newsletters.

- Participate in a minimum of 2 PARP workshops, regional conservation events local fairs, and/or community days per year (for a total of 6 events) to promote widespread use of BMPs in the watershed. Track attendance.

Despite COVID-19 affecting public gatherings and cancelling many regularly-scheduled annual events, the PCWP 319 Implementation II project was still promoted through a wide variety of public events. The events listed below represent those that were counted towards the Task C requirement of 6 events, though more were documented in the QPRs. Attendance for all events was tracked and these details and any related information for each event can be found in the QPRs in **Appendix D** on the PCWP Final Report USB.

- Greene Co. Cattleman’s Association Annual Mtg - March 2019
- Greene Co. Garden & Patio Show booth – April 2019
- Greene Co. 4-H Fair booth – July 2019
- INField Advantage Winter data review meeting – January 2020
- Indiana Master Naturalist Karst and Water Quality presentation - February 2020
- Beck’s Grower’s Mtg @ Greene Co. Fairgrounds – February 2020

- Host or actively participate in 3 regional workshops to promote water quality. Topics may include grazing management, precision ag tools, efficient nutrient/manure management, cover crops, septic maintenance, stream health indicators, pasture walks, karst education, and soil health demonstrations. Track attendance.

As previously described, COVID-19 significantly curtailed events starting in March 2020 and continuing throughout 2021 and into early 2022. The events listed below represent those that were counted towards the Task C requirement of 3 events, though more were documented in the QPRs. Attendance for all events was tracked and these details and any related information for each event can be found in the QPRs in **Appendix D** on the PCWP Final Report USB.

Event Summary:

- “Caves and Karst” presentation for the Lawrence County Parks & Rec Dept. – June 2019
- “Caves, Karst, and Groundwater” for Indiana Garden Club @ McCormick’s Creek – Sept. 2019
- IU Center for Rural Development Virtual Conference – panelist for “The Value of Caves to the Natural Environment” session – May 2021

- Update Plummer Creek Watershed governing bodies such as County Councils, Commissioners, Drainage Boards, and partnering SWCDs on the Plummer Creek watershed 3 times.

Each year during budget hearings in the fall, representatives from the Greene Co. SWCD provide updates to the County Council and Commissioners regarding grant initiatives in an effort to make local government leadership aware of the dollars being leveraged into this area by the Greene SWCD. Neighboring county SWCD Boards were also given updates on the PCWP 319 program, as well and the Task C requirement was exceeded.

Briefings to local government officials: Owen Co. SWCD Annual meeting (March 2020), Greene Co. Council meeting (Sept. 2020), Greene Co. Commissioners meeting (November 2020), Greene Co. Council meeting (August 2021, September 2021, August 2022).

- Maintain 1 filterable database of volunteers, partners, and contacts and sort the database into groups pertaining to interest and affiliation.

The free software Plaxo (www.plaxo.com) was initially used for this purpose, though unfortunately was discontinued, causing inconvenient disruption in communication efficiency. Existing contacts were transferred to a free Google Drive account and updated as time allowed. This Google account (wciwacoordinator@gmail.com) requires login information which can be shared and the free email can be used (if necessary) in the future during lapses between grant funding. New contacts can be easily added to the Google Contacts list, sorted into groups, and edited quickly. Groups are easy to sort with the service and

group emails can be sent though some government email servers are not compatible so it's often easier to export a .csv to send a large group email. Google Contacts is cloud-based and therefore, always backed-up.

- Use social networking media to provide monthly meeting notices/reminders and informational updates for a total of 36 months.

The Greene Co. SWCD Facebook page (managed primarily by Greene SWCD Coordinators) was used frequently to provide updates about events and share water quality and conservation-related information. The Twitter account @WCIWA is managed by the Watershed Coordinator. Between these social media venues, the requirement of 36 updates was met.

Twitter updates attributed to the PCWP Implementation II project were as follows: 6/28/19, 12/12/19, 4/20/19, 4/27/20, 4/28/20, 5/6/20, 5/12/20, 6/16/20, 7/20/20, 8/3/20, 8/19/20, 9/1/20, 9/13/20, 10/1/20, 10/6/20, 10/27/20, 2/23/21, 5/18/22, 5/19/22, 5/26/22, 5/30/22, 6/1/22, 6/29/22, 8/17/22, 9/14/22, 10/3/22, 10/4/22, 10/19/22, 10/24/22, 11/21/22, 11/23/22, 11/28/22, 11/29/22, 12/7/22, 12/27/22, 1/24/23

- Provide at least 6 media releases to local newspapers and/or radio and television stations.

