Project Implementation Plan SFY23-25

Kanopolis WRAPS

WRAPS Coordinator: Stacie Minson

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $450,000

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	$83,878	$85,136	$86,413
Admin/Indirect	$8,947	$7,689	$7,312
Travel/Supplies	$9,720	$9,720	$8,820
Strategy Implementation/BMPs	$47,455	$47,455	$47,455
Total:	$150,000	$150,000	$150,000

Estimated Load Reductions	
Phosphorus	3,588 lbs.
Nitrogen	6,906 lbs.
Sediment	1,405 tons

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
Implement livestock related BMPs in the riparian corridors of Big Creek to address the total phosphorus, E. coli, and nitrate TMDLs. Implement the following BMPs by December 31, 2025. • Relocation/improvements on 6 feeding sites (200 AUs) • Install 6 alternative water systems (200 AUs) • 480 acres cover crops for livestock grazing (100 AUs)	$70,584	1,483	2,845	311
Implement soil health, nutrient reduction, and cropping system BMPs in the Smoky Hill River Watershed in Ellsworth County to address the	$46,581	937	1,874	692

eutrophication TMDL on Kanopolis Reservoir. Implement the following BMPs by December 31, 2025. • 480 acres of cover crops • 480 acres of reduced tillage/conservation crop rotation • 480 acres of nutrient management • 1 Producer to be a part of the KSU Soil health/Cropping Systems BMP Demonstration/Education Farm in West/Central Kansas				
Implement general livestock, soil health, and/or cropping systems BMPs in the Big Creek and Middle Smoky Hill River Watersheds within riparian corridor targeting areas for delistings for Big Creek TMDLs (total phosphorus, E. coli, nitrate, total suspended solids) and 303d listings (biology) and the eutrophication TMDL on Kanopolis Reservoir. Implement the following BMPs by December 31, 2025. • Relocation/improvements on 2 feeding sites (80 head) • Install 2 alternative watering systems (80 head) • 160 acres of cover crop for livestock grazing (40 head) • 160 acres of cover crops • 160 acre of reduced tillage/conservation crop rotation • 160 acres of nutrient management	$25,200	1,128	2,187	402

Project Information

Project Title

Kanopolis 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

Kansas State University

Street Address

1601 Vattier St

City, State, Zip

Manhattan, KS 66506

Sponsor Tax Payer ID (FEIN)

48-07715

Signature Authority Name

Paul Lowe

Signature Authority Email

plowe@ksu.edu

Signature Authority Phone Number

785-532-6804

Enter project contact information

Name

Stacie Edgett-Minson

Street Address

120 N Main St

City, State, Zip

WaKeeney, KS 67672

Phone Number

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Email

sedgett@ksu.edu

Project Overview

List the HUC12s that are included in this project.

HUC 12 riparian corridor targeting during this grant period include:
Town of Yocemento, 102600070302
City of Hays, 102600070303
Town of Munjor, 102600070305
Center School 102600070405
Buffalo Creek 10260060506
Turkey Creek 10260060507

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

☒Yes
☐No

If yes, please enter the impacted public supplies.

Kanopolis Reservoir and Public Water Supplies in the Big Creek & Middle Smoky Hill River Watersheds include: Post Rock Rural Water District, Brownell, Buffalo Hills Park, Bunker Hill, Collyer, Country View Mobile Home Park, Countryside Estates Mobile Home Park, Dorrance, Ellis Co RWDs #1-7, Ellis, Ellsworth Co RWD#1, Ellsworth, Geneseo, Grinnell, Hays Suburban Estates, Hays, Kanopolis, KDOT I-70 East and West Bound Rest Areas, KSU Agricultural Research Center-Hays, Liebenthal, McCracken, Meadow Acres Mobile Home Court, Nationwide Estates Mobile Home Court, Park, Quinstar Corporation, Quinter, Rush Co RWD #1, Russell Co RWDs#1-4, Russell, Trego County RWD#2, Victoria, WaKeeney, USD 292 Wheatland, and Wilson.

Describe the project history.

