Project Implementation Plan SFY23-25

Lower Kansas River WRAPS

WRAPS Coordinator: Megan Rush

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $300,000

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	$36,400	$36,800	$37,300
Admin/Indirect	$10,000	$10,000	$10,000
Travel/Supplies	$5,850	$5,850	$5,850
Strategy Implementation/BMPs	$47,750	$47,350	$46,850
Total:	$100,000	$100,000	$100,000

Estimated Load Reductions	
Phosphorus	4,000 lbs.
Nitrogen	6,000 lbs.
Sediment	N//A

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs)	Nitrogen (lbs)	Sediment (tons)
Reduce livestock related water quality impairments in Stranger Creek Remove cattle from impacting water quality in Stranger Creek by December 31, 2025. The goal is 100 cow/calf pairs per year for a total of 300 cow/calf pairs in three years. Establishment of the following BMPs: • Off-Stream Waterers • Relocate Feeding Areas • Grazed Cover Crops • Riparian Buffers	$117,371	1,590	2,970	N/A

Reduce Phosphorus related water quality impairments in Ninemile Creek and Crooked Creek Collect water sampling data and observe the land use in the area to narrow down where the water quality concern is coming from. The goal is 50 acres per year for a total of 100 acres in three years for establishing nutrient management BMPs and 10 acres per year for a total of 20 acres in three years for establishing cover crops BMPs. Establishment of the following BMPs: ● Cover Crops ● Riparian Buffers ● Precision Agriculture with Soil Sampling ● Conservation Crop Rotation	$24,579	2,100	3,000	N/A

Project Information

Project Title

Lower Kansas River 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 Alliance for Wetlands and Streams (KAWS)

Street Address

PO Box 142

City, State, Zip

Holton, Kansas 66436

Sponsor Tax Payer ID (FEIN)

04-378386

Signature Authority Name

Aaron Deters

Signature Authority Email

Aaron.deters@kaws.org

Signature Authority Phone Number

785-738-8778

Enter project contact information

Name

Megan Rush

Street Address

PO Box 142

City, State, Zip

Holton, KS 66436

Phone Number

913-204-0179

Email

Megan.rush@kaws.org

Project Overview

List the HUC12s that are included in this project.

Riparian priority area (not less than 1/4 mile each side of streams or greater than the 500-year floodplain): 102701040301, 102701040302, 102701040303, 102701040304, 102701040305, 102701040306, 102701040307, 102701040401, 102701040402, 102701040403, 102701040404, 102701040405, 102701040406, 102701040407

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

☒Yes
☐No

If yes, please enter the impacted public supplies.

Atchison County Rural Water District 5C, Bonner Springs, City of, Building Blocks Day Care Center LLC, Clearview City, City of, Desoto, City of, Douglas County Rural Water District 1, Douglas County Rural Water District 2, Douglas County Rural Water District 4, Douglas County Rural Water District 6, Easton, City of, Effingham, City of, Eudora, City of, Gardner, City of, Jefferson County Rural Water District 12, Jefferson County Rural Water District 13, Jefferson County Rural Water District 2, Lancaster, City of, Lawrence, City of, Lawrence, Kansas Turnpike Authority, Leavenworth County Rural Water District 10, Leavenworth County Rural Water District 6, Leavenworth County Rural Water District 7, Leavenworth County Rural Water District 8, Leavenworth County Rural Water District 9, Lecompton, City of, Linwood, City of, McLouth, City of, New Century Air Center, Northeast District Office, Nortonville, City of, Olathe, City of, Paradise Park Mobile Home Court, Suburban Water Company, Tonganoxie, City of, University of Kansas, Water District 1 of Johnson County, Winchester, City of

Describe the project history.