News regarding the PCWP watershed project was initially featured in the Greene County Daily World though with printed media steadily declining, the return on investment for paid advertising is quite poor. In addition, with the cost-share completely allocated within the first 3 months of the grant's start, there was no need to advertise or promote to solicit greater interest in the cost-share program. COVID-19 also impacted regularly scheduled meetings and events so there was little news to share.

In most cases, project updates were shared more informally by social media, email, or partner SWCDs and other organizations circulating information about scheduled events/workshops via their own email lists and social media. Copies of articles, flyers, and ads can be found in **Appendix C** on the Final Report USB.

Articles, Advertisements, and News

WBIW (x1), Times Mail (x1), PCWP Annual Report 2019, 2020, 2021, 2022

- Install a minimum of 6 promotional signs in publicly visible locations throughout the watershed to raise public awareness about the Plummer Creek Watershed and to highlight installed BMPs.

A variety of signs were utilized during the course of the PCWP grant. Four promotional 'yard' signs highlighting BMPs were distributed to two landowners to highlight cover crops and grazing practices in publicly visible locations. Additionally, the Greene Co. SWCD installed a cover crop billboard in partnership with Farm Bureau (Fall 2021). In 2022 a public library display was installed to provide education about watersheds as well as an electronic sign at the Greene Co. Fairgrounds to promote the PCWP project.

- Install 4 large signs in public locations at the entrance/exit to the Plummer Creek Watershed – CANCELLED
 - *Replaced with an online, interactive Google map of the watershed area + QR code for public usage*

During the time of this grant project, INDOT regulations became much stricter regarding the installation of non-INDOT signs in the road right-of-ways. Other options were considered such as approaching private land owners for permission but after discussion with the IDEM Watershed Specialist, it was determined that this deliverable could be cancelled. A change of scope was submitted with the final PCWP invoice package.

However to compensate for the inability to install these signs due to INDOT's changing regulations, an online watershed map was created for public distribution. A link to the map was placed on the www.watershed-alliance.org website and a QR code created for easier sharing. Having a shareable Google map of the PCWP watershed boundary was very helpful for sharing with partner organizations and producers who were interested in the cost-share program project area and seemed a much more suitable replacement for this large road signs as far as usefulness and outreach.

- Participate in at least 2 organized public promotional events such as field days, equipment clinics, grazing workshops, fairs, and BMP demonstrations per year to promote the Cost Share Program, a total of 6 events.

As previously described, COVID-19 significantly impacted regularly-scheduled events starting in March 2020 and continuing throughout 2021 and into early 2022. The events listed below represent those that were counted towards this Task C requirement, though more instances were documented in the QPRs. Attendance for all events was tracked; these details and any related information can be found in the QPRs in **Appendix D**.

Event Summary:

- Linton Farmers' Market booths (Summer 2021, Summer 2022)
- Black Creek TMDL meeting w/ general 319 project info included (September 2021)
- Owen County SWCD Water Day booth (September 2021)
- Bloomfield Apple Festival booth (October 2021, October 2022)

- Advertise the Plummer Creek Cost Share Program via newspaper, radio, or other applicable public media a minimum of 6 times.

As previously mentioned, with the cost-share completely allocated within the first 3 months of the grant's start, there was little need to widely promote in order to solicit greater interest. In most cases, project updates were shared more informally on social media, by email, or through partner SWCDs and other organizations circulating information through their own email lists and social media. Copies of articles, flyers, and ads can be found in **Appendix C** on the Final Report USB.

Articles, Advertisements, and News: GCDW Fall 2020 cover crop ads x 3, 2021 Greene County Plat book ad, GCSWCD Newsletter January 2022, GCSWCD Newsletter May 2022

- Develop and distribute 2 brochures and 4 infographic flyers with topics such as proper septic care and maintenance, rotational grazing tips, streambank stewardship, cover crops, nutrient management recommendations for your farm, and protecting local water resources with BMPs.

All flyers and brochures and other promotional items can be found in **Appendix C** on the Final Report USB.

Task D: Reporting

- Prepare and submit a progress report to the State with each invoice package at least quarterly.

