1. Cover Page
PROJECT IMPLEMENTATION PLAN

Bow Creek Watershed Project: Phase 2

Project Sponsor: Lewis & Clark NRD
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Project Partners: Lewis & Clark NRD: LCNRD will provide funding through local budget allocations, administration of project, monitoring of E. coli, development of demonstration farms, facilitation of mentor groups and education events, development and facilitation of technical assistance for conservation practice implementation, and reporting.

Nebraska Department of Environment and Energy: NDEE will provide funding through the CWA Section 319 for monitoring of *E. coli* concentration, demonstration project sites, education and mentoring events, and installation of conservation practices.

Nebraska Game and Parks Commission: NGPC will provide funding for conservation through the small grains program, and will provide technical assistance through participation on the Technical Advisory Committee and provide direct conservation practice implementation support to producers.

UNL Extension: UNL Extension educators will provide technical assistance through participation on the Technical Advisory Committee and provide direct conservation practice implementation support to producers.

UNL: UNL will provide technical assistance through participation on the Technical Advisory Committee, Agro 405 students will provide direct support to farmers by creating 2-5 farm improvement plans each year.

USDA – NRCS: NRCS employees will provide support for conservation contract implementation through NRCS EQIP and CSP programs. The District Conservationist will provide technical assistance through participation on the Technical Advisory Committee. USDA NRCS will provide conservation contracts for cost-share to qualifying producers in the Bow Creek watershed project area.

Producers of Bow Creek: Producers will implement voluntary conservation practices to decrease *E. coli* concentrations in Bow Creek. The portion of costs associated with implementation that are not covered by cost-share and incentive payments will be in-kind to the project.

Project Area: The project area is the Bow Creek Watershed in Knox, Cedar and Dixon Counties, Antelope Creek in Knox County, and Beaver Creek in Knox County.

HUCs: 101701011001 – Upper West Bow Creek, 101701011002 – Middle West Bow Creek, 101701011004 – Lower West Bow Creek, 101701011101 – Pearl Creek, 101701011102 – Norwegian Bow Creek, 101701011103 – Upper Bow Creek, 101701011104 – Headwaters East Bow Creek, 101701011105 – Outlet East Bow Creek, 101701011106 – Middle Bow Creek, 101701011107 – Lower Bow Creek, 101701011205 - Antelope Creek, 101701011120 - Beaver Creek

Priority area: Stream corridors, 101701011004 – Lower West Bow Creek, 101701011107 – Lower Bow Creek, 101701011102 – Norwegian Bow Creek, 101701011106 – Middle Bow Creek, and 101701011105 – Outlet East Bow Creek. Section 319 funds will be used to support the reduction of nonpoint source pollution in the priority area.

Project Funds: *List the amount of Section 319 funds requested, required nonfederal matching funds and federal funds other than Section 319 funds (e.g., EQIP) if applicable. Nonfederal funds in excess of the required match should be listed as Other Nonfederal Funds. For example:*

Section 319 Funds:	$300,000
Nonfederal Match:	$200,000
Other Federal Funds: EQIP/CRP	$114,910
Other Nonfederal Funds:	$348,448

Project Duration: July 1, 2024 – June 30, 2027

2. Location Map

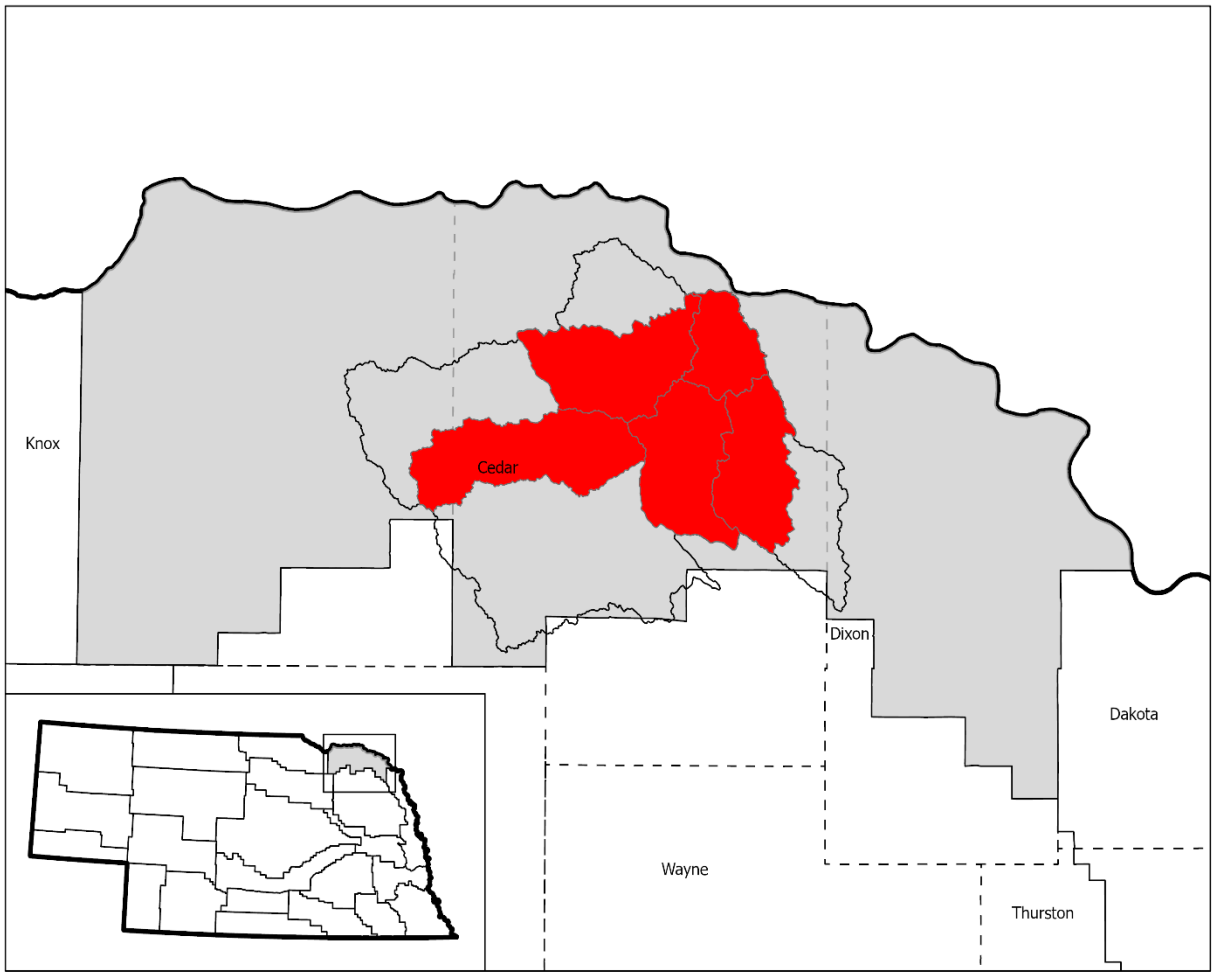

Figure 1: Bow Creek Watershed Project Area with priority areas shaded in red

3. Introduction/Background

The Lewis & Clark Natural Resources District (LCNRD) Board of Directors initiated development of a district wide Water Quality Management Plan (WQMP) (available at LCNRD WQMP FINAL.pdf (nebraska.gov) with the Nebraska Department of Environment and Energy (NDEE) with the goals of improving water quality and environmental integrity of local watersheds. The LCNRD WQMP was submitted and accepted by EPA R7 in 2019. The LCNRD is proposing to continue the Bow Creek Watershed Project that was established in 2020 to follow the strategy laid out in the WQMP and to systematically address water resource deficiencies in the basin. The LCNRD WQMP will be updated within the timeframe of this PIP.

The WQMP provides a concise summary of water resource conditions, direction for a coordinated approach to address nonpoint source pollution and identifies mechanisms to educate and involve the public and other watershed stakeholders on the importance of supporting conservation actions. Identified management approaches support the goals of partners such as NDEE, Natural Resources Conservation Services (NRCS), Nebraska Game and Parks Commission (NGPC), and existing LCNRD/local community programs targeted to reduce impacts of nonpoint source pollution. This project (phase 2) will focus on broader scale implementation of BMPs and education activities in the watershed to reduce nutrient, bacteria, and sediment runoff from agricultural lands.

The Bow Creek Watershed is primarily a rural demographic. With a few concentrated areas of development in the watershed including Aten, Bow Valley, Crofton, Coleridge, St. Helena, Fordyce, Hartington, and Wynot. There are six WHPAs in the Bow Creek Watershed surrounding public drinking supplies for the communities of Bow Valley, Coleridge, Crofton, Fordyce, Hartington, and Wynot.