Kanopolis Reservoir was the first federal reservoir built in the State of Kansas. In May of 1948, the gates closed, and surface water began to accumulate. Today, with one-half million visitors annually, the reservoir has a flood control pool of 13,958 surface acres and multi-purpose pool of 3,406 surface acres. As allocated by the State of Kansas, Kanopolis supplies 400 million gallons per year (MGY) for municipal and industrial water use. The watershed drainage encompasses 2,439 square miles consisting of two HUC 8s. Various groups have been working since the 1990s trying to reduce E. coli bacteria, Total Suspended Solids (TSS), Total Nitrogen (TN), and Total Phosphorus (TP) in the watershed. In 2003, Stacie Minson, KSU Watershed Specialist, was hired to develop a watershed protection plan for Kanopolis Lake and the Big Creek Middle Smoky Hill River Watersheds (BCMSHRW) WRAPS. The BCMSHRW completed and were awarded approval of the 9 Element Plan on November 16, 2011. Since that time, the group has worked in implementing BMPs in six targeted HUC 12s (Oak Creek, Landon Creek, Thielen Airport, Town of Munjor, and Hays Consolidated (City of Hays and Chetolah Creek) as per the 9 Element Plan. Much work has been done implementing structural practices with load reductions realized.
The Town of Munjor HUC 12 in was selected as one of the three watersheds in the state of Kansas to participate in the NWQI project. This project was funded for five years. It was a successful project bringing new landowners to the table for BMP implementation including the implementation of 73 contracts with 9,311 acres and $1,893,782 in cost-share obligated.

In the current grant period to date, the following BMPs have been installed: fencing for permanent seeding/re-vegetation on 199 acres of marginal cropland; 133 acres of cover crops; 25 acres of cover crops for off-stream feeding; two feeding site re-locations for 85 pairs; and 4 alternative water sources with 35 pairs and 110 head of cattle. Many inroads have been made with producers on relocating feeding sites, alternative water supplies, soil health and cover crops. We have hosted field days and workshops to get producers to see how BMPs can work relatively easy in their operations. Building trust and relationships is the most valuable part of this work, whether it's the trust with myself or with other producers sharing "their story". Due to taking interested producers out on a one-on-one tour or sitting at the kitchen table, we have producers asking questions and trying to see how it can work for them. Work in the next three years, will continue and focus on getting those to engage in these practices plus, reaching new audiences above the City of Hays.

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

July 1, 2022

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

December 31, 2025

Describe your Stakeholder Leadership Team (SLT),

The BCMSHRW Leadership Team strives to obtain and maintain a diverse representation of all stakeholders within the watershed. Members represent the following: Conservation District Boards, Water Districts Boards, Public Works Representative, City/County Representatives, Sanitarian, Planning Zoning Representative, KSU Extension Personnel, NRCS District Conservationists,

Conservation District Managers, Fort Hays State University, Civic Club Representatives, Natural Resource Not for Profit, Environmental Advocates, State and Federal Agencies, Landowners, and Kansas State University. The BCMSHRW Leadership team plans to meet at least three times/year to discuss BMP implementation progress, program accomplishments, new grant year projects, and future year projects. Meetings are held in Hays and have been offered via Zoom. SLT team members receive information via email and/or direct mail.

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

As of the time of this grant application, there are 66 individuals invited to the SLT meetings. The following list are SLT Team members who have attended in the last year: Glen Blundon, Producer, glen17983@gmail.com; Joe Billinger, City of Hays, jbillinger@haysusa.com; Marvin Boyer, USACE, marvin.g.boyer@usace.army.mil; Stacy Campbell, KSRE, scampbel@ksu.edu; Dan Devlin, KCARE Director, ddevlin@ksu.edu; Pamela Hays, Conservation District, pamela.hays@ks.nacdnet.net; Holly Dickman, City of Hays, hdickman@haysusa.com; Landon Leiker, Producer, leikercattleandgrain@gmail.com; Donna Fay Major, Conservation District, donnafay.major@ks.nacdnet.net; Ernie Binder, Producer, ejbinder@ruraltel.net;; Chad Deines, Nutrien Ag, chad.deines@nutrien.com; Brice Custer, Advisor, custerfarms@eaglecom.net; Dan Wells, KDHE, dan.wells@ks.gov; Michael Thompson, Advisor, mt_fhsu@hotmail.com; Stephanie Eckroat, Farm Bureau, ellisfb@kfb.org; Jeff Crispin, City of Hays, jcrispin@haysusa.com; Augustine Obour, KSRE, aobour@ksu.edu; Brittany Howell, FHSU, bjhowell@fhsu.edu; George, Advisor, hgeorge@ksu.edu; Susan Metzger, smetzger@ksu.edu

Project Scope

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

The KSU Kanopolis Reservoir Big Creek Middle Smoky Hill River Watersheds WRAPS project will address the following water quality impairments:
Big Creek TMDLs for total phosphorus, E. coli, and nitrate
Kanopolis Reservoir TMDL for eutrophication

Overall, the BMPs implemented under these three strategies will help lead to pollutant reductions and 303d delistings.

