Project Implementation Plan SFY23-25

Tuttle Creek WRAPS

WRAPS Coordinator: Ryan O'Neill

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $570,000

This WRAPS Implementation PIP will help accomplish the long-term goals established in Kansas' Nonpoint Source Management Plan Goals including:

1. No lake, river, stream or wetland has a violation of Kansas Surface Water Quality Standards due to nonpoint sources of pollutants and all designated uses are fully supported;
2. Kansas surface and ground water are protected from all nonpoint pollutant sources through the use of recommended water quality best management practices.
3. Reducing the levels of phosphorus, nitrogen, and sediment that adversely affect the water quality of Kansas lakes, rivers, streams and wetlands

	Year 1	Year 2	Year 3
Personnel/Fringe	$63,250	$66,750	$70,000
Admin/Indirect	$19,000	$19,000	$19,000
Travel/Supplies	$15,000	$15,200	$15,500
Strategy Implementation/BMPs	$92,750	$89,050	$85,500
Total:	$190,000	$190,000	$190,000

Estimated Load Reductions	
Phosphorus	11,405 lbs.
Nitrogen	10,087 lbs.
Sediment	4,959 lbs.

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
Implement soil health BMPs to improve soil health within the Black Vermillion priority area for phosphorus and sediment TMDL impairments. Three-year BMP implementation goals include: • Cover crops – 4,500 acres • Buffers – 60 acres • No-till – 600 acres	$60,000	2,893	5,497	2,145

Implement Nutrient Reduction BMPs in Elm Creek & Robidoux Creek watersheds for phosphorus and sediment TMDL impairments. Three-year BMP implementation goals include: • Cover crops – 4,500 acres • Buffers – 60 acres • No-till – 600 acres • Sub surface nutrient application – 900 acres	$103,300	6,004	3,147	2,348
Implement in Mill, Black Vermillion, and Little Blue Watershed livestock-related water quality BMPs for phosphorus TMDL impairments. Three-year BMP implementation goals include the relocation of 450 Animal Units through: • Alternative Water Sources • Alternative Feeding Sites • Feedlot relocations • Vegetative Filter Strips • Cover Crop Plantings/Alternative Grazing	$65,000	2,508	1,443	466
Implement producer education, demonstration, and monitoring of BMPs on Demonstration Farm within the Tuttle Creek WRAPS target area. Demonstrations will showcase soil health practices for area growers. Soil health will be tracked via annual soil testing for interactive workshops and field days. Soil health workshops will disseminate information to area producers.	$9,000	N/A	N/A	N/A
General BMPs General BMPs to help fund projects listed in the above strategies as needed.	$30,000	N/A	N/A	N/A

Project Information

Project Title

Tuttle Creek Reservoir WRAPS Implementation SFY23-25

This WRAPS Implementation PIP will help accomplish the long-term goals established in Kansas' Nonpoint Source Management Plan including:

1. No lake, river, stream or wetland has a violation of Kansas Surface Water Quality Standards due to nonpoint sources of pollutants and all designated uses are fully supported;
2. Kansas surface and ground water are protected from all nonpoint pollutant sources through the use of recommended water quality best management practices;
3. Kansas Water Plan objectives are achieved by:
    a. Reducing the levels of pathogens, biochemical oxygen demand, dissolved solids, metals, nutrients, pesticides and sediment that adversely affect the water quality of Kansas lakes, rivers, streams and wetlands;
    b. Reducing the levels of dissolved solids, metals, nitrates and volatile organic chemicals that adversely affect the quality of Kansas ground water;
    c. Maintaining water quality conditions for unimpaired waters at a level equal to or better than existing conditions

Contact Information

Enter Sponsoring Organization Information

Sponsoring Organization Name

Glacial Hills Resource Conservation and Development (RC&D)

Street Address

334 2nd St.

City, State, Zip

Wetmore, Ks 66550

Sponsor Tax Payer ID (FEIN)

48-1103964

Signature Authority Name

Gary Satter

Signature Authority Email

gary.satter@glacialhillsrcd.com

Signature Authority Phone Number

785-608-8801

Enter project contact information

Name

Gary Satter

Street Address

334 2nd St.

City, State, Zip

Wetmore, Ks 66550

Phone Number

785-608-8801

Email

gary.satter@glacialhillsrcd.com

Project Overview

List the HUC12s that are included in this project.