The Bow Creek Watershed lies within the Lewis and Clark Lake HUC-8 (10170101) and contains 392,574 acres in portions of Cedar, Dixon, and Knox Counties. In addition to the drainage area that flows to Bow Creek, the drainage areas for two tributaries that drain north to the Missouri River, Antelope Creek and Beaver Creek, were incorporated as part of the Bow Creek Watershed in the 2019 LCNRD WQMP to ensure all areas within the WQMP Area were included in a watershed management area. The subwatershed priority area consists of 156,772 acres and are mostly used for agriculture.

Land use is mainly agricultural cropland and pasture with local farmsteads spread throughout the watershed. Cropland has the highest percent cover of the watershed at 60 percent, much of which receives land application of manure and/or grazing when crops are not present. Pastureland is the next largest land use in the priority area at 31 percent. Approximately 6,000 acres of pastureland is located within the stream corridor. Pastures where livestock have access to the streams result in direct deposition of manure to surface water, which contributes a large portion of the pollutant associated with pastureland.

Table 1: Land Use in the Priority Subwatersheds

Subwatershed	Urban (Acres)	Cropland (Acres)	Pasture (Acres)	Forest (Acres)	Feedlot (Acres)	Open Water (Acres)	Total (Acres)
Lower West Bow Creek	1,409	18,777	11,900	604	25	104	32,818
Norwegian Bow Creek	2,238	25,492	8,941	473	10	63	37,217
Outlet East Bow Creek	1,062	16,638	7,495	587	3	71	25,856
Middle Bow Creek	1,096	17,565	9,573	657	8	134	29,033
Lower Bow Creek	711	6,025	6,435	1,410	1	349	14,932
Stream Corridors	662	10,365	3,791	1,616	---	481	16,915
Sub-Total Percent of Total	**7,177 (5%)**	**94,864 (60%)**	**48,134 (31%)**	**5,347 (3%)**	**47 (0.03%)**	**1,202 (1%)**	**156,772 (100%)**

The following summary of impaired waterbodies is based on NDEE's beneficial use support assessments performed for the Bow Creek Watershed.

- The 2020 Nebraska Integrated Report indicated 3 of the 24 streams in the Bow Creek Watershed and associated HUC-12s are impaired.
- Impaired segments represent 54 miles of the total 185 stream miles or 29 percent.
- The 4 segments designated for Recreation use are impaired for *E. coli* bacteria.
- One impairment is to the Aquatic Life Use (AL), which is due to poor biological communities of three streams.
- There are no pristine streams in the project area.

Bow Creek TM2-11300, West Bow Creek MT2-11310, Bow Creek MT2-11400 and East Bow Creek MT2-11410, and Antelope Creek MT2-11800 are listed in the State Nonpoint Source Management Plan (2021) as Impaired Streams Identified for Restorative Management Actions.

Pollutant loads in the Bow Creek Watershed are primarily a result of agricultural practices. The high concentration of cattle in the watershed leads to large quantities of manure spread as fertilizer, as well as cattle that have access to streams while grazing that results in direct manure deposition into local waterways. Fertilization and soil management practices have a large impact on the overland loads transported from each field. Sediment transport occurs when precipitation or irrigation runoff carries soil particles into streams and lakes. Nutrient and bacteria are often attached to the soil particles and deposited into waterbodies along with the sediment. This provides dissolved nutrients in the water body which are available in the water column for uptake. Erosion of stream beds and banks also contribute to the pollutant loads received by the local waterbodies. Sediment bound nutrients and bacteria, primarily in streams with sparse vegetation, can be disturbed and redistributed into the water column.

Bow Creek is valued by local residents as a recreational stream. Kayaking, hunting, and fishing are the most popular activities in Bow Creek. In addition to residents entering Bow Creek through private access points, Bow Creek Recreational Area hosted 2,049 vehicles during the 2022 season (May – September).

This project is the second phase of implementing the Lewis & Clark NRD Water Quality Management Plan (2019). The first phase of the Bow Creek Watershed Project started in 2020. A coordinator with a soil health, farming, and teaching background was hired in July 2020. Educating farmers and ranchers of the stream impairments, financial and environmental benefits of BMPs, and implementation tips for BMPs have been conducted with increased interest each year. Expanded water quality baseline data has been collected as part of the project. Five demonstration farms were established in the watershed during the first phase of the project to evaluate no-till, cover crops, and alternative cropping systems. A mentor group was established leveraging local knowledge and peer support. An incentive and education program was developed and implemented. Together all these activities lead to over 3,700 acres managed with new BMPs and more acres are awaiting NRCS approval.

BMP adoption for water quality practices is low in the watershed area. Research has shown that increasing producer knowledge increases the likelihood of a change in management practices. As more acres are managed with BMPs successfully in the watershed, more producers will become interested in trying them. Demonstration farms in phase one have highlighted challenges that need to be addressed when adopting new BMPs. Current and new demonstration farms will be key to highlighting successful implementation of BMPs throughout the entire watershed.

Before producers can imagine how BMPs will perform on their farms they need to be exposed to the idea. Understanding the basic function of the practice along with implementation experiences from trusted sources is important. Field days and workshops in the first phase of the project were popular with local producers for these reasons and should be continued in the second phase.

4. Pollutants and Pollutant Sources

Pollutant loads in the Bow Creek Watershed are primarily a result of agricultural practices and inadequate septic systems. The high concentration of cattle in the watershed leads to large quantities of manure spread as fertilizer, large numbers of cattle grazing cropland in winter, as well as cattle that have access to streams while grazing that result in direct manure deposition into local waterways. Fertilization and soil management practices have a large impact on the overland loads transported from each field. Sediment transport occurs when wind, precipitation or irrigation runoff carries soil particles into streams and lakes. Nutrients and bacteria are often attached to the soil particles and deposited into waterbodies along with the sediment. This provides dissolved nutrients in the water body which are available in the water column for uptake. Erosion of stream beds and banks also contributes to the pollutant loads received by the

local waterbodies. Sediment bound nutrients and bacteria, primarily in streams with sparse vegetation, can be disturbed and redistributed into the water column.

A detailed pollutant load model was developed to understand the sources and load allocations that contribute to the water quality impairment. The model utilizes concepts of the Simple Method (Schueler, 1987) and the Spreadsheet Tool for Estimating Pollutant Load (STEPL) (Tetra Tech, 2011T). The *E. coli* load modeling results found below are as reported in the WQMP.

Table 2: Modeled Existing *E. coli* Loads

Subwatershed	Annual Existing Bacteria Load (Billions of CFU)	Percent Total
Lower West Bow Creek	2,202,631	32%
Norwegian Bow Creek	673,751	10%
Outlet East Bow Creek	1,108,653	16%
Middle Bow Creek	1,426,346	21%
Lower Bow Creek	966,792	14%
Stream Corridors	504,151	7%
Total	**6,882,324**	100%

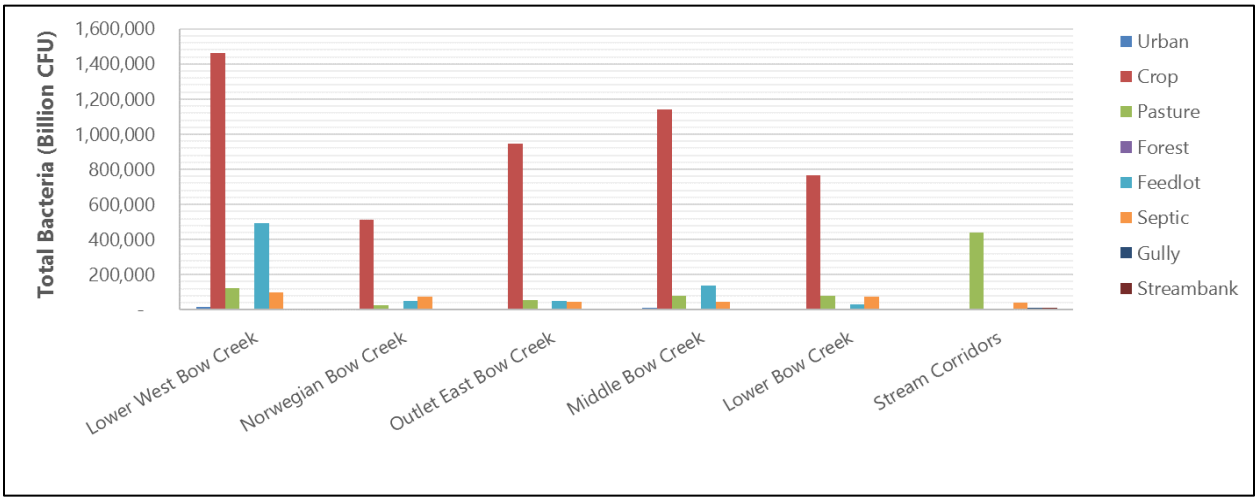

Figure 2: Subwatershed Modeled Annual E. coli Loads

Table 3: *E. coli* Load Source Allocation

Source	Annual Existing Bacteria Load (Billions of CFU)	Percent Total
Urban	45,096	1%
Cropland	4,831,233	62%
Pastureland	1,701,876	22%
Forest	0	0%
Feedlots	764,190	10%
Septic	381,124	5%
Gully	37,807	0%
Streambank	23,214	0%
Total	**7,784,540**	100%

While Bow Creek is not listed as impaired for nutrients and sediment, multiple benefits can be realized from best management practice implementation. Phosphorus, nitrogen and sediment were also included in the pollutant load modeling in order to track the reductions to all pollutant loads. Modeled rates for Phosphorus, nitrogen, and sediment loading are shown below.