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.

In the past, the physical characteristics of BCMSHRW have been assessed using a variety of field and theoretical methods. These methods included: 1) a stream monitoring network to analyze, quantify, and target pollutant loading in subwatersheds of the BCMSHRW, 2) a watershed conditions driving tour using a custom GIS assessment tool (WKCAT), and 3) computer modeling including the Universal Soil Loss Equation (USLE) and the Soil and Water Assessment Tool (SWAT) to estimate theoretical pollutant loads by sub basin and field. In more recent years, creating landowner databases in the targeted river corridor including the need for updating, the use of OnXHunt, Google Earth, ArcGIS, and AcreValue maps have been used to find projects and better understand the watersheds.

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$63,544	$12,276	$75,820
Year 2	$64,497	$12,460	$76,957
Year 3	$65,464	$12,647	$78,111
Total Requested	$193,505	$37,383	$230,888
Description	Grant: Stacie Minson, Watershed Specialist, 1.0 FTE Match: S. Metzger, .1 FTE matching & A 1.5% salary increase per year is included.		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$20,334	$3,928	$24,262
Year 2	$20,639	$3,987	$24,626
Year 3	$20,949	$4,047	$24,996
Total Requested	$61,922	$11,962	$73,884
Description	Fringe benefits are calculated at the University approved rate for FY2022 proposals, which is 32%. Amounts are based on the salary dollars * .32. Actual fringe benefits will be charged to the award. Match includes fringe benefits paid for S. Metzger by K State.		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$2,500	$0	$2,500
Year 2	$2,500	$0	$2,500
Year 3	$2,500	$0	$2,500
Total Requested	$7,500	$0	$7,500
Description	Includes travel around the watershed and travel to statewide meetings such as the Governor's Conference, KLA, Kansas Cattlemen's Day, etc.		

Supplies			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	$7,220	$0	$7,220
Year 2	$7,220	$0	$7,220
Year 3	$6,320	$0	$6,320
Total Requested	$20,760	$0	$20,760
Description	Fuel costs for state vehicle used by the Watershed Specialist for travel throughout the watershed and the state, plus supplies for project activities.		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$47,455**	**$25,630**	**$73,085**
Year 2	**$47,455**	**$25,300**	**$72,755**
Year 3	**$47,455**	**$24,970**	**$72,425**
Total Requested	**$142,365**	**$75,900**	**$218,265**
Description	**Estimated funding yearly: Strategy 1: $22,728; Strategy 2: $14,727, and Strategy 3: $8,000, all subject to change depending upon signed contracts to install BMPs. Payments made be made through County Conservation Districts or directly to producers who are participating in the program. This also includes $2,000 per year for I&E activities within the watershed. Matching will come from contributions from landowners and producers who are implementing the BMPs.**		

Contractual Services			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$0**	**$0**	**$0**
Year 2	**$0**	**$0**	**$0**
Year 3	**$0**	**$0**	**$0**
Total Requested	**$0**	**$0**	**$0**
Description	**N/A**		

Other			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$4,402**	**$0**	**$4,402**
Year 2	**$3,144**	**$0**	**$3,144**
Year 3	**$2,767**	**$0**	**$2,767**
Total Requested	**$10,313**	**$0**	**$10,313**
Description	**Cell phone costs, office rent in WaKeeney, copies, postage, etc.**		

Indirect			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$4,545**	**$52,035**	**$56,580**
Year 2	**$4,545**	**$52,120**	**$56,665**
Year 3	**$4,545**	**$52,207**	**$56,752**
Total Requested	**$13,635**	**$156,362**	**$169,997**
Description	**Grant administration costs. Matching is unrecovered IDC on grant funds based on KSU's negotiated indirect cost rate for public service activities.**		

WRAPS Strategic Planning

General Plan Implementation

Implementing Years 14 through 16 of the approved Kanopolis Reservoir Big Creek Middle Smoky Hill River Watersheds 9-Element Watershed Protection Plan. The load reduction goals of these years of the plan are 37,734 pounds of nitrogen, and 35,499 pounds of phosphorus. The strategies in this project implementation plan will achieve 6,906 pounds of nitrogen, 3,548 pounds of phosphorus, and 1,405 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 Dept. of Wildlife and Parks, Farm Service Agency, municipalities, and other nonprofit organizations.