Projects will be targeted within the following HUC 12s: 102702050201, 102702050204, 102702050501, 102702050301, 102702050302, 102702050401, 102702050402, 102702050403, 102702050306, 102702070601, 102702070602, 102702070603, 102702070606, 102702070505

Will a public water supply system be impacted by the project?

☒Yes
☐No

If yes, please enter the impacted public supplies.

The following public water supply systems are in the watershed:
City of Axtell, City of Barnes, City of Beattie, City of Belleville, City of Blue Rapids, Broken Arrow Ranch, City of Centralia, City of Cuba, City of Frankfort, City of Green, City of Greenleaf, City of Haddam, City of Hanover, City of Leonardville, Living Water Ranch, City of Mahaska, Marshall County RWD 1, Marshall County RWD 3, City of Marysville, City of Morrowville, City of Munden, City of Narka, Nemaha County RWD 3, City of Oketo, City of Olsburg, Pottawatomie County RWD 2, Pottawatomie County RWD 3, City of Randolph, Republic County RWD 2, Riverchase Mobile Home Park, Rocky Ford Mobile Home Park, City of Summerfield, Tuttle Creek Reservoir Stockdale Park, Tuttle Creek Water Company, Tuttle Terrace Trailer Court, University Park Water District, City of Vermillion

Describe the project history.

The Tuttle Creek Reservoir WRAPS Plan was originally approved by KDHE in 2010 and updated in 2018. This 3-year project implementation plan outlines strategies for years 14 through 16 of the watershed plan.

The Stakeholder Leadership Team "SLT" determined that during the plan development this WRAPS project would focus on four key watershed impairments identified by the assessment: sedimentation, nutrients, bacteria and atrazine. The SLT determined the targeted areas in the watershed would focus BMPs implementation to address sediment runoff, nutrients and E. coli bacteria from livestock and atrazine runoff. BMP projects have been implemented in cropland and livestock areas that are being targeted for sediment, phosphorus, fecal coliform bacteria, and atrazine. Streambanks are being targeted for sediment reduction.

Throughout the previous grant cycle, the Tuttle Creek WRAPS Coordinator and SLT established cropland and livestock BMPs in the targeted areas of the watershed.
Livestock BMPs were implemented in Mill, Black Vermillion, and Little Blue sub-watershed to address livestock related water quality impairments to address E. coli and total phosphorus water quality impairments.
Nutrient Management BMPs were implemented in the Elm Creek and Robidoux Creek to focus on the total phosphorus water quality impairments.
The WRAPS group continued to work in Black Vermillion targeted watershed to implement soil health best management practice systems to address the Total Suspended Solids water quality impairment. Educating producers on soil health principles has been and will continue to be a focus of this WRAPS group. The Soil Health Academy August 2020 and the soil health workshop in July 2021 were well attended and featured speakers discussing soil health practices. Additional workshops are planned during the next three years to bring recognized speakers with years of experience implementing cover crops and soil health practices. The goal is working with producers with applying soil health principles and practice to reduce fertilizer inputs, increase soil organic matter, increase water infiltration and increase ROI. Working with the soil biology to start nutrient cycling that reduces the need to purchase fertilizers is the end result.

Enter the project start date (MM/DD/YYYY)

07/01/2022

Enter the project end date (MM/DD/YYYY)

12/31/2025

Describe your Stakeholder Leadership Team (SLT)

Responsibility for restoration and protection of the watershed rests primarily in the hands of local stakeholders. In cooperation with these local stakeholders, federal and state agencies provide technical and financial assistance for education activities and implementation of BMPs.

The SLT has identified specific goals to achieve watershed improvement; implementation of BMPs as well as financial incentives and cost-share programs will, over time, lead to decreases in surface and ground water impairments.

The Tuttle Creek SLT has set six WRAPS goals: 1. Protect and restore water quality throughout the watersheds. 2. Protect the water supply storage capacity in Tuttle Creek Lake. 3. Protect recreational uses at Tuttle Creek Lake. 4. Preserve and enhance wildlife habitat in the watershed. 5. Control flooding. 6. Protect the productivity of agricultural lands throughout the watershed.

