Project Implementation Plan SFY23-25

Fall River/Toronto WRAPS

WRAPS Coordinator: Bob Culbertson

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $345,000

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	$36,200	$36,700	$37,200
Admin/Indirect	$11,500	$11,500	$11,500
Travel/Supplies	$9,700	$9,700	$9,700
Strategy Implementation/BMPs	$57,600	$57,100	$56,600
Total:	$115,000	$115,000	$115,000

Estimated Load Reductions	
Phosphorus	4,802 lbs.
Nitrogen	9,273 lbs.
Sediment	2,153 tons

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs)	Nitrogen (lbs)	Sediment (tons)
Toronto and Fall River Livestock Related Water Quality Improvements. Complete BMPs that will effectively restrict 425 head of livestock from streams and other water bodies. BMPs include: ● Alternative Livestock Watering Systems ● Hardened Feeding Sites ● Relocation of Feedlots ● Cover Crop	$70,363	2,000	4,000	N/A

Nutrient and Sediment Reduction from Cropland in Toronto and Fall River Watersheds. Implement BMPs that successfully reduce nutrients and sediment throughout the watershed. BMPs include: ● Cover Crops (1,000 acres) ● Nutrient Management/Reduction from Soil Testing (100 acres) ● Conversion of Cropland to Permanent Grass (100 acres) ● Establishment of Grass Buffers (100 acres) ● No-Till Implementation (100 acres) ● Conservation Crop Rotation (100 acres) ● Gully Erosion Repair	$62,031	1,905	3,800	1,400
Sensitive Riparian Buffer Protection. Implement the following BMPs: ● Permanent Grass Planting (10 acres) ● Buffer Establishment (10 acres) ● Cover Crop	$10,960	440	600	370
Brine Scar Implementation and Restoration Efforts. Coordinate restoration efforts on 2 sites during this segment ending December 31, 2025. Initiate grazing management on 3 other sites to address the first phase of restoration of adding organic content to the soil through grazing. ● 5 grazing plans ● 5 soil tests ● 2 acres of mulching ● 2 acres of critical area seeding ● 2,000 feet of fence	$12,056	22	43	23
Soil Health BMPs. This strategy will focus on soil health improvements in the watershed, but not covered under previous strategies. This strategy also allows TFR to engage landowners in a variety of practices that are common problems and at the top of the				

priority list for landowners. These concerns include gully erosion in go-back rangeland and waterways. Addressing these issues can lead to further discussions about livestock management, cropland erosion and management and water quality. BMPs in this strategy include: ● Cover Crops ● No-Till ● Gully Erosion in Rangeland or Pasture ● Waterways ● Critical Area Seeding ● Range Seeding	$15,891	435	830	360

Project Information

Project Title

Fall River/Toronto 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

P.O. Box 142

City, State, Zip

Holton, KS 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

Bob Culbertson

Street Address

207 Cheyenne Street

City, State, Zip

New Strawn, KS 66839

Phone Number

620-364-9485

Email

Bob.culbertson@kaws.org

Project Overview

List the HUC12s that are included in this project.

Riparian zones (to not be less than 1/2 mile on either side of streams or greater than the 500-year flood plain) in the following HUCS: Fall River: 110701020101 through 110701020108, 110701020201 through 110701020206. Toronto: 110701010101 through 110701010107, 110701010201 through 110701010203, 110701010301 through 110701010306.

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

☒Yes
☐No

If yes, please enter the impacted public supplies.

Otis Creek Reservoir, Fall River Reservoir, Madison Lake, Toronto Reservoir

Describe the project history.

Fall River WRAPS
The Stakeholder Leadership Team (SLT) was formed out of concern for the health and lifespan of Fall River Reservoir. Construction of the dam began in 1946 by the U.S. Army Corps of Engineers, Tulsa District (USACE) and the multipurpose pool was filled in 1949. In 1949, the reservoir had a storage capacity of 30,401-acre feet. The estimated current capacity from the latest survey year (2010) is 20,690-acre feet. This is a loss of 32% due to sediment that has entered the Reservoir from the watershed with a calculated sedimentation rate of 158-acre feet per year.
Fall River Watershed PMT/SLT has evolved over the last 18 years to a WRAPS SLT that has installed Best Management Practices (BMPs) to protect the quality of water in Fall River, Fall River Reservoir and the entire Watershed. To maintain a source of WRAPS funding the SLT worked towards broadening their plan into a 9-element plan. In doing so, it became apparent that more monitoring

information was needed if target areas were to be identified. In 2011, Fall River WRAPS undertook water quality monitoring at six new sites throughout the whole watershed with guidance from KDHE and an approved Quality Assurance Project Plan. In addition, KDHE has 2 monitoring sites in Fall River watershed: one on Otter Creek at 99 Bridge and one on Fall River at Rice Bridge. The 9-element plan for Fall River was approved April 20, 2012.Overall, Fall River WRAPS has received five WRAPS grants to implement BMPs to protect water quality in Fall River Reservoir.