BMPs installed through these strategies will focus on producer education, trust and engagement and BMP placement for nutrient runoff, sediment, and bacteria. BMPs will be installed along the targeted riparian corridors.

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

The following resources will be utilized when available:

- Herschel George, retired KSU Watershed Specialist
- Local Soil Health Experts include producers and KSU Research & Extension
- KRPI Funding
- KDHE – State Water Plan/EPA 319 WRAPS Funds
- NRCS EQIP funding
- Conservation District Funding and/or
- DOC NPS program funding
- Agency partnerships and collaborations

Strategy One

Provide a general summary of Strategy One

Strategy 1: Implement livestock related BMPs in the riparian corridors of Big Creek in the following HUC 12s: Town of Yocemento, 102600070302; City of Hays, 102600070303 and Town of Munjor, 102600070305 – all three Ellis County and Center School 102600070405 – Russell County

This livestock strategy will result in improvements and ultimately delistings for Big Creek TMDLs (total phosphorus, E. coli, nitrate).

What are the goals for this strategy?

Implement the following BMPs by December 31, 2025.

- Relocation/improvements on 6 feeding sites (200 AUs): 644 lbs. N, 342 lbs. P
- Install 6 alternative water systems (200 AUs): 644 lbs. N, 342 lbs. P
- 480 acres cover crops for livestock grazing (100 AUs): 1557 lbs. N, 799 lbs. P, 311 tons Sed

Tactics and action steps

Kanopolis Reservoir Big Creek Middle Smoky Hill River Watersheds WRAPS will focus on targeted livestock related BMPS to achieve the above goals with the following tactics and action steps.

To make the program successful, the following tactics/action steps will be taken to achieve the goals mentioned above in Strategy 1 concerning Livestock BMP implementation and load reductions.

Assessment

- Create and/or update list of all producers' current livestock operations in Town of Yocemento, 102600070302; City of Hays, 102600070303 and Town of Munjor, 102600070305 – all three Ellis County and Center School 102600070405 – Russell County
    - Work with County Agents & Agency Partners to estimate BMPs currently being implemented.
    - Host meeting and collaborate utilizing KDHE targeted area maps to generate producer list for Watershed Specialist use only. This will be used to reach out one-on-one to get producers to participate in project.
    - Complete by September 30, 2022
- Create list and map of producer's livestock operation improvements/needs from entire list
    - Complete by November 30, 2022
- From the created lists/maps identify targeted audience (10-15 producers)
    - Complete by December 31, 2022
    - Deliverables
        - List of livestock operations
        - Map of livestock operation
        - Use current databases, OnX Map, Google Earth, Agency Partners, and Leadership Team Input

Outreach/Communication

- Hold Leadership Team Meetings during the year
- Create email list for newsletter and communication efforts
    - Utilize previous meeting sign-ups, returned postcards, social media followers, and Agency Partners collaboration
    - Create by December 2022
- Initiate Kanopolis/BCMSHRW Quarterly Newsletter highlighting WRAPS Livestock BMP Cost-share Opportunities and highlighting at least one project installed in the watersheds/newsletter/quarter
    - Distribute in December, February, May, August
- Contact Producers on Created Databases
    - Share program and create interest.
    - Meet at their farms for BMP designs and discussions
    - Implement BMPs
- Create messages for I/E and communication of program (timely topics)
    - Define source(s) (newsletter, newspaper, radio, or social media)
        - By January of each year
    - Define topics (feeding sites, alternative water supplies, grazing cover crops)
        - By January of each year
- Use social media, TV/print media, and radio to promote the benefits of BMPs and create interest thru KCARE (as that is KSU Protocol)
    - Promote BMP installations and progress on projects
    - Facebook Live at each workshop/field day
    - Reach/educate existing followers
- Host field days/workshops in March/April and August/September each year
    - Highlight a completed project or installation of BMP at event
    - Timely topics as part of presentation at event
    - Locations will be set at least two months in advance of event (Jan/Feb and June/July)
    - Distribute evaluations at end of event to determine effectiveness and needs