The original Lower Kansas WRAPS program was organized in 2007 when the Kansas Alliance for Wetlands and Streams (KAWS) was awarded a grant from the Kansas Department of Health and Environment (KDHE). A formal plan was written, submitted, and approved in 2011. However, targeting and TMDL revisions from KDHE resulted in outdated WRAPS plan implementation goals. Therefore, the Lower Kansas River WRAPS plan was updated and revised in 2021 by Kansas State University staff and KDHE, with the guidance of the Lower Kansas River WRAPS Coordinator, KAWS, and the SLT. In the previous three-year grant, Lower Kansas River WRAPS focused on the bacteria impairment in Stanger Creek by changing the priority area to a riparian targeting. The Watershed Plan mentions focusing efforts to Ninemile and Crooked Creek to address the phosphorus impairment. Active watershed coordination has continued in the area since. In the last grant cycle (SFY20-22) many successful projects were implemented. Lower Kansas River WRAPS completed 8 livestock projects and 13 cover crop projects for a total of 21 projects. Outreach and education efforts as well as strong partnership have been a substantial part of the success of the Lower Kansas River watershed.

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),

A diverse group of stakeholders became involved in the Lower Kansas WRAPS planning process. Farmers, landowners, representatives from natural resource agencies and organizations, city and county government representatives, public water suppliers, and others participated. These stakeholders discussed methods for creating a leadership team that would encompass the broad constituent base of the watershed, given its rural and urban components. The Lower Kansas River WRAPS Stakeholder Leadership Team (SLT) evolved from a core group of meeting attendees, and now serves as a board to make decisions and to provide guidance to the WRAPS Coordinator. The SLT also has input on the priorities and provides direction to the project. There are two local landowners who serve as unofficial SLT members that help guide the Coordinator in BMPs and education efforts in the watershed. The SLT is currently comprised of seven members that meet once a quarter, four times a year.

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

As of February 2022, the following individuals are members of the SLT:
Mark Heim, Landowner in Leavenworth County and co-owner of Heim Brothers Farm, LLC
Rodney Parsons, Landowner in Leavenworth County
Rex Buchanan, Retired Director of Kansas Geological Survey
Dawn Buehler, Executive Director of Friends of the KAW, the Kansas Riverkeeper, Chair of the Kansas Water Authority
Karol Lohman, K-State Extension Agriculture and Natural Resource Agent

Michelle Gundy, City of Lawrence Municipal Services
Rick Reischman, Landowner in Leavenworth County

Project Scope

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

The Lower Kansas River Watershed has 11 stream segments with a high priority TMDL for E. coli and two segments with a medium priority TMDL, as well as two additional segments that are 303d listed. The Lower Kansas River Watershed has 54 TMDLs. However, SFY23-25 will target three of these TMDLs, found in three creeks in the watershed:

- Crooked Creek - Total Phosphorus (TP)
- Nine Mile Creek - Total Phosphorus (TP)
- Stranger Creek - E. coli

The remaining TMDLs will be impacted positively by BMP implementation targeted to reduce livestock bacteria and nutrients (primarily phosphorus) from entering the water.

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.

Water quality in the Lower Kansas River Watershed is monitored at 32 sites. These sites include eight permanent and 10 rotational KDHE sampling sites, as well as two inactive monitoring sites. If analysis determines that any one pollutant exceeds acceptable limits, the water segment then becomes “impaired” by that pollutant and is reported as a 303d-listed impairment. The affected water segment is listed as a Total Maximum Daily Load (TMDL) if it is in dire need of pollutant reduction and is considered “high priority.” To be issued a TMDL, water samples taken during KDHE monitoring programs indicate that water quality standards have not been met. This in turn means that designated uses have not been met. Within the updated 9-element plan, we are able to assess land use near specific streams, and by using aerial assessments, we are able to better target our BMPs to most likely producers contributing to the TMDL.