The SLT meets about every two months. Everyone is welcome to participate in the discussion for planning and setting policy.

SLT Members: List the name, role, affiliation, and email for each SLT member.

Name	Role	Affiliation	Email
Jim Tophorn	SLT Member	Grower	jmks68@gmail.com
John Stigge	SLT Member	Grower	stiggeinc@att.net
Mary Howell	Secretary	Grower	kfu.mary@gmail.com
Dan Howell	Pres.	Grower	kfu.mary@gmail.com
Maurice Buessing	SLT Member	Grower	mplmbuessing@bluevalley.net
Megan Smith	SLT Advisor	KDWP	megan.smith@ksoutdoors.com
Sharon Schwartz	SLT Member	Grower	porkchop@bluevalley.net
Steve Boyda	SLT Member	Grower	scboyda@yahoo.com
Ted Nemec	SLT Member	Grower	tednemec@bluevalley.net
Amanda Lang	SLT Member	Pheasants Forever	aklang@pheasantsforever.org
Aaron Sindelar	SLT Member	CVA	Aaron.Sindelar@cvacoop.com
Leslie Holthaus	SLT Advisor	Marshall Co. CD	leslie.holthaus@ks.nacdnet.net

Project Scope

Describe the TMDLs and/or water quality impairments directly addressed in this project.

Current TMDLs assigned to several streams in the Tuttle Creek Watershed are: atrazine, *E. coli*, eutrophication, and siltation found in the Black Vermillion River, Elm Creek, Mill Creek, Roubidoux Creek, Little Blue River and Big Blue River. Targeting for this watershed will be accomplished in 3 different areas: 1. Cropland areas will be targeted for sediment, phosphorus, and alachlor and atrazine herbicides. 2. Livestock Areas will be targeted for nutrients and E. coli bacteria. 3. Streambanks will be targeted for sediment. Adoption and implementation of sediment BMPs; adopt no-till cultivation, create nutrient management plans, establish grassed waterways, build new and/or revamp terraces, utilize cover crops, establish buffer strips along crop field, install water retention

structures, establish permanent vegetation and implement subsurface fertilizer application will result in a total sediment load reduction for the watershed. Streambanks will be targeted for sediment and nutrient loading. Stream bank stabilization BMPs will consist of riparian buffers, field borders, bottomland timber in wetlands and stream bank restoration. Sediment BMPs implemented in this plan will also reduce nutrient leaching and nutrient loading specifically accounting for phosphorus, nitrogen and atrazine into nearby water segments. Livestock areas will be targeted for phosphorus in the Big and Little Blue River targeted areas. The BMPs listed used in the watershed for phosphorus load reductions will also result in nitrogen and E.coli reductions. These BMPs are: establishing vegetative filter strips along creeks, relocating small feedlots away from streams, relocating pasture feeding sites away from streams and promoting alternative watering sites away from streams. The following BMPs will be implemented to reduce herbicide runoff from crop field: use alternative herbicide, plant vegetative buffers, use split application, use early application and use reduce soil applied rates.

Please describe how this watershed has been assessed. This will include aerial assessments, soil and water tests, survey data, land use cover, and any other important information.

ArcGIS interface of ArcSWAT version 9.2 was used to model the Tuttle Creek Watershed. This version of the program uses spatially distributed data on topography, soils, land cover, land management, and weather to predict water, sediment, nutrient, and pesticide yields. SWAT spatially divides a modeled watershed into sub-watersheds using digital elevation data, according to the drainage area specified by the user. Sub-watersheds are modeled as having non-uniform slope, uniform climatic conditions determined from the nearest weather station. They are subdivided further into lumped, non-spatial hydrologic response units (HRUs) consisting of all areas within the sub-watershed that have similar soil, land use, and slope characteristics. HRUs allow slope, soil, and land-use heterogeneity to be simulated within each sub-watershed while ignoring pollutant attenuation between the source area and stream and limiting spatial representation of wetlands, buffers, and other BMPs within a sub-watershed.