Implementation

- Share the BMP Policy with Producers along the targeted riparian corridors and update with Leadership Team as needed
- Using technology such as ArcGIS, for each soil health/livestock project to create a visual plan for each water quality project. This not only allows all partners to visualize the key aspects of BMP implementation (linear feet of fencing, LF of pipeline, waterers, etc.), but helps to accurately calculate the BMP contracts. This will also allow for us to track how projects grow, change and expand over time if a producer is interested in several water quality components spread out financially over the course of several years
- Install BMPs listed in Goals above

Key performance indicators for the tactics

Anticipated results will include:

- 6 feeding sites relocated/improved (200 AUs)
- 6 alternative water systems installed (200 AUs)
- 480 acres cover crops for livestock grazing (100 AUs)
- Leadership Team: Meet three times/year. Goal: 12 attending/meeting
- Newsletter: Reach at least 200 residents and stakeholders/newsletter. Goal: Response from at least 3 stakeholders/newsletter with inquiries regarding the program
- Contact Producers: Share/create interest. Goal: @least 5-10 contacts/month and 5-10/farm visits/year
- Create Messages: Define sources/messages. Goal: @least 6 sources/year; and @least 4 messages/year
- Social Media/Media: Reach/educate new followers. Goal: @least 5 new inquiries regarding program/year; @least 12 social media/year; @least 6 print TV/media/year; and @least 6 radio media/year
- Field Days/Workshops: Host 2/year. Goal: @least 20 attendees/event, follow-up with 2-3 individual attendees/event to participate in program

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

Stacie Minson, KSU Watershed Specialist time and effort. Funding mainly from KDHE with $22,728/year – State Water Plan/EPA 319 WRAPS Funds. Partnerships with NRCS, Conservation Districts and K-State Research & Extension for their technical assistance in creating producer lists, needs, and future needs in the targeted areas. Maps created as needed by KDHE. Technical assistance from Herschel George, retired Watershed Specialist, for training, learning and BMP implementation. Continued trainings/updates on livestock issues and soil health/cover crops. Continued help from Brice Custer and Michael Thompson. Workshop, meeting, and outreach expenses ($800) could include but not limited to: office supplies, postage, food, speaker fees/appreciation gifts, and travel costs.

Strategy Two

Provide a general summary of Strategy Two

Implement soil health, nutrient reduction, and cropping system BMPs in the riparian corridors of the Smoky Hill River Watershed in Ellsworth County in Buffalo Creek (102600060506) and in Turkey Creek (102600060507) to address the eutrophication TMDL on Kanopolis Reservoir.

What are the goals for this strategy?

Implement the following BMPs by December 31, 2025.

- 480 acres of cover crops 1117 lbs. N, 559 lbs. P, 399 tons Sed
- 480 acres of reduced tillage/conservation crop rotation 414 lbs. N, 207 lbs. P, 160 tons Sed
- 480 acres of nutrient management 343 lbs. N, 171 lbs. P, 133 tons Sed
- 1 Producer to be a part of the KSU Soil health/Cropping Systems BMP Demonstration/Education Farm in West/Central Kansas

Tactics and action steps

To make the program successful, the following tactics/action steps will be taken to achieve the goals mentioned above in Strategy 2 concerning soil health and cropping system BMP implementation and load reductions.

Assessment

- Create list of all producer's soil health practices/current cropping systems in Buffalo Creek 102600060506 and Turkey Creek 102600060507 in Ellsworth County
    - Work with County Agents & Agency Partners to estimate soil health practices/cropping systems currently being used
    - Host meeting and collaborate utilizing KDHE targeted area maps to generate producer list for Watershed Specialist use only. This will be used to reach out one-on-one to get producers to participate in project
    - Complete by September 30, 2022
- Create list and map of producer's soil health practices/current cropping systems for improvements/needs from entire list
    - Complete by November 30, 2022
- From the created lists/maps identify targeted audience (10-15 producers)
    - Complete by December 31, 2022
        - Deliverables
            - List of current soil health practices/current cropping systems in Buffalo Creek and Turkey Creek
            - Map of current soil health practices/current cropping systems in Buffalo Creek and Turkey Creek
            - Use current KRPI databases, OnX Map, Google Earth, Agency Partners, and Leadership Team Input