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$32,500**	**$750**	**$33,250**
Year 2	**$32,900**	**$750**	**$33,650**
Year 3	**$33,400**	**$750**	**$34,150**
Total Requested	**$98,800**	**$2,250**	**$101,050**
Description	Grant includes salary for 0.5 FTE for grant coordination and associated payroll taxes. The IRS value of the Coordinator's home office will be reported as match each calendar year (50% of $1,500/yr x 3yrs = $2,250).		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$3,900**	**$0**	**$3,900**
Year 2	**$3,900**	**$0**	**$3,900**
Year 3	**$3,900**	**$0**	**$3,900**
Total Requested	**$11,700**	**$0**	**$11,700**
Description	Grant included employee benefits such as a healthcare stipend and cellphone allowance for a 0.5 FTE.		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$5,000**	**$1,050**	**$6,050**
Year 2	**$5,000**	**$1,050**	**$6,050**
Year 3	**$5,000**	**$1,050**	**$6,050**
Total Requested	**$15,000**	**$3,150**	**$18,150**
Description	Mileage for coordination, meetings, workshops, landowner meetings, etc. Match portion will come from mileage (federal mileage rate) of SLT attendees collected via a sign-in sheet at each meeting (~$550/meeting x 4 meetings/yr x 3yrs = $6,600).		

Supplies			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$850**	**$0**	**$850**
Year 2	**$850**	**$0**	**$850**
Year 3	**$850**	**$0**	**$850**
Total Requested	**$2,550**	**$0**	**$2,550**
Description	Needed supplies for office expenses, printing material, equipment, etc. Include monthly fees for hotspot and dedicated cell phone number for a combined expense of $282/year.		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$47,750**	**$73,957**	**$121,707**
Year 2	**$47,350**	**$73,957**	**$121,307**
Year 3	**$46,850**	**$73,956**	**$120,806**
Total Requested	**$141,950**	**$221,870**	**$363,820**
Description	Implementation of BMPs in the priority area. The requested amount includes $5000/year for outreach and education efforts. Match includes SLT member attendance at 4, 3-hour meetings/year at $25.43/hour. Match also includes landowner and partner in-kind contributions towards on-the-ground projects. County Conservation Districts in Leavenworth and Jefferson counties will provide in-kind match contributions from their operational and educational funds valued at $75,000, at least once during the 3-year grant cycle.		

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			

Indirect			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$10,000**	**$910**	**$10,910**
Year 2	**$10,000**	**$910**	**$10,910**
Year 3	**$10,000**	**$910**	**$10,910**
Total Requested	**$30,000**	**$2,730**	**$32,730**
Description	10% de minimis on the grant total, minus the TSP allocation. The indirect funds will be used for KAWS organizational overhead expenses as well as 0.14 of the KAWS' Assistant Director/WRAPS Coordinator position. KAWS' Executive Director will provide 20 hours as match at a billable rate of $45.62/hour each year.		

WRAPS Strategic Planning
General Plan Implementation

Implementing years 12-14 of the approved Lower Kansas River WRAPS 9-Element Watershed Plan. The load reduction goals of the plan are 7,192 pounds of nitrogen and 3,818 pounds of phosphorus. The strategies in SFY 23-25 implementation will achieve 6,000 pounds of nitrogen and 4,000 pounds of phosphorus. 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.

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: cover crop implementation, no till, conservation crop rotation, precision agriculture to apply nutrients by variable rate application, critical area seeding, conversion of cropland to permanent grass, buffer strips, alternative livestock watering systems, relocation of livestock feeding areas away from streams, and grazing management.

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

The financial resources needed for implementation are as outlined above and totaling $141,950 for three-years. Additional resources include the Extension Agents through Kansas State University, NRCS technical staff, Kansas Department of Wildlife & Park Wildlife Biologist and technician, Farmer/Rancher one-on-one instructors, Conservation District Managers, Conservation District financial assistance programs, Environmental Quality Incentive Program (EQIP).

Strategy One

Provide a general summary of Strategy One

Strategy one: Reduce livestock related water quality impairments in Stranger Creek
Implement BMPs within the riparian priority area (no less than ¼ mile corridor on either side of the stream or greater than the 500-year floodplain), or move livestock out of the priority area, to improve water quality and prevent bacteria from entering the streams. The priority HUCs are: 102701040301, 102701040302, 102701040303, 102701040304, 102701040305, 102701040306, 102701040307, 102701040401, 102701040402, 102701040403, 102701040404, 102701040405, 102701040406, 102701040407

What are the goals for this strategy?