In 2008, Kansas State University's Department of Biological and Agricultural Engineering assessed Tuttle Creek Watershed using the Soil and Water Assessment Tool (SWAT). SWAT estimated annual average pollutant loadings such as nutrients and sediment that come from the land into the stream. At the end of the program's simulation runs, it calculated the average annual loads for each sub-watershed. Based on experience and technical knowledge, the areas – or sub-watersheds – with the top 20-30 percent of the highest loads among all areas within the watershed were selected as critical (targeted) areas for cropland and livestock BMP implementation.
KDHE analyzed aerial images and determined areas of interest either in close proximity to a stream or those that have been degraded over time. These are crop fields and livestock facilities.

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$59,000	$40,000	$99,000
Year 2	$62,000	$41,333	$103,333
Year 3	$65,000	$43,333	$108,333
Total Requested	$186,000	$124,666	$310,666
Description	Grant to include the salary of the watershed coordinator and associated value of coordinators home office. Match will also include federal mileage rate of SLT members attending meetings and workshops.		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$4,250	$	$4,250
Year 2	$4,750	$	$4,750
Year 3	$5,000	$	$5,000
Total Requested	$14,000	$	$14,000
Description	Fringe benefits for WRAPS Coordinator		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$4,000	$	$4,000
Year 2	$4,200	$	$4,200
Year 3	$4,500	$	$4,500
Total Requested	$12,700	$	$12,700
Description	Travel for WRAPS Coordinator & Grant Administrator		

Supplies			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$11,000	$	$11,000
Year 2	$11,000	$	$11,000
Year 3	$11,000	$	$11,000
Total Requested	$33,000	$	$33,000
Description	Supplies, I&E expenses for marketing, workshops, etc.		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$92,750	$94,800	$187,280
Year 2	$89,050	$91,840	$180,890
Year 3	$85,500	$88,700	$174,200
Total Requested	$267,300	$275,340	$542,370
Description	BMP implementation with landowners, match from landowner's in-kind service to BMPs		

Contractual Services			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$	$	$
Year 2	$	$	$
Year 3	$	$	$
Total Requested	$	$	$
Description			

Other			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$	$	$
Year 2	$	$	$
Year 3	$	$	$
Total Requested	$	$	$
Description			

Indirect			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$19,000	$	$19,000
Year 2	$19,000	$	$19,000
Year 3	$19,000	$	$19,000
Total Requested	$57,000	$	$57,000
Description	Grant administration & bookkeeping		

WRAPS Strategic Planning

General Plan Implementation

Implementing Years 14 through 16 of the approved Tuttle Creek WRAPS 9-Element Watershed Plan. The load reduction goals of these years of the plan are 275,416 pounds of phosphorus, and 227,165 tons of sediment. The strategies in this project implementation plan will achieve 11,625 pounds of phosphorus, and 4,959 tons of sediment. The below strategies will focus on one or more specific impairments identified in the 9-Element Watershed Plan. As this grant does not provide enough funding to fully implement the identified best management practices from the plan, project coordinators will partner with various other natural resource programs to leverage resources for the implementation of such practices. These programs include but are not limited to county conservation districts state cost share programs, Natural Resources Conservation Service (NRCS) programs, Kansas Department of Wildlife and Parks, USDA Farm Service Agency, municipalities, and other nonprofit organizations.

Practices implemented beyond the below strategies will focus on the improvement of soil health, watershed hydrology, and the mitigation of impairments identified in the 9-Element Watershed Plan. These practices could include adoption of no-till practices, subsurface fertilizer application, buffers, grassed waterways, off-stream livestock watering systems, filter strips, relocations of pasture feeding and feedlot feeding sites.

What are the resources that you will need for General Plan Implementation?

BMPs - $10,000 each year from WRAPs funds. Leveraged funds from EQIP, KDWP Habitat first. Marketing and promotion through collaboration with CVA and Pheasants Forever.

Strategy One

Provide a general summary of Strategy One

Strategy 1: Implement soil health BMPs to improve soil health within the Black Vermillion priority area for phosphorus and sediment TMDL impairments. HUCs include 102702050301; 102702050302

What are the goals for this strategy?

Person to Person goals to be completed by December 31, 2025

- Recruit 12 new adopters of cover crop strategies
- Develop 6 new users of Truterra Insights tool
- Complete 15 ride a longs/in-person cold calls with CVA conservation agronomist

Quantities of BMPs and load reductions toward the strategy.