Outreach/Communication

- Hold Leadership Team Meetings during the year
- Create email list for newsletter and communication efforts
    - Utilize previous meeting sign-ups, returned postcards, social media followers, and

Agency Partners collaboration
    - Create by December 2022
- Initiate Kanopolis/BCMSHRW Quarterly Newsletter highlighting WRAPS Livestock BMP Cost-share Opportunities and highlighting at least one project installed in the watersheds/newsletter/quarter
    - Distribute in December, February, May, August
- Contact Producers on Created Databases
    - Share program and create interest.
    - Meet at their farm for BMP designs
    - Implement BMPs
- Create messages for I/E and communication of program (timely topics)
    - Define source(s) (newsletter, newspaper, radio, or social media)
        - By January of each year
    - Define topics (feeding sites, alternative water supplies, grazing cover crops)
        - By January of each year
- Use social media, TV/print media, and radio to promote the benefits of BMPs and create interest thru KCARE (as that is the KSU Protocol)
    - Promote BMP installations and progress on projects
    - Facebook Live at each workshop/field day
    - Reach/educate existing followers
- Host field days/workshops in March/April and August/September each year
    - Highlight a completed project or installation of BMP at event
    - Timely topics as part of presentation at event
    - Locations will be set at least two months in advance of event (Jan/Feb and June/July)
    - Distribute evaluations at end of event to determine effectiveness and needs

Implementation

- Share the BMP Policy with Producers along the targeted riparian corridors and update with Leadership Team as needed
- Using technology such as ArcGIS, for each soil health/livestock project to create a visual plan for each water quality project. This not only allows all partners to visualize the key aspects of BMP implementation (linear feet of fencing, LF of pipeline, waterers, etc.), but helps to accurately calculate the BMP contracts. This will also allow for us to track how projects grow, change, and expand over time if a producer is interested in several water quality components spread out financially over the course of several years
- Install BMPs listed in Goals above

Key performance indicators for the tactics

Anticipated results will include:

- 480 acres of cover crops
- 480 acres of reduced tillage/conservation crop rotation
- 480 acres of nutrient management
- Leadership Team: Meet three times/year. Goal: 12 attending/meeting
- Newsletter: Reach at least 200 residents and stakeholders/newsletter. Goal: Response from at least 3 stakeholders/newsletter with inquiries regarding the program

- Contact Producers: Share/create interest. Goal: @least 5-10 contacts/month and 5-10/farm visits/year
- Create Messages: Define sources/messages. Goal: @least 6 sources/year; and @least 4 messages/year
- Social Media/Media: Reach/educate new followers. Goal: @least 5 new inquiries regarding program/year; @least 12 social media/year; @least 6 print TV/media/year; and @least 6 radio media/year
- Field Days/Workshops: Host 2/year. Goal: @least 20 attendees/event, follow-up with 2-3 individual attendees/event to participate in program
- Increase number of contracts utilizing KRPI funds by 10%/year

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

Stacie Minson, KSU Watershed Specialist time and effort. Funding mainly from KDHE with $14,727/year – State Water Plan/EPA 319 WRAPS Funds. Utilize KRPI funding to increase BMPs implemented in the targeted HUC 12s. Partnerships with NRCS, Conservation Districts and K-State Research & Extension for their financial and/or technical assistance in creating producer lists, needs, and future needs in the targeted areas. Maps created as needed by KDHE. Technical assistance from Herschel George, retired Watershed Specialist, for training, learning and BMP implementation. Continued trainings/updates on livestock issues and soil health/cover crops. Continued help from Brice Custer and Michael Thompson. Workshop, meeting and outreach expenses ($800) could include but not limited to: office supplies, postage, food, speaker fees/appreciation gifts, and travel costs.

Strategy Three

Provide a general summary of Strategy Three

Strategy 3: Implement general livestock, soil health, and/or cropping systems BMPs in the Big Creek (10260007) and Middle Smoky Hill River (10260006) Watersheds within riparian corridor targeting areas for delistings for Big Creek TMDLs (total phosphorus, E. coli, nitrate, total suspended solids) and 303d listings (biology) and the eutrophication TMDL on Kanopolis Reservoir.