During the past three-years (2019-2022), landowners in Fall River WRAPS priority areas installed:

- 1 alternative water system for livestock
- Fenced out ¼ mile of stream from any grazing
- Two cover crop projects on 290 acres
- 3 salt scar remediation projects-started
- Reservoir Protection Initiative funded via the Kansas Water Office-2,000 acres

Toronto WRAPS:

The Stakeholder Leadership Team (SLT) was formed out of concern for the health and lifespan of Toronto Reservoir. Construction of the dam began in 1954 by the U.S. Army Corps of Engineers, Tulsa District (USACE) and the multipurpose pool was filled in 1960. In 1960, the reservoir had a storage capacity of 27,230-acre feet. The estimated current capacity from the latest survey year (2010) is 16,528-acre feet. This is a loss of 40 percent due to sediment that has entered the Reservoir from the watershed with a calculated sedimentation rate of 212-acre feet per year.

The process of organizing the Toronto WRAPS began in 2007 by Kansas State University with organizational public meetings held in Madison, Hamilton, and Toronto, KS. During 2007 and 2008, KSU obtained WRAPS grants to help the Toronto Stakeholders Leadership Team complete the development and assessment phases of the process. A SWAT model was developed by KSU and the SLT to identify priority target areas in which to install BMPs. The planning phase was started in late 2008 and was completed by KSU and the Toronto SLT in December 2009. During this phase a 9-element implementation plan was developed by KSU and the Toronto SLT. Implementation began in January 2010. The Nine-element plan was approved October 5, 2010.

During the past 3-year cycle (2019-2022), Toronto WRAPS projects include:

- 3 alternative water systems
- 1 demonstration project using a solar panel and water pump
- 4 livestock projects in progress restricting steam access for 150 head
- Cover crop on 1,920 acres
- Range seeding of 56 acres
- 1 diversion

Information and Education: Toronto and Fall River

Information and Education efforts were a substantial part of the Toronto and Fall River Grant during the last segment. The watersheds work together in these efforts, so will be reported as such. The Covid pandemic had an impact on in-person workshops and meetings in 2020 and 2021. I & E efforts include:

- Soil Health University- 2 landowners
- Information booths at the Kansas State Fair and the Topeka Farm Show
- Sponsored the Eureka Pro Rodeo Event-3 years
- Sponsor 2 Soil Health Conferences at Green Cover Seed and provided 4 scholarships
- Fuller Soil Health Field Class- sponsored 2 landowners
- Best Management Practice signs placed in prominent locations along roads
- Hats with the TFR WRAPS logo distributed to landowners and Partners
- Co-sponsor for Women in Agriculture (2 years)
- Greenwood County Cattlemen's Summer Workshop Tour sponsor and presenter
- Greenwood County Cattlemen's Day participant

- Greenwood County Water Festivals and Day on the Farm presentations for youth
- Two direct mailings to all landowners in the priority areas
- Local newspapers-6 articles
- Greenwood County Conservation District Newsletters (quarterly)
- Presentations at the annual Greenwood County Conservation District Annual Meeting-3 years
- Hagie interseeder demo- 500 acres cover crop planted
- 2 field tours to illustrate results
- Ward Lab Workshop on advantages of thorough soil testing
- Over 600 people were exposed to WRAPS at these events

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),

The SLT is comprised of the Greenwood County Conservation District Board of Supervisors along with other ranchers, producers and agency representatives. The SLT meets at least quarterly or as called by the WRAPS coordinator. The Coordinator sets the time, place and agenda that is emailed to all SLT members in addition to others in the watershed who occasionally attend meetings or have hosted tours. There are no elected officers or board members. Any SLT member may suggest agenda items or request additional meetings. The meetings are informal with much round table discussion.

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

Matthew Marshall, Member, GWCCD, zzzfishes77@hotmail.com
Glen Collinge, Member, GWCCD, glencollinge@gmail.com
Paul Hodge, Member, Greenwood County Commissioner, p1950hodge@gmail.com
Greg Davis, Member, RanchLand Feed Manager, ranchlandfeeds@gmail.com
Bob Brink, Member, Rancher, kanwaka@powwwer.net
Vickie Cikanek, Agency Advisor, Kansas Department of Wildlife and Parks, Vickie.Cikanek@ks.gov
Dale Kirkham, Member, Rancher, kirkhamdale@outlook.com
Keila Sherman, Greenwood County Conservation District Manager, Keila.Sherman@ks.nacdnet.net
Paul Dean, Member, Attorney, Mayor of Madison, pedean@hotmail.com
Kim Jones, State Park Manager, Crosstimbers State Park, KDWP, Kimberly.Jones@ks.gov
Jeff Davidson, Advisor, Water Quality and Livestock Specialist, KSU jdavidso@ksu.edu
Luke Westerman, Advisor, Supervisory District Conservationist, NRCS, Luke.Westerman@usda.gov
Andrew Davis, Member, GWCCD, adavis7884@yahoo.com
Brance Boone, Member, GWCCD, boonecattlecompany@gmail.com
Preston Beeman, Member, GWCCD, prestonbeeman@rocketmail.com
Libby Albers, Advisor, KAWS Asst. Director, libby.albers@kaws.org