Table 4: Modeled Existing Phosphorus Loads

Subwatershed	Annual Existing Phosphorus Load (lbs)	Percent Total
Lower West Bow Creek	115,681	18%
Norwegian Bow Creek	146,614	23%
Outlet East Bow Creek	107,613	17%
Middle Bow Creek	96,200	15%
Lower Bow Creek	66,675	10%
Stream Corridors	114,676	18%
Total	**647,460**	**100%**

Table 5: Modeled Existing Nitrogen Loads

Subwatershed	Annual Existing Nitrogen Load (lbs)	Percent Total
Lower West Bow Creek	560,037	19%
Norwegian Bow Creek	690,597	24%
Outlet East Bow Creek	508,772	17%
Middle Bow Creek	462,830	16%
Lower Bow Creek	178,339	6%
Stream Corridors	521,266	18%
Total	**2,400,574**	**100%**

Table 6: Modeled Existing Sediment Loads

Subwatershed	Annual Existing Sediment Load (tons)	Percent Total
Lower West Bow Creek	53,504	14%
Norwegian Bow Creek	72,918	19%
Outlet East Bow Creek	56,831	14%
Middle Bow Creek	46,942	12%
Lower Bow Creek	33,949	9%
Stream Corridors	128,677	33%
Total	**392,820**	100%

5. Pollutant Load Reduction

The LCNRD has the overall goal of restoring and protecting the recreational uses of Bow Creek and removing it from the list of impaired waters due to *E. coli* bacteria. With a very aggressive goal of 97% removal, modeling done for the 2019 WQMP showed several management practices often had to be implemented in series to reach efficiencies high enough to achieve sufficient removal. Nearly every acre in the watershed had to receive at least some form of treatment to meet the goal.

The second phase of the Bow Creek Watershed Project will focus on implementing BMPs successfully on up to 3,325 in the priority area supported with Section 319 funding. Three septic system upgrades will be implemented in phase two to address *E. coli* loading due to old or failing septic systems. This is expected to reduce *E. coli* in Bow creek by 90,432 billion cfus, total phosphorus by 4,178 pounds, total nitrogen by 19,453 pounds, and sediment by 2,247 tons annually.

Table 7: Modeled Annual Load Reduction for Phase Two

Priority Area	Proposed	Modeled Annual Load Reduction			
BMP	Acres	E. coli (billion cfu)	Phosphorus (lbs.)	Nitrogen (lbs)	Sediment (Tons)
Nutrient Management with Manure	1200	38,369	2,283	5,309	0
Cover Crops / No-till	1600	15,170	1,278	9,632	2,008
Small Grain Rotations	80	475	60	367	10
CRP	50	1,643	207	2,310	88
Livestock Exclusion	120	26,833	48	215	0
Buffers/Filter Strips	35	442	26	61	18
Presecribed Grazing	120	390	86	460	23
Soil Health Management	1	1,500	200	1,100	100
Septic System Upgrade	3 each	5,610	0	0	0
Total	3,325acres	90,432	4,187	19,453	2,247

6. Project Description

6.1 Introduction:

This project is the second phase of implementing the Lewis & Clark NRD Water Quality Management Plan (2019) to restore and protect the recreational uses of Bow Creek and removing Bow Creek from the list of impaired waters due to *E. coli* bacteria.

During phase one of the project, which started in 2020, a project coordinator with a soil health, farming, and teaching background was hired. Educating farmers and ranchers of the stream impairments, financial and environmental benefits of BMPs, and implementation tips for BMPs was conducted with increased interest each year through workshops, field days and personal interaction. Demonstration farms were established in the watershed to evaluate BMP implementation, and a mentor group was established leveraging local knowledge and peer support for BMP implementation. An incentive and education program was developed. All these activities lead to over 3,700 acres managed with new BMPs and more acres are awaiting NRCS approval. Because of the way these activities complement each other they will all be continued in phase two.

Through the combination of education payments and practice implementation payments strategies the BCWP will target all acres in the watershed. The watershed coordinator will assist individual landowners and producers in the Bow Creek Watershed priority areas in enrolling in education and practice implementation payments and/or cost-share programs and to implement targeted BMPs. Priority areas include: Stream corridors, 101701011004 – Lower West Bow Creek, 101701011107 – Lower Bow Creek, 101701011102 – Norwegian Bow Creek, 101701011106 – Middle Bow Creek, and 101701011105 – Outlet East Bow Creek. This will be accomplished by meeting with/interviewing up to 60 producers one-on-one and creating opportunities for farmers to learn from each other.

A substantial component of the Bow Creek Watershed Project (BCWP) is the use of BMPs to improve water quality. In Phase Two BCWP conservation contracts will be offered to increase BMP implementation on up to 3,325 acres in the priority area supported with Section 319 funds. The BCWP incentive program is structured in a way that increases the payment producers receive for implementing more than one soil and water conserving practice up to 90% cost-share. Producers who implement priority BMPs are eligible to receive an incentive payment that, along with cost-share payments from other conservation contracts, will bring their total cost-share up to 90% of USDA estimated expenses. They are required to complete 6 clock-hours of education to receive full payment.

Practices targeted for phase two include: no-till/minimum till, cover crops, nutrient management with or without manure management, small grain rotations/conservation crop rotation, CRP, livestock exclusion from stream corridors, buffer/filter strips, prescribed grazing, irrigation water management, and soil health management. These practices were identified in the WQMP as practices that improve water quality and the ones most likely to be implemented by area producers during the community planning phase of the watershed-based planning process. Other practices listed may also be cost-shared as they are identified in the LCNRD WQMP. Septic system upgrades are also targeted practices in the priority area. Applying BMPs on 3,325 acres is anticipated to reduce *E. coli* by 90,432 billion CFUs, phosphorus by 4,187 pounds, nitrogen by 19,453 pounds, and sediment by 2,247 tons.

To increase producer knowledge about the benefits of BMPs and encourage their adoption, the BCWP will establish new demonstration farms and host local education events including field days and workshops. Producer feedback will determine topics for these activities.

BMP adoption for water quality practices is low in the watershed area. As more acres are managed with BMPs successfully in the watershed, more producers will become interested in trying them. Demonstration farms in phase one have highlighted challenges that need to be addressed when adopting new BMPs. New demonstration farms will be key to highlighting successful implementation of BMPs throughout the entire watershed. Three to five phase two demonstration farms will be developed. There is currently an interest in using farm-made compost to replace commercial fertilizer. This idea may be implemented on demonstration farms. Other demonstration farms may include identified BMPs, evaluating effectiveness of implemented practices, or trying innovative ways to incorporate practices. New BMP have been approved by USDA after they have been demonstrated by innovative farmers. Farmers interested in participating in demo farms will decide on what to demonstrate, pending approval by LCNRD. LCNRD may work with technical advisory team and soil health specialist at UNL and NRCS to support demonstration farms. Demonstration farms may host workshops or field days during phase two of the BCWP to share knowledge gained in implementing the practices.

To increase producer confidence of successful BMP implementation, mentoring groups and expanded technical assistance will be developed. Networking between farmers can be a powerful influence on conservation practice adoption. To that effect, the mentoring program from phase one will be continued. The mentoring program from phase one included innovative

producers who are already implementing soil health systems that improve water quality and producers who are starting to adopt soil health systems. Mentors were identified by NRCS and LCNRD staff and other innovative producers. More producers will be invited to participate in mentor meetings during phase two. These peer-to-peer mentoring meetings help leverage the expert knowledge of local farmers to support adoption of BMPs in Bow Creek. Guest speakers are invited to these meetings to discuss innovative farming /ranching ideas that may not appeal to the average farmer or conventional crop consultant / agronomist. These guest speakers usually charge a speaking fee and travel expenses, so this is reflected in the budget. Because mentors are interested in innovative ideas they find it necessary to travel to regenerative ag conferences and eco-agriculture events to learn about new ideas and find like-minded farmers to network with and learn from. Popular events held outside the state of Nebraska include ACRES USA, National No-till, No-till On the Plains, High Plains No-Till, South Dakota Soil Health Coalition, and Practical Farmers of Iowa the Regen Nexus previously offered in Nebraska is also a popular event. Supporting the professional development of our innovative mentor farmers is in the best interest of the program because they interact with and influence more local farmers over the course of a year than the program coordinator can by themselves.