Remove cattle from impacting water quality in Stranger Creek by December 31, 2025. The goal is 100 cow/calf pairs per year for a total of 300 cow/calf pairs in three years. Because of the riparian priority area, utilizing cover crops to move cattle away from streams and grazing cover crop fields, we can have a positive impact of water quality, by establishing the following BMPs:

- Off-Stream Waterers
- Relocate Feeding Areas
- Grazed Cover Crops
- Riparian Buffers

General BMPs to be used as padding for specific projects or unforeseen needs related to agriculture practices impact on water quality.
This will reduce nitrogen by 990 pounds per year and phosphorus by 530 pounds per year and 2970 pounds of nitrogen and 1590 pounds of phosphorus in the three year grant cycle.

Tactics and action steps

Re-assess current "VIP" list

a. Reassess Google Earth maps based off more current images to refresh "VIP" landowners we would want to work with by March 2023
b. Share the list with partners to better network with the landowners by March 2023
c. Ground truth landowners on the list if accessible by March 2023

Outreach and education

a. Communications (direct mailers, flyers, updated information) sent out to landowners in spring 2023 highlighting projects from well-known landowners in the watershed.
b. Run a story in the local newspaper about our program in the watershed in spring 2023.
c. Host a workshop in fall/winter 2023-2025 at project sites and follow up with three attending landowners
d. Continue to support local workshops with a table, information, and speaking spot.
e. Host small gathering informal talks with local landowners by HUCs in the spring/summer.
f. Ask landowners with WRAPS funded projects to make introductions to surrounding landowners.
g. Continue creating videos of projects and include landowners' testimonials.
h. Continue to sponsor scholarships to interested landowners on topics of interest to our goal.

Key performance indicators for the tactics

	Year 1	Year 2	Year 3	Total
BMP Indicators				
Livestock	100 pair	100 pair	100 pair	150 pair
Cover Crops	80 acres	80 acres	80 acres	240 acres
Coordination Indicators				
Ground truth VIP sites	5	5	5	15
Outreach and Education Indicators				
Communication Letters	1	1	1	3
Newspaper ads	1	1	1	3
Workshop	1	1	1	3
Support local workshops	3	3	3	9
Small gatherings	1	1	1	3
Landowner Introductions	4	4	4	12
Project videos	2	2	2	6
Scholarship sponsor	5	5	5	15

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

Strategy 1 is estimated to take approximately 79-90% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Budget Needs - Strategy 1 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Livestock	$12,000	$11,000	$10,000	**$33,000**
Cover Crops/Soil Health	$20,000	$19,000	$19,000	**$58,000**
Technical Service Provider	$15,000	$15,000	$15,000	**$45,000**
General BMPs	$4,750	$4,350	$4,850	**$13,950**
Outreach & Education	$4,509	$3,962	$3,950	**$12,421**
Travel	$4,509	$3,962	$3,950	**$12,421**
Supplies	$767	$674	$671	**$2,112**
Total	**$61,535**	**$57,947**	**$57,421**	**$176,903**

Needed Resources

a. Conservation Agronomist not connected to a for profit company to assist with cover crop mixes specific to individual landowner/field needs
b. Continuing education of cover crop mixes, soil health, and nutrient management
c. Updated parcel information with current addresses and **phone numbers**

Strategy Two

Provide a general summary of Strategy Two

Strategy Two: Reduce Phosphorus related water quality impairments in Ninemile Creek and Crooked Creek