Acres of BMPs to be completed by December 31, 2025

- Cover crops – 4,500 acres
- Buffers – 60 acres
- No-till – 600 acres

Annual Load Reduction Estimates for BMPs in the Black Vermillion Watershed			
	Nitrogen – lbs./yr.	Phosphorus – lbs./yr.	Sediment – tons/yr.
Cover crops	4,158	2,081	1,553
Buffers	661	473	326
No-till	678	339	266
Total	5,497	2,893	2,145

Tactics and action steps

- Assessment - Build a target list of producers in the target area
    - Target list should include address, phone number and email.
        - List should be completed by December 2022
        - Send education assessment to producers in targeted area by March 2023
- Perform Ride Along/Cold call with CVA Conservation Agronomist
    - Target list will be main point of focus
    - Recruit new cover crop adopters by promoting and demonstrating use of Trueterra insights tool
- Provide 1 large soil health workshops in July of every year
    - Topics to cover soil health, cover crop practices, economics, farm practices etc.
    - July workshop will be on Demonstration Farm
    - Will use preferred speakers from prior workshop surveys to determine speakers and topics to discuss.

- Work with a minimum of two producers one on one after workshops
- Biannual newsletter to target list
  - Testimonials from current producers
  - Promote other program opportunities, NRCS, KDWP etc.
  - Educate/Information
- Facebook
  - One post will be made each month.

Key performance indicators for the tactics

- Person to person indicators
  - Four new cover crop adopters each year
  - Two new Truterra Insights Tool users each year
  - Five ride a longs with CVA conservation agronomist each year
- Education
  - One yearly soil health workshop
  - One on one opportunities minimum of three per event
  - Biannual newsletters
- Communication
  - One Facebook post every month

BMPs Indicators				
	Yr. 1	Yr. 2	Yr. 3	Total
Cover crops (Acres)	1,500	1,500	1,500	4,500
Buffers (Acres)	20	20	20	60
No-till (Acres)	200	200	200	600
Information/Education: Indicators				
Soil health workshops	1	1	1	3
Follow up after workshop	3	3	3	9
Biannual Newsletter	2	2	2	6
Communication Indicators				
Facebook posts	12	12	12	36
Coordination Indicators				
New cover crop adopters	4	4	4	12
New Truterra users	2	2	2	6
Rides with CVA agronomist	5	5	5	15

What are the resources that you will need and use to get the tactics done?

Partnerships with EQIP, conservation districts and KDWP will help implement the goals by leveraging existing and finding new funding sources, implementing new conservation practices, and providing education and awareness of water quality and quantity issues in the watershed.

BMP Implementation	Yr. 1	Yr. 2	Yr. 3	Total
Cover crops	$40,000	$40,000	$40,000	$120,000
No-till	$4,000	$4,000	$4,000	$12,000
Buffers	$2,000	$2,000	$2,000	$6,000
I & E	$2,000	$2,000	$2,000	$6,000
Sources				
WRAPS	$20,000	$20,000	$20,000	$60,000
Leveraged	$28,000	$28,000	$28,000	$84,000

Strategy Two

Provide a general summary of Strategy Two

Strategy 2: Implement Nutrient Reduction BMPs in Elm Creek & Robidoux Creek watersheds for phosphorus and sediment TMDL impairments. HUCs include 102702050401; 102702050402; 102702050403; 102702050501

What are the goals for this strategy?

- Person to Person goals to be completed by December 31, 2025
    - Recruit nine new adopters of cover crop strategies
    - Complete 30 farm visits

Quantities of BMPs and load reductions toward the strategy.

Acres of BMPs to be completed by December 31, 2025

- Cover crops – 4,500 acres
- Buffers – 60 acres
- No-till – 600 acres
- Sub surface nutrient application – 900 acres

Annual Load Reduction Estimates for BMPs in the Elm & Roubidoux Creek Watersheds			
	Nitrogen – lbs./yr.	Phosphorus – lbs./yr.	Sediment tons/yr.
Cover crops	4,158	2,081	1,553
Buffers	661	473	326
No-till	977	489	380
Sub surface nutrient application	208	104	89
Total	6,004	3,147	2,348

Tactics and action steps

- Build a target list of producers in the target area
    - Target list should include address, phone number and email.
        - List should be completed by December 2022
        - Send education assessment to producers in targeted area by March 2023
        - Perform 30 farm visits to be complete by Dec. 31, 2025
- Target List will be main point of focus
- Recruit new cover crop adopters by promoting and educating growers on no till and cover crop practices
    - Provide one large soil health workshop in winter with strategy one
- Topics to cover soil health, cover crop practices, economics, farm practices etc.
- Will use preferred speakers from prior workshop survey to determine speakers and topics to discuss.