Project Scope

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

Fall River Reservoir: Eutrophication, Dissolved Oxygen and Siltation

Toronto Reservoir: Eutrophication, Dissolved Oxygen and Siltation in Walnut Creek and Homer Creek. Dissolved Oxygen in West Creek. The dissolved Oxygen TMDLs will be addressed by the BMPs implemented for nutrient and sediment reductions

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.

Fall River WRAPS:

- A water conditions report for HUC 11070102 Fall River was prepared by KDHE in November 2006. The primary pollutant concerns were determined to be dissolved oxygen (DO) and fecal coliform bacteria (FCB).
- Kansas Alliance for Wetlands & Streams completed a stream assessment in 2007 for Fall River and all its tributaries to identify potential sites of stream erosion within the Fall River Watershed.
- The main stem, East Branch, and West Branch of Fall River are designated as "Exceptional State Waters" by KDHE and are a high priority for water quality protection.
- In 2010, the Kansas Water Office (KWO) conducted sediment assessments to help determine the source of sediment filling Fall River Reservoir.
- Fall River WRAPS carried out a water monitoring plan on Fall River and its tributaries in 2011.
- **Toronto WRAPS**:
    A. K-State Modeling
    B. KDHETMDL
    C. KWO Sediment Assessment of Toronto Watershed

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$35,700**	**$21,500**	**$37,200**
Year 2	**$36,200**	**$21,500**	**$37,700**
Year 3	**$36,700**	**$21,500**	**$38,200**
Total Requested	**$108,600**	**$64,500**	**$173,100**
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. Match also generated (estimated at $20,000) from Greenwood County Conservation District county allocation each year.		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$500**	**$0**	**$500**
Year 2	**$500**	**$0**	**$500**
Year 3	**$500**	**$0**	**$500**
Total Requested	**$1500**	**$0**	**$1500**
Description	Fringe for 0.5 FTE grant coordinator includes a cell phone allowance		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$8,000**	**$1,050**	**$9,050**
Year 2	**$8,000**	**$1,050**	**$9,050**
Year 3	**$8,000**	**$1,050**	**$9,050**
Total Requested	**$24,000**	**$3,150**	**$27,150**
Description	Mileage for coordination, meetings, workshops, tours, landowner contact. Match will come from SLT meeting mileage and time for members attending. Other match generated by producers in the watershed attending workshops, schools, field days to further education and promotion of best management practices.		

Supplies			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$1,700**	**$0**	**$1,700**
Year 2	**$1,700**	**$0**	**$1,700**
Year 3	**$1,700**	**$0**	**$1,700**
Total Requested	**$5,100**	**$0**	**$5,100**
Description	Supplies grant is for office expenses, printing of materials, SLT meeting expenses.		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$57,600**	**$59,873**	**$112,023**
Year 2	**$57,100**	**$59,873**	**$111,523**
Year 3	**$56,600**	**$59,874**	**$111,024**
Total Requested	**$171,300**	**$179,620**	**$334,570**
Description	Best Management Practice allocations. Included in the grant request is $5000/year allocated to outreach and education for the BMP Strategies. These are the dollars budgeted for contracting BMPs to landowners in the priority areas. Match generated from landowners share of project, lost income from some projects, maintenance activities during establishment of practices, additional work done in support of a project that is not reimbursable. Match is also expected from partners (KDWP, GCCD and KDA) as they assist financially with state or local funding on projects. Additional match will come from the Kansas Reservoir Program Initiative (KRPI) in Fall River Watershed.		