In the first state fiscal year of this grant cycle (SFY22), we will collect water samples to better understand the phosphorus and E. Coli issue throughout the watershed. In order to better target where the water quality issues are coming from, we will pull water samples once a month from July 2022 to July 2023. We will sample at a total of six sites at or near: Crooked Creek at Nortonville, Stranger Creek at Cummings, Stranger Creek at Easton, Tonganoxie Creek at Tonganoxie, Linwood at Ninemile creek, and Linwood at Stranger Creek. We will collect a total of one water sample per month per site for twelve months at six sites for a total of 72 water samples. Of the twelve samples, they will include one high flow and one low flow. Once we have a better understanding of where the issues are and the land uses associated with them we can then move into Implementation in state fiscal years 2 and 3. Implement BMPs within the riparian priority area (not less than ¼ mile on each side of the stream or greater than the 500-year floodplain), to improve water quality and prevent phosphorus from entering the streams. The priority HUCs are: 1027010405, 127010406, 102701040303, 102701040304..

What are the goals for this strategy?

Year one we will collect water samples to better understand the issue in the watershed. The goal is to take water sampling data and observe the land use in the area to narrow down where our water quality concern is coming from. In grant years 2 and 3 we will introduce the new WRAPS effort to reduce phosphorus related practices from impacting water quality in Ninemile and Crooked Creek by December 31, 2025. The goal is 50 acres per year for a total of 100 acres in three years for establishing nutrient management BMPs and 10 acres per year for a total of 20 acres in three years for establishing cover crops BMPs. Establishment of the following BMPs will help us achieve our goal:

- Cover Crops
- Riparian Buffers
- Precision Agriculture with Soil Sampling
- Conservation Crop Rotation

This will reduce nitrogen by 1000 pounds per year and phosphorus by 700 pounds per year and a total of 3000 pounds of nitrogen and 2100 pounds of phosphorus in the three year grant cycle.

Tactics and action steps

Collected water samples for analysis

a. Collect a total of one water sample per month for twelve months at six different sites for a total of 72 water samples

b. Use the data to figure out what land use and practices could be contributing to the impairment

Aerial truth based on Google Earth

c. Aerial truth Google Earth maps based off more current images and water sample data to develop a “VIP” landowners list we would want to work with based on land use by March 2023

d. Identify partners in the area that could offer services to help implement BMPs

e. Share the list with partners to better network with the landowners by March 2023
f. Ground truth landowners on the list if accessible by August 2023

Outreach and education

a. Communications (direct mailers, flyers, update information) sent out to landowners in summer 2023.
b. Run a story in the local newspaper about our program in the watershed in summer 2023.
c. Continue to support local workshops with a table, information, and speaking spot.
d. Host small gathering informal talks with local landowners by HUCs to inform landowners of our program and have one-on-one conversations where they are. Use VIP list to target landowner we want to work with by fall 2023

Key performance indicators for the tactics

	Year 1	**Year 2**	**Year 3**	**Total**
BMP Indicators				
Water Samples	72 samples	0	0	72 Samples
Nutrient Management	0 acres	50 acres	50 acres	100 acres
Cover Crops	0 acres	10 acres	10 acres	20 acres
Coordination Indicators				
Ground truth VIP sites	0	10	10	20
Outreach and Education Indicators				
Communication Letters	1	1	1	3
Newspaper ads	1	1	1	2
Support local workshops	3	3	3	9
Small gatherings	1	1	1	3
Landowner Introductions	1	1	1	3

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

Strategy 2 is estimated to take approximately 10-21% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Budget Needs - Strategy 2 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Water Samples	$4,000	$0	$0	**$4,000**
Nutrient Management	$0	$9,000	$9,000	**$18,000**
Technical Service Provider	$0	$0	$0	**$0**
Outreach & Education	$491	$1,038	$1,050	**$2,579**
Travel	$491	$1,038	$1,050	**$2,579**
Supplies	$83	$176	$179	**$438**
Total Requested	**$1,065**	**$11,253**	**$11,279**	**$23,597**

Needed Resources

a. Cooperation from the City of Olathe Laboratory to analyze the water samples
b. Conservation Agronomist not connected to a for profit company
c. Parcel information with current addresses and **phone numbers**