Producer interviews have indicated a lack of regenerative/soil health knowledge and technical assistance available as a barrier to adoption of BMPs. Working in partnership with others (that may include local, state, national, and international soil health, cover crop, and agroecology specialists, local farmers and local agency personnel) a technical assistance curriculum for agriculture professionals, mentors, landowners, and producers will be developed. This curriculum will be designed to deepen the knowledge of BMP benefits to water quality, soil health, sustainability, productivity, and profitability, and how to support producers in successful implementation of BMPs. The curriculum will be designed using sequenced lesson modules that build off each other with a focus on ecosystem processes and soil health as they relate to land management. The modules will be presented to participants in a way that meets their needs and may include all-day sessions, short weekly sessions, or alternative methods identified by the attendees.

Before producers can imagine how BMPs will perform on their farms they need to be exposed to the idea. Understanding the basic function of the practice along with implementation experiences from trusted sources is important. Field days and workshops in the first phase of the project were popular with local producers for these reasons and should be continued in the second phase. One field day and four workshops will be planned and hosted annually for landowners and producers in the watershed to better inform them about how the target BMPs work, how to implement them, and how to maintain them once installed. The workshops will also educate the participants about the impact of the targeted BMPs on water quality, soil health, sustainability, productivity, and/or profitability. A post-event survey will evaluate the effectiveness of the program and gauge interest of workshop participants in implementing the BMPs addressed in the workshop.

UNL agronomy capstone students will visit the watershed annually and create farm improvement plans that will address farm profitability and water quality for 2-4 farms (dependent on student enrollment numbers).

Other I & E activities include promoting the project and highlighting project accomplishments through a dedicated web page, local news media, and social media. The dedicated web page will be updated quarterly at a minimum. Press releases will be submitted to local media at least once per year. A minimum of twelve social media posts will be created. Promotional items to be given away will help promote the program.

To highlight conservation activities and bring attention to the Bow Creek Watershed Project, metal signs will be created and installed on farms where conservation practices are implemented. Farms implementing conservation practices will have the opportunity to have the sign customized with their farm name. These signs will foster conversations between farmers.

6.1.a Goals, Objectives, and Tasks

This project supports both the 2021 State NPS management plan and the 2019 LCNRD WQMP.

2021 State NPS management plan (Goal 1/Objective 3 and Goal 2/Objective 2) in implementing a watershed project to restore impaired waters and providing targeted education to specific audiences. The following tasks will be accomplished to address the goals and objectives of the LCNRD WQMP.

GOAL 1: Implementation of the LCNRD WQMP will result in attainment of water quality standards through comprehensive and collaborative actions that efficiently and effectively restore and protect water resources from degradation and impairment by nonpoint source pollution.

Objective 1: Actions for management of nonpoint source pollution will be based on sound data and effective directing of resources.

- Task 1: Review and amend the WQMP at least every five years to update, at a minimum, the milestones and schedule for implementation. See 6.8.a Budget, Item C1; 6.4 Schedule, Task 1.

Objective 2: Strong working partnerships and collaboration among appropriate local, state, and federal agencies, and non-governmental organizations, will be established and maintained regarding management of nonpoint source pollution.

- Task 1: Maintain dedicated staff and personnel support to facilitate the Bow Creek Watershed Project. See 6.8.a Budget, Item P1, P2; 6.4 Schedule, Task 2.
- Task 2: Host monthly Technical Advisory Committee meetings with partner agencies for the Bow Creek Watershed Project. See See 6.8.a Budget, Item P3; 6.4 Schedule, Task 3.

Objective 3: Comprehensive and systematic strategies will be employed to restore and protect natural resources from nonpoint source pollution and to communicate nonpoint source information.

- Task 1: Continue implementation of and review criteria for project plans that implement actions outlined in the WQMP. See 6.8.a Budget, Item P1, P2, P3; 6.4 Schedule, Task 4.

- Task 2: Support implementation of BMPs on 3,325 acres in priority areas, that restore and protect natural resources, reduce pollution of water resources, and lead to delisting of impaired waters by
  - See 6.8.a Budget, Item P1-2, S1-9, O1, E1-2; 6.4 Schedule, Task 5.
  - Task 3: Support implementation of three septic system upgrades within the Bow Creek Watershed Project area. See 6.8.a Budget, Item O1; 6.4 Schedule, Task 6.

Objective 4: The status, effectiveness, and accomplishments of projects and activities directed toward management of water resources will be continually assessed and periodically reported to appropriate audiences.

- Task 1: Track and assess conservation and outreach activities quarterly to assure that restoration and protection of natural resources, and distribution of project information, are adequately addressed in a timely manner. See 6.8.a Budget, Item P1, P2; 6.4 Schedule, Task 7.
- Task 2: Conduct progress and financial reviews of grant-funded implementation projects semi-annually. See 6.8.a Budget, Item P1, P2, P3; 6.4 Schedule, Task 8.
- Task 3: Summarize accomplishments, successes, and recommendations for further actions in implementing the WQMP in annual project reports. See 6.8.a Budget, Item P1, P2, P3; 6.4 Schedule, Task 9.
- Task 4: Summarize accomplishments and recommendations for further actions in implementing the WQMP in final project report. See 6.8.a Budget, Item P1, P2, P3; 6.4 Schedule, Task 10.

GOAL 2: Resource managers, public officials, community leaders, and private citizens will understand the effects of human activities on water quality and support actions to restore and protect water resources from impairment by nonpoint source pollution. (WQMP & state plan)

Objective 1: Tools to effectively transfer knowledge and facilitate actions regarding management of natural resources will be developed, improved, and maintained.

- Task 1: Develop and deliver a technical assistance training curriculum for ag professionals, mentors, landowners, and producers in the project area. See 6.8.a Budget, Item P1-3, T1, T3, S4, S6; 6.4 Schedule, Task 11, 12.
- Task 2: Develop and distribute audience-specific materials to inform and engage community leaders, local media, youth, educators, and other defined audiences

regarding natural resources management yearly through press releases or print articles which may include:
    - 15 BMP / BCWP signs See 6.8.a Budget, Item P1, P2, T1, S7; 6.4 Schedule, Task 13.
    - 3 articles / press releases / flyers /etc. See 6.8.a Budget, Item P1, P2, S7; 6.4 Schedule, Task 14.
- Task 3: Host four workshops annually to promote the goals and objectives of the WQMP, assist key audiences in participating in conservation programs and activities, and serve as knowledgeable ambassadors to inform and educate landowners about natural resources management in their watershed. See 6.8.a Budget, Item P1, P2, P3, T1, T4, S1, S5, C2; 6.4 Schedule, Task 15.
- Task 4: Host one BMP field day annually to promote the goals and objectives of the WQMP and highlight the benefits of BMP adoption for water quality and farm profitability. See 6.8.a Budget, Item P1, P2, P3, T1, T5, S2, S5, S8, C3; 6.4 Schedule, Task 16.
- Task 5: Continue to develop three to five new BMP demonstration farms in the project area. See 6.8.a Budget, Item P1, P2, P3, E1, S3, S5; 6.4 Schedule, Task 17.
- Task 6: Continue to support and expand peer mentor networking to increase capacity and confidence to adopt BMPs. See 6.8.a Budget, Item P1, P2, P3, T1, T2, S5, S9; 6.4 Schedule, Task 18.
- Task 7: Provide technical assistance through UNL Agronomy Capstone Course to three farms annually. See 6.8.a Budget, Item P1, P2, P3, T1, T6; 6.4 Schedule, Task 19.
- Task 8: Provide technical assistance through the creation of two soil health management plans. See 6.8.a Budget, Item P1, P3, T1, S5; 6.4 Schedule, Task 20.

Objective 2: Utilize the existing communication networks and websites to publish information and ongoing WQMP activities.

- Task 1: Communicate with resource managers, public officials, community leaders, and private citizens through the following networks:
    - 12 social media posts See 6.8.a Budget, Item P1, P2, P3, S5; 6.4 Schedule, Task 21.
    - 1 webpage, updated quarterly See 6.8.a Budget, Item P1, P2, P3, S5; 6.4 Schedule, Task 22.

Objective 3: Producers in the BCWP area will be contacted personally to discuss resources concerns, technical assistance needs, BMP planning and program participation.

- Task 1: Staff will schedule and hold 1:1 meetings/interviews with up to 60 producers in the priority area. See 6.8.a Budget, Item P1, T1, S5; 6.4 Schedule, Task 23.
- Task 2: Purchase a no-till grain drill and make available for use in the Bow Creek Watershed area. See 6.8.a Budget, Item P1, P2, P3, E1, E2; 6.4 Schedule, Task 24.