- Work with a minimum of two producers one on one after workshops
    - Biannual newsletter to target hit list
- Testimonials from current producers
- Promote other program opportunities, NRCS, KDWP etc.
- Educate/Information
    - Facebook
- One posts will be made each month.

Key performance indicators for the tactics

- Person to person indicators
    - Three new cover crop adopters each year for nine new growers
    - Ten on farm visits each year
- Education
    - One yearly soil health workshop
    - One on one opportunities minimum of two per event
    - Biannual newsletters totaling six
- Communication
    - One Facebook post every month

BMPs Indicators	**Yr. 1**	**Yr. 2**	**Yr. 3**	**Total**
Cover crops (Acres)	1,500	1,500	1,500	4,500
Buffers (Acres)	20	20	20	60
Sub surface nutrient application (Acres)	300	300	300	900
No-till (Acres)	200	200	200	600
Information/Education Indicators				
Soil health workshop	1	1	1	3
Biannual newsletter	2	2	2	6
Communication Indicators				
Facebook posts	12	12	12	36
Coordination Indicators				
New cover crop adopters	3	3	3	9
Farm visits	10	10	10	30
Follow up after workshop	2	2	2	6

What are the resources that you will need and use to get the tactics done?

BMP Implementation	Yr. 1	Yr. 2	Yr. 3	Total
Cover crops	$37,750	$44,050	$30,500	$112,300
No-till	$4,000	$4,000	$4,000	$12,000
Buffers	$2,000	$2,000	$2,000	$6,000
Sub surface nutrient application	$18,000	$18,000	$18,000	$54,000
I&E	$3,000	$3,000	$3,000	$9,000
Sources				
WRAPS	$34,750	$41,050	$27,500	$103,300
Leveraged State funding including: DOC & KDWP	$30,000	$30,000	$30,000	$90,000

Strategy Three

Provide a general summary of Strategy Three

Strategy 3: Implement in Mill, Black Vermillion, and Little Blue Watershed livestock-related water quality BMPs for phosphorus TMDL impairments. HUCs include 102702070505; 102702070601; 102702070602; 102702070603; 102702070606

What are the goals for this strategy?

- Person to person goals to be completed by Dec. 31, 2025
  - Recruit one new producer/grazing plot to host field meetings/test plots
  - Recruit one private cover crop applicator to market and establish a community around regenerative ag practice.

Quantities of BMPs and load reductions toward the strategy.

Acres/number of BMPs to be completed by December 31, 2025

	Yr 1	Yr 2	Yr 3	Total
Alternative Water Source	2	2	2	6
Alternative Feeding Site	2	2	2	6
Alternative Feedlot Site	0	1	1	2
Vegetative Filter Strip (acres)	20 Acres	20 Acres	20 Acres	60 Acres
Cover Crops-Alternative Grazing (acres)	100 Acres	100 Acres	100 Acres	300 acres
Animal Units Relocated (AUs)=1,000lbs stocking rate of 1.5 AU per 1 Acre/Every 30 Days=400 AU/300acres	150 AU	150 AU	150 AU	450AU

Annual Load Reduction Estimates for BMPs in the Mill Creek, Black Vermillion River, & Little Blue River Watersheds			
	Nitrogen – lbs./yr.	Phosphorus – lbs./yr.	Sediment – tons/yr.
Alternative Water Source (20 AUs)	199	106	0
Alternative Feeding Site (20 AUs)	199	106	0
Alternative Feedlot Site (70 AUs)	697	370	0
Vegetative filter strip (20 acres + 20 AUs/yr)	854	575	322
Cover crops – alternative grazing (100 acres + 20 AUs/yr)	559	286	144
Total	2,508	1,443	466