A total of 15 Quarterly Progress Reports were submitted during the course of the PCWP 319 Implementation II project, meeting the Task D requirement. Copies of all Quarterly Progress Reports can be found in **Appendix D** on the PCWP II Final Report USB. Dates for report QPR periods are listed below:

- 1) March 18th, 2019-July 2nd, 2019
- 2) July 3rd, 2019-September 1st, 2019
- 3) September 2nd, 2019 – November 19th, 2019
- 4) November 20th, 2019-May 15th, 2020
- 5) May 16th, 2020 – October 30th, 2020
- 6) October 31st, 2020-February 24th, 2021
- 7) February 25th, 2021-July 9th, 2021

- 8) July 10th, 2021-October 29th, 2021
- 9) October 30th, 2021-February 15th, 2022
- 10) February 16th, 2022-May 22nd, 2022
- 11) May 23rd, 2022-August 31st, 2022
- 12) September 1st, 2022-October 31st, 2022
- 13) November 1st, 2022-December 5th, 2022
- 14) December 6th, 2022-January 31st, 2023
- 15) February 1st, 2023–March 17th, 2023

- Submit two electronic copies of a final report to the State.

The PCWP 319 Implementation II project Final Report and all supporting documentation was submitted to the State as a USB provided to the Watershed Specialist and will be archived in a shared Google Drive for at least the next three years. All hard copy information will be retained as long as necessary at the Greene SWCD Office along with a dedicated USB with collected project documentation.

Discussion of Monitoring Results

No monitoring activities were conducted during the Plummer Creek Implementation II project.

Public Participation and Partnerships

The PCWP 319 Implementation program celebrated a successful outcome chiefly because of the dedication and commitment of those involved. The project was widely promoted through avid word-of-mouth and local connections.

Several key partners were especially involved during this project including NRCS, ISDA, Purdue Extension, Farm Bureau (Greene County), Greene County Cattleman’s Association, neighboring SWCDs, and many local contractors. The NRCS Conservation Implementation Team, Alli McKain with ISDA, and Jake Walters (Greene Co. NRCS District Conservationist 2021-present) were instrumental in providing specifications, cost-estimates, and prompt engineering plans for a variety of conservation practices in the 319 program. Many local officials on the County Council and Commissioners are also directly tied to farming and were happy to advocate for the 319 program.

One major credit to the PCWP Implementation program is the fact that the Match requirement was not only fulfilled, but exceeded! Indeed, the match requirement was \$316,263.33 and the final total reached \$322,393.11 exceeding the goal by \$6,129.78! This is a true testament to the commitment of local producers and dedicated partners! The total value of this 319 grant from March 2019-2023 equals \$796,788.11 (total funding, additional funding, and accrued match/in-kind).

Successes, Challenges, and Lessons Learned

In summary, the PCWP 319 Implementation II project demonstrated many positive outcomes, including:

- Exceeded match requirement by \$6,129.78
- BMPs installed on thousands of critical area acres
- Largest load reductions achieved through Nutrient Management (Precision Ag.)
- A variety of livestock-related BMPs installed with a diverse group of landowners
- High level of participation from landowners and producers due to strong word-of-mouth promotion
- Cost-share funding completely obligated within the first three months of the project
- Additional \$123,895 (\$83,895 cost-share) in funding awarded by EPA

However, all roads to success often have a number of ‘bumps’ along the way. Below are some challenges the PCWP 319 Implementation II project experienced and learned from:

- COVID-19 affected this project in many unexpected ways beyond meeting and event cancellations. Changing market values and supply chain issues posed problems for BMP project completion. Several producers backed out of scheduled projects due to personal budget constraints. Adapting to these widespread changes and unpredictable circumstances was necessary and many new strategies were explored, some with more success than others. For instance, Zoom was not a good fit for a rural Advisory Committee, but working from home provided many opportunities to work more productively on administrative tasks without interruption. Outdoor meetings on-site with producers were hardly affected at all and continued as normal.
- Employee turn-over was a significant issue during this project. The long-time Greene County NRCS District Conservationist moved to another position and a permanent DC was not selected until 2022. This impacted planning for more complex project requests as well as assistance with technical oversight. Also during this time, the SWCD Coordinator left the position and by the time this occurred, the 319 grant was behind schedule on the match/in-kind goal. This was partly due to COVID-19 cancellations but also because many of the anticipated projects and support promised by the District Coordinator never occurred, such as the intention to send out regular newsletters or the agreement to provide assistance and documentation for many 319 tasks.
- Obligating all cost-share very early in the grant can render the required promotional efforts and quarterly Advisory Committee meetings perfunctory and excessive. If there is no need to spend funding on advertising for a cost-share program with a wait list, this requirement and others like it should be modified or waived.
- The additional funding and timeline extension approved by EPA was a fortunate windfall but the execution of the updated grant agreement and actual confirmation that funding would be received occurred at a very late stage in the implementation grant, making it extremely difficult to plan and complete projects before the deadline. There was also quite a bit of insecurity about ‘promising’ funding to wait-listed producers without updated grant agreement paperwork as confirmation that the earmarked additional funding would be received. Continued delays in the issuance of this updated grant agreement paperwork increased concerns that funding could be reallocated to a different project and that local projects would have to be cancelled, resulting in mistrust and bad publicity for 319 grants. By the time EPA approved the allocation of these additional funds, the contract for the Watershed Coordinator services had expired, which resulted in a lapse in pay for over 2 months until the updated grant agreement could finally be issued by EPA and a new Watershed Coordinator contract was in place. The Watershed Coordinator opted to continue working during this pay gap and was able