GOAL 3: The water, land, and biological resources in the WQMP Area will be healthy, productive, and sustainable.

Objective 1: Reservoirs, streams, and groundwater resources will meet or exceed levels of quality and quantity necessary to serve the needs of the citizens in the WQMP Area.

- Task 1: Promote conservation practices and activities that sufficiently reduce pollutant loads to restore or protect designated beneficial uses of surface water resources and local groundwater/drinking water sources on 5,000 acres within the project area. (All 6.8.a: Budget, Items and All 6.4 Schedule, Tasks)

Objective 2: The land and stream resources in the watersheds of the WQMP Area will be stable and productive.

- Task 1: Coordinate with other agencies to promote agricultural conservation practices and activities that improve soil health, reduce erosion, increase organic matter, and improve soil structure on 3,325 acres within the priority area). (All 6.8.a Budget, Items and All 6.4 Schedule, Tasks).

Objective 3: The riparian corridors along streams and tributaries within the WQMP Area will support a natural community of flora and fauna that is healthy and productive.

- Task 1: Promote practices and activities that provide riparian zone and stream habitats with appropriate cover, structure, and substrate to support appropriate aquatic and terrestrial species on 50 acres within the project area. (All See 6.8.a Budget, Items and All 6.4 Schedule, Tasks.

6.2 Proposed Management Practices
Element 2

6.2.a Description of Practices

The following proposed management practices were identified in the WQMP as priority practices to address the water quality impairments in the Bow Creek watershed:

- Nutrient Management
- Manure Application
- Land Use Changes
- Irrigation Management
- Soil Health Management
- Grazing Management

- Livestock Exclusion
- No-Till/Cover Crops
- Filter/Buffer Strips
- Septic System Upgrades

Practices identified in the 2019 WQMP to reduce E. coli bacteria that were not identified as priority practices may also be cost-shared and are shown below:

- Contour Farming
- WASCOBs
- Grassed Waterways
- Sediment Control Basins
- Constructed Wetlands
- Waste Water Treatment / Runoff Control (uncontrolled feedlots)
- Stream Bank Stabilization
- Grade Control Structure / In-Stream Weir
- Waste Storage Facility
- Compostin Facility

6.2.b Quantity and Cost Table

Quantity and cost table shows the best estimate of the cost for BMP implementation for phase two.

Table 9: NRCS Contributions to BMP

Practice - Priority Watershed 319 funds used	Units	Number	NRCS Recognized Rate	NRCS Payment 50%	Total Cost
590 Nutrient Management	Acres	1200	$ 38	$ 19	$ 22,800
340 Cover Crops / 329 No-till	Acres	1600	$ 83	$ 42	$ 66,400
328 Small Grain Rotation	Acres	80	$ 24	$ 12	$ 960
CRP	Acres	50	$ 300	$ 150	$ 7,500
Access Control / Livestock Exclusion	Acres	120	$ 97	$ 48	$ 5,802
Buffer Strip / Filter Strips	Acres	35	$ 588	$ 294	$ 10,283
Prescribed Grazing	Acres	120	$ 9	$ 5	$ 547
Soil Health Management	Acres	120	$ 10	$ 5	$ 618
Septic System Upgrade	Each	0	$ -	$ -	$ -
Total		3325			$ 114,910

NRCS payments are based on NRCS EQIP payments covering 50% of recognized costs. Details on the USDA NRCS EQIP and CSP program and USDA FSA program payments at the conclusion of the program may be requested directly from the USDA program offices.

Table 10: BCWP BMP Payments

Practice - Priority Watershed 319 funds used	Units	Number of Acres	NRCS Recognized Rate	BCWP Cost (40%)	Total Cost
590 Nutrient Management	Acres	1200	$ 38	$ 15	$ 18,240
340 Cover Crops / 329 No-till	Acres	1600	$ 83	$ 33	$ 53,120
328 Small Grain Rotation	Acres	80	$ 24	$ 10	$ 768
CRP	Acres	50	$ 300	$ 50	$ 2,500
Access Control / Livestock Exclusion	Acres	120	$ 97	$ 39	$ 4,642
Buffer Strip / Filter Strips	Acres	35	$ 588	$ 235	$ 8,226
Prescribed Grazing	Acres	120	$ 9	$ 4	$ 438
Soil Health Management	Acres	120	$ 10	$ 3	$ 360
Septic System Upgrade	Each	3	$ 4,800	$ 4,800	$ 14,400
Total		3325			$ 102,693

Predicting how many BMP funds are needed is a challenge. With producer payments being dependent on producers' willingness to submit an application to USDA and then the the uncertanty as to the USDA's ability to fund the application it is hard to estimate how many BMP funds will be needed. These practice payment rates are based on USDA 2024 recognized rates. NRCS usually pays 50% of the recognized rates so the BCWP payment is based on paying 40% of the regognized rates to bring producers to the 90% cost-share rate.

Table 11: Producer In-kind Contributions

Practice - Priority Watershed 319 funds Used	Units	Number	NRCS Recognized Rate	Proucer 10%	Total Cost
590 Nutrient Management	Acres	1200	$ 38	$ 4	$ 4,560
340 Cover Crops / 329 No-till	Acres	1600	$ 83	$ 8	$ 13,280
328 Small Grain Rotation	Acres	80	$ 24	$ 2	$ 192
CRP	Acres	50	$ 300	$ 30	$ 1,500
Access Control / Livestock Exclusion	Acres	120	$ 97	$ 10	$ 1,160
Buffer Strip / Filter Strips	Acres	35	$ 588	$ 59	$ 2,057
Prescribed Grazing	Acres	120	$ 9	$ 1	$ 109
Soil Health Management	Acres	120	$ 10	$ 1	$ 124
Septic System Upgrade*	Each	3	$ 5,333	$ 533	$ 1,600
Total		3325			$ 24,582

Producer in-kind contributions are based on 10% cost of BMP implementation at the current NRCS cost-share rate plus another

6.2.c Load Reduction Table
Element 3

Table 12: Estimated Load Reductions for the Bow Creek Watershed

Priority Area	Proposed	Modeled Annual Load Reduction			
BMP	Acres	E. coli (billion cfu)	Phosphorus (lbs.)	Nitrogen (lbs)	Sediment (Tons)
Nutrient Management with Manure	1200	38,369	2,283	5,309	0
Cover Crops / No-till	1600	15,170	1,278	9,632	2,008
Small Grain Rotations	80	475	60	367	10
CRP	50	1,643	207	2,310	88
Livestock Exclusion	120	26,833	48	215	0
Buffers/Filter Strips	35	442	26	61	18
Presecribed Grazing	120	390	86	460	23
Soil Health Management	1	1,500	200	1,100	100
Septic System Upgrade	3 each	5,610	0	0	0
Total	3325 acres	90,432	4,187	19,453	2,247

6.3 Information and Education
Element 4

The watershed coordinator will assist individual landowners and producers in the Bow Creek Watershed (HUC-8 10170101) in enrolling in the BCWP program and implement targeted BMPs. This will be accomplished by meeting with up to 60 producers one-on-one and creating opportunities for farmers to learn from each other through the mentoring program, field days and workshops.

One field day and four workshops will be planned and hosted annually for landowners and producers in the watershed to better inform them about stream impairments, how the target BMPs work, how to implement them, and how to maintain them once installed. The workshops may also educate the participants about the impact of the targeted BMPs on water quality, soil health, sustainability, productivity, and profitability. A post-event survey will evaluate the effectiveness of the program and gauge interest of workshop participants in implementing the BMPs addressed in the workshop.

Working in partnership with local and state agencies a technical assistance curriculum for agronomists, crop advisors, mentors, landowners, and producers will be developed. This curriculum will be designed to deepen the knowledge of BMP benefits to water quality, soil health, sustainability, productivity, and profitability, and how to support producers in successful implementation of BMPs. In 2026 this curriculum will be facilitated to agronomists, crop advisors, mentors, landowners, and producers.

UNL agronomy capstone students will visit the watershed annually and create farm improvement plans that will address farm profitability and water quality for 3-5 farms. Students will visit the watershed in August before the semester starts and spend time with participating farmers/ranchers to understand the farm operation, current challenges, and explore potential opportunities. Throughout the fall semester the students will work closely with their assigned farmer/rancher and other support personnel (such as staff from NRCS, FSA, NGPC, UNL

Extension, LCNRD, local banks, agronomists/crop advisors/cattle nutritionist, and/or mentor farmers) to develop suggestions for the farm. These suggestions will be presented in a printed report given to the producer and students will present their plans to the producers and interested parties at the end of the semester.

Other I & E activities include promoting the project and highlighting project accomplishments through a dedicated web page, local news media, and social media. The dedicated web page will be updated quarterly at a minimum. Press releases will be submitted to local media at least once per year. A minimum of twelve social media posts will be created.