What are the goals for this strategy?

Implement the following BMPs by December 31, 2025.

- Relocation/improvements on 2 feeding sites (80 head): 446 lbs. N, 237 lbs. P
- Install 2 alternative watering systems (80 head): 446 lbs. N, 237 lbs. P
- 160 acres of cover crop for livestock grazing (40 head): 638 lbs. N, 326 lbs. P, 153 tons Sed
- 160 acres of cover crops: 407 lbs. N, 204 lbs. P, 149 tons Sed
- 160 acre of reduced tillage/conservation crop rotation: 125 lbs. N, 62 lbs. P, 50 tons Sed
- 160 acres of nutrient management: 125 lbs. N, 62 lbs. P, 50 tons Sed
- 1 Producer to be a part of the KSU Soil health/Cropping Systems BMP Demonstration/Education Farm in West/Central Kansas

Tactics and action steps

To make the program successful, the following tactics/action steps will be taken to achieve the goals mentioned above in Strategy 3 concerning general livestock, soil health and/or cropping systems along the Big Creek and Middle Smoky Hill River HUC8 targeted riparian corridors

Assessment

- Update the targeted riparian corridor (including KRPI lists) in Ellis, Russell, and Ellsworth Counties
    - Work with County Agents & Agency Partners to estimate livestock and soil health practices/cropping systems currently being used
    - Host meeting and collaborate utilizing KDHE targeted area maps to generate producer list for Watershed Specialist use only. This will be used to reach out one-on-one to get producers to participate in project
    - Complete by April 30, 2023.
- Create database/list of potential projects in the watersheds
    - Complete by June 30, 2023
- From the created lists/maps identify targeted audience (5-10 producers)
    - Complete by August 31, 2023.

Outreach/Communication

- Continue utilizing KRPI databases and partner with KWO/DOC if areas of watershed are selected for funding annually and sending letters/postcards to notify of sign-up and eligibility and BMP funding
- Continue work with previously identified 5-10 livestock, soil health and cropping systems producers in Ellis, Russell & Ellsworth Counties.
    - Includes those who have implemented BMPs on their acres and are wanting to

expand
    - Includes those who returned KRPI mailing postcards, previous contacts, and referrals by other producers.
        - Complete by KRPI sign-up deadlines/year.
- Utilize Kanopolis/BCMSHRW Quarterly Newsletter across the watersheds
- Utilize social media, print media and radio used in Strategies 1 & 2
- Utilize messages created in Strategies 1 & 2 for I/E and communication of program

Implementation

- Share the BMP Policy with Producers on the Targeted List and update with Leadership Team as needed
- Using technology such as ArcGIS, for each soil health/livestock project to create a visual plan for each water quality project. This not only allows all partners to visualize the key aspects of BMP implementation (linear feet of fencing, LF of pipeline, waterers, etc.), but helps to accurately calculate the BMP contracts. This will also allow for us to track how projects grow, change, and expand over time if a producer is interested in several water quality components spread out financially over the course of several years.
- Install BMPs listed in Goals above

Key performance indicators for the tactics

Anticipated results will include:

- 2 feeding sites relocated/improved (80 head)
- 2 alternative watering systems installed (80 head)
- 160 acres of cover crop for livestock grazing (40 head)
- 160 acres of cover crops
- 160 acre of reduced tillage/conservation crop rotation
- 160 acres of nutrient management
- Lists: Goal – @least 3 projects installed/year along riparian corridors
- Newsletter: Goal -- 3 new contacts inquiry/newsletter
- Social Media/Media/M=Messages: Goal -- Reach/educate at least 10 new contacts/through any use of media/year

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

Stacie Minson, KSU Watershed Specialist time and effort. Funding from KDHE $8,000/year – State Water Plan/EPA 319 WRAPS Funds and KRPI funds. Partnerships with NRCS, Conservation Districts and K-State Research & Extension for their technical assistance in creating producer lists, needs, and future needs in the targeted areas. Maps created as needed by KDHE. Technical assistance from Herschel George, retired Watershed Specialist, for training, learning and BMP implementation. Continued trainings/updates on livestock issues and soil health/cover crops. Continued help from Brice Custer and Michael Thompson. Workshop, meeting and outreach expenses ($400) could include but not limited to: office supplies, postage, food, speaker fees/appreciation gifts, and travel costs.