Tactics and action steps

- Build a target list of producers in the target area
    - Target list should include address, phone number and email.
        - List should be completed by December 2022
        - Send education assessment to producers in targeted area by March 2023
        - Use hit list to target cooperators in target area to host field day
        - Use hit list to target cooperators in target area to custom apply cover crops
- Hit list targets will be main point of focus
- Recruit new cover crop adopters by promoting and educating growers on no till cover crop and grazing practices
        - Provide one grazing workshop with the Milford WRAPS coordinator each fall
- Topics to cover soil health, cover crop practices, economics, farm practices etc.
- January workshop will be help on Demonstration farm
- Will use preferred speakers from prior workshop survey to determine speakers and topics to discuss.
- Work with a minimum of two producers one on one after each workshop
        - Biannual newsletter to target hit list
- Testimonials from current producers
- Promote other program opportunities, NRCS, KDWP etc.
- Educate/Information
        - Facebook
- One Facebook post will be made each month.

Key performance indicators for the tactics

- Person to person indicators
    - One demo farm/grazing plot
    - One cover crop applicator recruitment
- Education
    - One yearly grazing workshop each year
    - One on one opportunities minimum of two per event
    - Biannual newsletters
- Communication
        - One Facebook post every month

BMPs Indicators	Yr. 1	Yr. 2	Yr. 3	Total
Vegetative filter strip	1	1	1	3
Alternative water source	2	2	2	6
Alternative feeding site	2	2	2	6
Alternative feedlot site	1	0	1	2

Cover crops – alterative grazing (acres)	100	100	100	300
Animal Units	150	150	150	450
Information/Education Indicators				
Workshop	1	1	1	3
Biannual newsletter	2	2	2	6
Communication Indicators				
Facebook posts	12	12	12	36
Coordination Indicators				
Demo/grazing plot	1	1	1	3
Cover crop applicator	1	1	1	3
Follow up after workshop	2	2	2	6

What are the resources that you will need and use to get the tactics done?

BMP Implementation	**Yr. 1**	**Yr. 2**	**Yr. 3**	**Total**
Vegetative strips	$1,000	$1,000	$1,000	$3,000
Alternative water	$6,000	$6,000	$6,000	$18,000
Alternative feeding site	$3,000	$3,000	$3,000	$9,000
Alternative feedlot	$10,000	$0	$10,000	$20,000
Cover crops	$4,000	$4,000	$4,000	$12,000
Information/Education	$2,000	$2,000	$2,000	$6,000
Sources				
WRAPS	$25,000	$15,000	$25,000	$65,000
Leveraged	$1,000	$1,000	$1,000	$3,000

Strategy Four

Provide a general summary of Strategy Four

Strategy 4: Implement producer education, demonstration, and monitoring of BMPs on Demonstration Farm. HUC: 102702050301

What are the goals for this strategy?

- Research and education to be completed by Dec. 31, 2025
    - Conduct demonstrations on two soil health projects
    - Perform Yearly soil health data tracking
        - PFLA, Haney, Soil test, Biomass
    - Host one soil health workshop in July
    - Host one on one grower meetings
        - Tactics and Actions

Tactics and action steps

- Build educational content for producers in the target area
    - Content should be focused on target area.
        i. Content Decisions should be completed by December 31st of each year
        ii. Send education assessment to producers in targeted area by March 2023 and year after year to identify areas of interest
- Educational Content will be main point of focus
- Recruit new cover crop adopters by promoting and educating growers on no till and cover crop practices
    - Provide one soil health workshop in July
- Topics to cover soil health, cover crop practices, economics, farm practices etc.
- July workshop will be help on Demonstration farm
- Will use preferred speakers from prior workshop survey to determine speakers and topics to discuss.
- Work with a minimum of two producers one on one after workshop
    - Biannual newsletter to target hit list
- Develop two testimonials from current producers
- Promote other program opportunities, NRCS, KDWP etc.
- Educate/Information
    - Facebook – one post will be made each month.

Key performance indicators for the tactics

- Person to person indicators
  - Two new soil health experiments each year
  - Four soil health tests on farm each year
  - Number of new attendees at workshops
- Education
  - One yearly soil health workshop each year
  - One on one follow up visits minimum of two per event
  - Biannual newsletter
- Communication
  - One Facebook post every month

What are the resources that you will need and use to get the tactics done?

	Yr. 1	Yr. 2	Yr. 3	Total
Information/Education	$3,000	$3,000	$3,000	$9,000