To highlight conservation activities and bring attention to the Bow Creek Watershed Project, metal signs will be created and installed on farms where conservation practices are implemented. Farms implementing conservation practices will have the opportunity to have the sign customized with their farm name. These signs will foster conversations between farmers.

Networking between farmers can be a powerful influence on conservation practice adoption. To that effect, the mentoring program will be continued, and more producers will be invited to participate in those meetings. Mentor program participants are identified by NRD and partner agency staff, or other mentor group participants. Mentor group meetings held locally may include daytime or even meetings or field visits to see innovative practices. These events may range from partial to full day in length depending on the topics identified by the group. Regional farm tours are a great opportunity to invite new members into the group while supporting networking and professional development of mentor group members. Supporting the professional development of our innovative mentor farmers is in the best interest of the program because they interact with and influence more local farmers over the course of a year than the program coordinator can by themselves.

Demonstration farms within the project area are powerful tools for producers to learn from others. Three to five demonstration farms will be established in the project area and will be featured during field days and/or workshops. These demonstration farms will implement innovative practices to address water quality concerns. These practices will be identified by the farmers in the project area and may be supported by NRD and UNL Extension staff.

Feedback from regional soil health programs indicated producers found value in doing observational soil evaluations and using that information to complete individual soil health management plans. Staff or mentors will assist up to three producers in the watershed in completing soil evaluations and soil health management plans.

6.4 Schedule

Table 13: Element 5 - Timeline for Implementation of Project Tasks

Goal Cross Ref. #	Budget Cross Ref. #	Task #	Task	2024		2025				2026				2027	
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
G1.1.1	C1	1	Update LCNRD QWMP.					x	x	x	x				
G1.2.1	P1, P2	2	Maintain dedicated staff and personnel support to implement PIP.	x	x	x	x	x	x	x	x	x	x	x	x
G1.2.3	P3	3	Host monthly Technical Advisory Committee meetings with partner agencies for the Bow Creek Watershed Project.	x	x	x	x	x	x	x	x	x	x	x	x
G1.3.1	P1, P2, P3	4	Continue implementation of and review criteria for project plans that implement actions outlined in the WQMP.	x				x				x			
G1.3.2	P1, P2, P3, E1, E2, S1-9, O1	5	Support implementation of BMPs on 5,000 acres withing the Bow Creek Watershed Project area.	x	x	x	x	x	x	x	x	x	x	x	x
G1.3.3	P1, P2, O1	6	Support implementation of three septic system upgrades within the Bow Creek Watershed Project area.	x	x	x	x	x	x	x	x	x	x	x	x
G1.4.1	P1, P2, P3	7	Track and assess conservation and outreach activities quarterly	x	x	x	x	x	x	x	x	x	x	x	x
G1.4.2	P1, P2, P3	8	Submit 6 Semi-Annual Reports to NDEE.	x		x		x		x		x		x	
G1.4.3	P1, P2, P3	9	Submit 3 Annual Reports to NDEE.	x				x				x			
G1.4.4	P1, P2, P3	10	Submit 1 Final Report to NDEE.												x
G2.1.1	P1-3, T, T6, S9	11	Increase technical assistance by developing a training curriculum for ag professionals, mentors, landowners, and producers.	x	x	x	x	x	x	x	x	x	x	x	x
G2.1.1	P1-3, T, T6, S9	12	Increase technical assistance by facilitating a training curriculum for ag professionals, mentors, landowners, and producers.						x	x	x	x	x		
G2.1.2	P1, P2, T1, S7	13	Develop and distribute 15 BCWP signs to producers implementing BMPs				x				x				x
G2.1.2.	P1, P2	14	Submit 3 articles for the general public promoting BCWP activities.				x				x				x
G2.1.3	P1, P2, T1, T4, S1, S5, C2	15	Host four (4) workshops per year to increase knowledge of BMP benefits and implementation strategies.		x	x			x	x			x	x	
G2.1.4	P1, P2, T1, T5, S2, S5, S8, C3	16	Host one BMP field day per year.	x				x				x			
G2.1.5	P1, P2, E1,S3, S5	17	Continue to develop BMP three demonstration farms in the project area.	x	x	x									
G2.1.6	P1, P2, T1,T2,S5, S9	18	Continue to support and expand peer mentor networking.			x				x				x	
G2.1.7	P1, P2, T1, T6	19	Provide technical assistance through UNL Agronomy Capstone Course to three farms annually.			x				x				x	
G2.1.8	P1, T1, S5	20	Increase technical assistance by developing three soil health management plans.			x				x				x	
G2.2.1	P1, P2, S5	21	Create 12 social media posts to promote BCWP	x	x	x	x	x	x	x	x	x	x	x	x
G2.2.1	P1, P2, S5	22	Maintain website with producer resources.	x	x	x	x	x	x	x	x	x	x	x	x
G2.3.1	P1, T1, S5	23	Personal contact and BMP planning with 60 producers in the project area	x	x	x	x	x	x	x	x	x	x	x	x
G1.3.2	E1, E2	24	Purchase a no-till grain drill and make available for use in the Bow Creek Watershed area at no charge.			x	x								

6.5 Milestones
Element 6

Table 14: Percent Completion of Project Tasks

Goal Cross Ref. #	Budget Cross Ref. #	Task #	Task	2024		2025				2026				2027	
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
				* Percent Completion of Project Tasks											
G1.1.1	C1	1	Update LCNRD QWMP.					25	50	75	100				
G1.2.1	P1, P2	2	Maintain dedicated staff and personnel support to implement PIP.	8	16	24	32	40	48	56	64	72	80	88	100
G1.2.3	P3	3	Host monthly Technical Advisory Committee meetings with partner agencies for the Bow Creek Watershed Project.	8	16	24	32	40	48	56	64	72	80	88	100
G1.3.1	P1, P2, P3	4	Continue implementation of and review criteria for project plans that implement actions outlined in the WQMP.	40				65				100			
G1.3.2	P1, P2, P3, E1, E2, S1-9, O1	5	Support implementation of BMPs on 5,000 acres withing the Bow Creek Watershed Project area.	8	16	24	32	40	48	56	64	72	80	88	100
G1.3.3	P1, P2, O1	6	Support implementation of three septic system upgrades within the Bow Creek Watershed Project area.	8	16	24	32	40	48	56	64	72	80	88	100
G1.4.1	P1, P2, P3	7	Track and assess conservation and outreach activities quarterly	8	16	24	32	40	48	56	64	72	80	88	100
G1.4.2	P1, P2, P3	8	Submit 6 Semi-Annual Reports to NDEE.	17		34		50		67		85		100	
G1.4.3	P1, P2, P3	9	Submit 3 Annual Reports to NDEE.	33				66				100			
G1.4.4	P1, P2, P3	10	Submit 1 Final Report to NDEE.												100
G2.1.1	P1-3, T, T6, S9	11	Increase technical assistance by developing a training curriculum for ag professionals, mentors, landowners, and producers.	8	16	24	32	40	48	56	64	72	80	88	100
G2.1.1	P1-3, T, T6, S9	12	Increase technical assistance by facilitating a training curriculum for ag professionals, mentors, landowners, and producers.						20	40	60	80	100		
G2.1.2	P1, P2, T1, S7	13	Develop and distribute 15 BCWP signs to producers implementing BMPs				33				66				100
G2.1.2.	P1, P2	14	Submit 3 articles for the general public promoting BCWP activities.				33				66				100
G2.1.3	P1, P2, T1, T4, S1, S5, C2	15	Host four (4) workshops per year to increase knowledge of BMP benefits and implementation strategies.		17	34			51	68			85	100	
G2.1.4	P1, P2, T1, T5, S2, S5, S8, C3	16	Host one BMP field day per year.	33				66				100			
G2.1.5	P1, P2, E1,S3, S5	17	Continue to develop three BMP demonstration farms in the project area.	33	66	100									
G2.1.6	P1, P2, T1,T2,S5, S9	18	Continue to support and expand peer mentor networking.			33				66				100	
G2.1.7	P1, P2, T1, T6	19	Provide technical assistance through UNL Agronomy Capstone Course to three farms annually.		33				66				100		
G2.1.8	P1, T1, S5	20	Increase technical assistance by developing three soil health management plans.			33				66				100	
G2.2.1	P1, P2, S5	21	Create 12 social media posts to promote BCWP	8	16	24	32	40	48	56	64	72	80	88	100
G2.2.1	P1, P2, S5	22	Maintain website with producer resources.	8	16	24	32	40	48	56	64	72	80	88	100
G2.3.1	P1, T1, S5	23	Personal contact and BMP planning with 60 producers in the project area	8	16	24	32	40	48	56	64	72	80	88	100
G1.3.2	E1, E2	24	Purchase a no-till grain drill and make available for use in the Bow Creek Watershed area at no charge.			50	100								

6.6 Evaluation Criteria
Element 7

- The project coordinator will report quarterly the name and number of contacts made with landowners and producers to the NRD to be included in semi-annual reports.
- Special events (workshops, field days, training, etc.) will be reported as completed on semi-annual reports.
- Pre- and post-program surveys will be conducted to evaluate if educational goals are reached and if behavior changes will be made. Attendance numbers and target audience will be reported.
- Written farm plans will be submitted to the project coordinator by UNL Capstone class and reported on annual and semi-annual reports.
- Demonstration Farm establishment will be tracked through written contracts and verification forms.
- Mentor group establishment will be tracked with attendance records at mentoring meetings and end of project survey.
- Development of technical assistance training program progress will be reported on annual reports.
- Facilitation of technical assistance training program will be documented with attendance records and reported on annual reports.
- Project coordinator will report progress of soil health management plan creation on annual reports.
- Recognition signs will be reported on semi-annual and annual reports.
- Updated WQMP will be submitted to NDEE and reported on annual reports.
- The creation of website publications, newspaper publications, and social media posts will be tracked and reported on annual reports.
- The District Manager will perform an annual performance review of staff, evaluating if they are meeting all the expressed duties that were expressed in the position prior to hiring.
- BMP installation will be reported quarterly and included in the semi-annual report.