to count the unpaid time towards match/in-kind, though not every contractor may be willing to do the same; another point to illustrate the very inconvenient manner in which EPA executed this additional funding.

- As is sometimes the case with Implementation (and because there is no penalty to producers for non-completion of 319 projects), there were a number of projects that were cancelled, changed, or were under budget in the final months of this grant project. It would be best to be aware of this in the future and plan accordingly by remembering to frequently check in with producers and ask for status updates. It's also worth considering that the producers be provided with an earlier project completion deadline.

Future Activity

Even though 319 implementation in the Plummer Creek watershed has concluded for the time being, the Greene County SWCD Board will continue to facilitate federal, state, and local conservation programs. They will also pursue various types of conservation grant funding when possible. It is the hope that IDEM will return to complete performance monitoring in the Plummer Creek watershed in the near future and that a number of the impaired streams will be delisted thanks to the years of implementation and outreach efforts in this area. Once performance monitoring has occurred, the Greene County SWCD can evaluate the existing Plummer Creek WMP to determine goal progress and characterization and decide whether or not to resume concentrated work in this region. Until then, conservation education, outreach, and program match-making will continue as long as there is local need and interest.

At this time, the Greene Co. SWCD has shifted focus to the Black Creek watershed in western Greene County, which began a 319 Planning and Implementation grant in January 2023. The experience gained during the PCWP 319 grants, along with the partnerships and local contacts, will be extremely helpful during this new Black Creek watershed initiative and as the Greene County SWCD continues efforts to assess and improve water quality in the region.



PCWP 319 Implementation BMP Distribution 2016-2023

Beech Creek (22,379 acres)
 - 2 Spring Dev + 2 tire tanks
 - HUAP 7,216 sq.ft.
 - Pasture Seeding = 11 acres
 - Cover Crop Seeder = 1 tool (58.76 ac)
 - Nutrient Management = 186.76 ac.

Richland Twp - Greene (20,369 acres)
 - Pres. Grazing = 63.81 ac (5,742' fence)
 - Access Rd = 200' (2,400 sq.ft)
 - HUAP = 30,644 sq.ft.
 - Roof Run-Off = 525' subsurface drain
 - R&T Management (No-Till Upgrades) = 250.19 ac.
 - Nutrient Management = 443.15 ac.
 - 3 Spring Dev w/ 2 tire tanks + 2 concrete tanks
 - 5 Frost-Free tanks + pipeline
 - Crit. Area Seeding = 2,405'
 - WASCObS = 7 structures (2,392' gully repair)
 - Pasture Seeding = 5 acres
 - Cover Crops = 384.48 ac + 244.59 (seeders)

Taylor Twp (11,354 acres)
 - WASCObS = 2 structures (838' gully repaired)
 - R&T Management (No-Till upgrades) = 250.19 ac
 - Cover Crops = 228.7 ac + 199.09 (seeders)
 - HUAP 9,518 sq. ft.

Owen Co.

Monroe Co.

Greene Co.

Richland Twp - Monroe (6,491 acres)
 - Cover Crops 166.5 acres + 140 ac (seeder)
 - Nutrient Management = 143.5 ac.

Van Buren Twp (6,548 acres)
 - Cover Crops = 57.5 acres
 - CC Seeder = 140 acres
 - Nutrient Management = 143.5 acres

Center Twp (23,972 acres)
 - 3 Spring Dev w/ 5 concrete tanks
 - 2 Frost-Free tanks
 - HUAP = 22,956 sq.ft.
 - Pasture Seeding = 28 acres
 - Nutrient Management = 459.96 acres
 - Cover Crops = 130.68 acres + 199.09 ac (seeder)

Jackson Twp (15,465 acres)
 - Prescribed Grazing = 11.6 acres
 - HUAP 3,785 sq. ft.
 - 1 FF Tank + 2 FF Hydrants

Legend

- PCWP HUC10 clip
- Beech Creek
- Center
- Clay
- Highland
- Jackson
- Richland
- Taylor
- Van Buren



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Created by L. Demarest