6.7 Water Quality Monitoring
Element 8

It is anticipated that there will be regular internal meetings regarding the implementation of water quality monitoring for this project. Water quality monitoring will be conducted at 12 sites through a separate project to assess previous project impact and to calibrate predictive models for future targeting. NRD staff and supervised volunteers will collect samples as deemed necessary.

6.8 Budget & Budget Narrative
Element 9

6.8.a Budget

Table 15: Estimated Project Budget

Item		Secton 319	NET Matching Funds	NET funds not counted as Match	**LCNRD Matching Funds	LCNRD funds not counted as match	WSF used as match	WSF Not used as match	***NGPC	***UNL	^UNL Extension	^Producers	NRCS**	Total
	Personnel	$ 202,000	$ 90,000		$ 20,000			$ -	$ 3,000	$ 7,700	$ 6,364	$ -		$ 329,064
P1	*Project Coordinator*	*$ 202,000*	*$ 90,000*		*$ 10,000*	*$ 5,000*								$ 307,000
P2	*NRD Supprt and Administrative Staff*				*$ 10,000*	*$ 5,523*								$ 15,523
P3	*Partner Personnel Support*								*$ 3,000*	*$ 7,700*	*$ 6,364*			$ 17,064
	Travel	$ 10,000	$ -		3000	$ 15,413		$ 27,619	$ -	$ 3,000	$ -	$ -	$ -	$ 59,032
T1	*Domestic Travel & conferences*	*$ 5,000*			1000	*$ 1,000*		*$ 3,000*						$ 10,000
T2	*Mentor Travel*	*$ 4,000*			*$ 2,000*	*$ 693*		*$ 4,039*						$ 10,732
T3	*TA Training Curriculum*	1000				*$ 960*		*$ 1,440*						$ 3,400
T4	*Workshops*					*$ 3,360*		*$ 5,040*						$ 8,400
T5	*Field Day*					*$ 4,200*		*$ 6,300*						$ 10,500
T6	*UNL Technical Assistance*					*$ 5,200*		*$ 7,800*		*$ 3,000*				$ 16,000
	Equipment			$ 100,000		$ 6,000								$ 106,000
E1	*Grain Drill*			*$ 100,000*										
E2	*Insurance (NRD)*					*$ 6,000*								
	Supplies Materials	$ 17,000	$ 4,000		8000	$ 17,140	$ 7,000	$ 30,710	$ -	$ -	$ -	$ 4,500	$ -	$ 88,350
S1	*Workshop supplies*	*$ 2,000*			2000	*$ 2,640*	*$ 2,000*	*$ 4,960*						$ 13,600
S2	*Field day supplies*	*$ 1,000*			1000	*$ 2,400*	*$ 2,000*	*$ 3,100*				*$ 4,500*		$ 14,000
S3	*Demo Farm Supplies*	*$ 5,000*			1000	*$ 2,900*		*$ 5,850*						$ 14,750
S4	*TA Training Curriculum Facilitation*	*$ 2,000*				*$ 800*		*$ 1,200*						$ 4,000
S5	*General supplies and promotional*	*$ 5,000*			4000	*$ 3,200*	*$ 3,000*	*$ 7,800*						$ 23,000
S6	*TA Training Curriculum Development*	*$ 2,000*	*$ 2,000*			*$ 400*		*$ 600*						$ 5,000
S7	*Signs*					*$ 2,400*		*$ 3,600*						$ 6,000
S8	*Field day field prep*					*$ 600*		*$ 900*						$ 1,500
S9	*Mentor payments*		*$ 2,000.00*			*$ 1,800*		*$ 2,700*						$ 6,500
	Contractual	$ 11,000	$ 18,000		7000	$ 15,520		$ 29,780	$ -	$ -	$ -	$ -	$ -	$ 81,300
C1	*WQMP Updates*	*$ 5,000*			4000	*$ 4,000*		*$ 8,000*						$ 21,000
C2	*Workshop speakers*	*$ 3,000*	*$ 3,000*			*$ 1,920*		*$ 2,880*						$ 10,800
C3	*Field day speakers*	*$ 3,000*	*$ 5,000*			*$ 3,600*		*$ 5,400*						$ 17,000
C4	*Demo Farm Contracts*		*$ 10,000.00*		3000	*$ 6,000*		*$ 13,500*						$ 32,500
	Other	$ 60,000		$ 38,000	$ 12,000	$ 7,320	$ 31,000	$ 8,800	$ 3,000	$ -	$ -	$ 24,582	$ 114,910	$ 299,612
O1	*BMP Implementation*	*$ 60,000*		*$ 38,000*	*$ 12,000*	*$ 7,320*	*$ 31,000*	*$ 8,800*	*$ 3,000*			*$ 24,582*	*$ 114,910*	$ 299,612
	Totals													
	2024 319 PIP Budget Total with 319 match	$ 300,000	$ 112,000		$ 50,000		$ 38,000						$ 114,910	$ 614,910
	Project Total including funds not used as match for 319	**$ 300,000**	**$ 112,000**	**$ 138,000**	**$ 50,000**	**$ 61,393**	**$ 38,000**	**$ 96,909**	**$ 6,000**	**$ 10,700**	**$ 6,364**	**$ 29,082**	**$ 114,910**	**$ 963,358**

Match funds will be generated from NET, LCNRD and WSF
Other Federal Funds will be generated through USDA – EQIP and USDA – FSA (CRP) Payments.

Other Non-federal funds will come from NET, LCNRD, WSF, NGPC, UNL, UNL Extension and producers.

6.8.b Budget Narrative

The following budget narrative only includes narratives for categories 319 funds are used for.

Personnel

- P1 - The cost is based on one full time program coordinator with an annual salary of $58,240 plus benefits $43,937.04 ($40,442.64 insurance an 6% retirement of $3,494.40) for 40 hours per week for 52 weeks per year for three years with a 3% increase each year. Job duties include:
    - Completing all paperwork including grant writing, budgeting, quarterly invoicing to grant entities, and quarterly and annual grant reports.
    - Planning and facilitating workshops, field days, mentor meetings and other educational events for producers, landowners and other agriculture support partners.
    - Direct outreach to support producers in implementing BMPs in the priority area.
    - Will be involved in every task of the BCWP.

- P2 – Support and administrative staff costs over three years. This in-kind match includes:
    - $7,949.27 for General Manager, Annette Sudbeck, 5% annual salary of $111,280 and benefits of $47,685.36 ($41,008.56 insurance and 6% retirement $6,676.80). Job duties include conducting oversight of the program making sure it aligns with LCNRD priorities and evaluating the Bow Creek Watershed Coordinator. The General Manager will have input on all aspects and activities of the BCWP.
    - $3,057.63 for Kristi Hochstein, Office Coordinator, 5% annual salary of $44,408.00 and benefits of $16,744.56 ($14,080.08 insurance and 6% retirement of $2,664.48). Job duties include entering all receipts into the general business ledger, preparing checks and presenting to LCNRD Board, payroll services, and support educational events by coordinating catering and facility rental.
    - $4,517.34 Reed Trenhaile, Information and Education Technician, 5% annual salary of $47,216 plus benefits $43,130.76 ($40,297.80 insurance and 6% retirement of $2832.96). Job duties include creating print ads for the educational events, coordinating the ad runs in local newspapers, creating social media posts and submitting articles on BCWP activities to the newspapers, assisting with curriculum formatting and printing, etc.

- P3 -Personnel Support is based on NGPC, UNL and UNL Extension salary and time spent attending advisory meetings and directly supporting producers over three years, this may include activities such as:
    - attending technical advisory board meetings at least monthly.
    - Supporting community outreach by providing information about the Bow Creek cost-share program, participating in producer education events, school outreach activities, etc.
    - Providing technical services to producers implementing practices.

Travel

- T1 -Domestic travel cost is based miles at the government rate for travel to contact landowners and producers; costs for BCWPC to attend local meetings and outreach events based on phase one milage; and event registration and travel costs to professional development events for BCWC and mentors in phase one. UNL travel costs and event speaker costs are estimated from prior similar activities in phase one.
- T2 - Mentor travel is based on travel within and outside the BCWP area at the federal rate, professional development / conference registrations between $150 and $400 per person per year, hotels at the federal per night rate, and milage rates for extended farm tours, and speaker travel expenses.
- T3 - Travel for TA training curriculum is based on 12 planning meetings with 10 collaborators including milage for travel to in-person meetings at $0.65. (Lincoln to Hartington 300 miles round trip $195, Bladen to Hartington 400 miles round trip$260).
- T4 - Workshop speaker travel is estimated at 4 events per year x two speakers x $200 each per year.
- T5 - Field Day speaker travel is estimated at 1 event per year x two speakers x $1250-1500 each per year.
- T6 - UNL Capstone Course travel expenses for three years are based on previous years' costs of three day trip including hotel rooms and mileage at government rate (currently $109 night and $0.67) for a group of 20-25 students and teachers. Student class fees will pay for a portion of the trip.

Equipment

- E1 - The purchase of a no-till grain drill to be made available at no charge per acre for use in the Bow Creek Watershed Project for conservation crop rotations and cover crops.
- E2 - Purchase of insurance for a no-till grain drill is required by the Nebraska Environmental Trust grant.

Supplies

- S1 – General Supplies: A portion of the costs for general supplies including but not limited to: BCWP promotional items, ads to promote workshops and field days are based on advertising costs of previous events ($800 radio ads, four papers, for 4 months x $200 per month, for the field day and winter meetings, meeting space rental cost is estimated at 5 x $125 for workshops and field day, annually. Demo farm payments based on phase one expense for three to five demonstration farms annually. Phase one expenses for consumable office supplies, postage, etc. Other funds not listed will also be used to cover these costs.

Field days running until 4:00 PM will provide snacks to producers in the Bow Creek Watershed Project area and are based on $15 per meal and $3 per snack x 100 people per event x 1 event per year. Out-of-the-area registration for field days are based on previous events – 30 attendees paying $50 to cover the costs of meals and materials. Field days are often held at farms in the watershed where farm ground can be easily accessed to evaluate

conservation practices. Because of the rural location of the field day sites and the fact that not all communities have restaurants where attendees could purchase noon meals, attendees may have to travel at least 30 minutes to find a place that served lunch. This would disrupt the facilitation of a continuous learning and networking experience. Therefore, providing noon meals during the networking lunch is incidental to the educational event. It is not provided as part of a social or entertainment event. Other funds not listed will also be used to cover these costs. Per the Office of Grants and Debarment (OGD) Guidance on Selected Items of Cost for Recipients the EPA allows meals and light refreshments at workshops or events.

Reference: Guidance on Selected Items of Cost for Recipients (epa.gov)

5. Meals and light refreshments at conferences. As provided at 2 CFR 200.432, conferences include "a meeting, retreat, seminar, symposium, workshop or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal award." For the purpose of this guidance, the term includes training for individuals who are not recipient employees, community meetings, design charrettes, and similar activities described in the EPA approved work plan and/or budget narrative.

- S3 – A portion of the costs for Demo Farm expenses are estimated for three to five farms for three years, with $1600 expenses for soil and plant testing per year for three years this may including soil mineral, Haney, PLFA, Pox-C, and rDNA for bacteria and fungi. Other expenses may include forage tests, composting supplies, etc.
- S4 – TA Training Curriculum – This cost is estimated on facilitation of the TA training curriculum to crop advisors, agronomists, landowners, producers, and other interested parties consisting of 25 clock hours. This may consist of day-long training days or more frequent shorter duration training tailored to the needs of the group. Meals may be provided at these events depending on the time and duration the event is held. It is expected to cover professional printing and binding after curriculum is developed. Full color wall posters will be provided as references to attendees of the four ecological process and soil health principles. Thumb drives with electronic resources will be provided to the attendees. Household supplies used for hands-on observational soil tests are included in this total.
- S5 – General Supplies and promotional include items to promote the BCWP such as logoed hats, shirts, notebooks, testing kits, etc. It also includes software programs for communication with producers about upcoming events under the equipment funds limit. Ads for program deadlines $800 radio ads, four papers, four 4 months x $200 per month. General office supplies. Misc. office supply cost is estimated from prior similar activities. Other funds not listed will also be used to cover the costs of general supplies.
- S6 – Expenses for developing the training curriculum are estimated for holding twelve day-long meetings the first two years x 10 people x $12 meal = $1400. Purchase copyrighted materials, (published books, photos, etc.) for inclusion in curriculum. Draft printing, revision and editing.
- S7 - Educational and informational signage for demo sites and publication costs are estimated at $600 per sign x 10 signs.
- S8 – Field Day field prep is based on similar events at $500 per year. This includes time for producers to mow trails, dig soil pits, or plant specific crops or mixes.

- S9 - Mentoring program estimated expenses are based on similar activities in phase one. Mentor stipends may be paid for hosting meetings and making presentations. Books and other educational materials may be purchased to expand the knowledge of the mentors. Mentoring meetings are often held at farms in the watershed where farm ground can be easily accessed to evaluate innovative practices. Because of the rural location of the field sites and the fact that not all communities have restaurants where attendees could purchase meals, attendees may have to travel at least 30 minutes to find a place that served lunch. This would disrupt the facilitation of a continuous learning and networking experience. Therefore, providing meals during the mentoring meetings is incidental to the educational event. Two to three mentor meetings per year with 10 attendees x $12.00 per meal is $720-$1,080 over three years. It is not provided as part of a social or entertainment event. Per the Office of Grants and Debarment (OGD) Guidance on Selected Items of Cost for Recipients the EPA allows meals and light refreshments at workshops or events.
  Reference: Guidance on Selected Items of Cost for Recipients (epa.gov)
  5. Meals and light refreshments at conferences. As provided at 2 CFR 200.432, conferences include "a meeting, retreat, seminar, symposium, workshop or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal award." For the purpose of this guidance, the term includes training for individuals who are not recipient employees, community meetings, design charrettes, and similar activities described in the EPA approved work plan and/or budget narrative.

Contractual

Contractual may include contracts for the WQMP updates, speaker fees, and demo farm contracts, mentor contracts, and other contracts necessary but not defined to accomplish goals and objectives.

- C1 – A portion of the cost to updated the WQMP based on hiring firm to update WQMP. Based on 100 hours of engineering support at $200 per hour.
- C2 – Workshop speaker fees are estimated at 4 events per year x 2 speakers x $450 each speaker.
- C3 – Field Day speaker fees are estimated at 1 event per year x 2 speakers x $2500-3000 each per year.
- C4 – Demo Farms cost is based on three farms receiving $3600 incentive payment per farm per year to conduct on-farm trials, track yields, and conduct economic reviews. Expected to take 30 hours per year at $40/hr.

Other

- O1 – Other BMP Payments are based on 2024 NRCS recognized costs for acres treated. BMP payments total $103,000 for the 319 project to implement practices on 3,325 acres in the priority area. The funds will come from the following sources: $60,000 from 319 funds, $12,000 from LCNRD matching Funds, and $31,000 from NET matching funds. Estimate from producers unrecovered costs for BMP implementation on the 3,325 acres

equals $24,582. USDA NRCS/FSA contributions to the 3,325 acres treated are estimated as $114,910.

- Estimated unit prices:
  - Nutrient Management 1200 acres at $15 acre
  - Cover crops and no-till 1600 acres at $33 acre
  - Small Grain Rotations 80 acres at $10 per acre
  - CRP payments 50 acres at $50 per acre
  - Access Control / Livestock Exclusion 120 acres at $39 per acre
  - Buffer strips / filter strips 35 acres at $235 per acre
  - Prescribed grazing 120 acres at $4 per acre
  - Soil Health Management 120 acres at $3 per acre
  - Septic System Upgrade 3 systems at $4800 each

- See section 6.2.b for more details on BMP payment cost estimates and unit price estimates.

Nine element Index

Element 1: Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan.

Element 2: A description of the nonpoint source management measures that will need to be implemented to achieve load reductions in element 3, and a description of the critical areas in which those measures will be needed to implement this plan.

Element 3: An estimate of the load reductions expected from management measures.

Element 4: an information and education component used to enhance public understanding of the plan and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.

Element 5: Schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.

Element 6: A description of interim measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented.

Element 7: A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards.

Element 8: A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under Element 3.

Element 9: Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon to implement this plan