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	**$11,500**	**$910**	**$12,410**
Year 2	**$11,500**	**$910**	**$12,410**
Year 3	**$11,500**	**$910**	**$12,410**
Total Requested	**$34,500**	**$2,730**	**$37,230**
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 10 through 12 of the approved Toronto/Fall River WRAPS 9-Element Watershed Plans. The load reduction goals of these years of the plan are 20,000 pounds of nitrogen, 10,000 pounds of phosphorus, and 5,000 tons of sediment. The strategies in this project implementation plan, funded by WRAPS, will achieve 9,273 pounds of nitrogen, 4,802 pounds of phosphorus, and 2,153 tons of sediment. The below strategies will focus on one or more specific impairments identified in the 9-Element Watershed Plan. Load reductions from other programs will help achieve the total load reduction goals. 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 include: Cover crop implementation, No till, conservation crop rotation, precision agriculture to apply nutrients by variable rate application, critical area seeding, gully repair, conversion of cropland to permanent grass, buffer strips, alternative livestock watering systems, relocation of livestock feeding areas away from streams, brine site mitigation and repair, grazing management, and rotational grazing.

Budgets in the strategies below do not include grant monies allocated to Personnel, Fringe Benefits, or Indirect Costs.

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

The budget resources needed for implementation are listed in table form within this application. The 5 strategies require $171,300 to implement the BMPs and Information/Education minimums. Other resources include the Livestock Specialist contracted through Kansas State University, NRCS personnel, Kansas Department of Wildlife & Parks Biologist, John Redmond WRAPS Technician, Farmer/Rancher one-on-one instructors, Conservation District Managers, Conservation District financial assistance programs, Environmental Quality Incentive Program (EQIP), Reservoir Protection Initiative Program (KDA) and the Riparian Protection Program (KDA).

Strategy One

Provide a general summary of Strategy One

Strategy One: Toronto and Fall River Livestock Related Water Quality Improvements.
Implement BMPs within the riparian priority areas in TFR to improve water quality for nutrients originating from concentrations of livestock along streams and other water bodies. This is a watershed wide strategy, but priority HUC watersheds in the northern portion of the Toronto WRAPS will be included: 110701010101 through 110701010105 and 110701010201 and 110701010202.
WRAPS will strive to encourage livestock producers to consider the advantages of watering animals in tanks instead of streams and make this a common practice in the watershed.

What are the goals for this strategy?

Goals of Strategy One:
Complete BMPs that will effectively restrict 425 head of livestock from streams and other water bodies. This would account for a reduction of 2,000 pounds of phosphorus and 4,000 pounds of nitrogen. Complete by December 31, 2025. BMPs include:

- Alternative Livestock Watering Systems
- Hardened Feeding Sites
- Relocation of Feedlots
- Cover Crops

Tactics and action steps

Action Steps for Strategy One:
Assessment:

- Develop a list of producers in the targeted portion of Toronto WRAPS that have wintering livestock along perennial streams by December 2022.
- Generate map with locations of sites, phone numbers, email list by March 2023
- Perform a windshield survey of sites by May 2023
- Send out survey to gauge interest in water quality/livestock health by June 2023

Outreach and Communication:

- Advertise BMPs for livestock at the Eureka Sale Barn with bi-monthly updates
- Write and distribute articles on livestock health each quarter-Use KSU and Livestock Specialist
- Send postcard information to targeted producers once/year
- Host workshop in the Madison Area demonstrating livestock use of cover crops and/or off stream watering facilities. May partner with Greenwood County Livestock Association. One workshop/year.
- Meet with landowners in the field to discuss their operation, watering sites, grass conditions, grazing plans, etc. Average of 1/month each year.

Implementation:

- Work with Livestock Specialist to develop alternative livestock water system plans
- Work with NRCS to develop grazing plans for interested producers
- Use cover crops for grazing to limit livestock use of riparian areas
- Contract with producers for water developments and make sure money is available
- Larger projects may be funded by NRCS or procure supplemental funds from KDHE.
- Use Farmer/Rancher to Farmer/Rancher one on one contacts to help implement practices and ideas for change

Key performance indicators for the tactics

Evaluation of Progress:

BMP Indicators	Year 1	Year 2	Year 3	Total
ALWS	100 head	100 head	50 head	250 head
Feedlot Relocation		50 head	50 head	100 head
Cover Crops	25 head	25 head	25 head	75 head
Information/ Education				
Articles	4	4	4	12
Postcards	1	1	1	3
Workshops	1	1	1	3
Farmer one on ones	2	2	2	6
Coordination Indicators				
L.O. Field Visits	12	12	12	36
ALWS Plans	6	6	6	18
Grazing Plans w/ NRCS	2	2	2	6

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

Strategy 1 is estimated to take approximately 40% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Resources Needed: Budget

Budget Needs - Strategy 1 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
ALWS	$18,000	$9,000	$9,000	**$36,000**
Feedlot Relocation	$0	$10,000	$10,000	**$20,000**
Cover Crops	$2,600	$2,600	$3,000	**$8,200**
Technical Service Provider	$10,000	$10,000	$10,000	**$30,000**
Outreach & Education	$1,958	$2,073	$2,132	**$6,163**
Travel	$3,133	$3,317	$3,411	**$9,861**
Supplies	$666	$705	$725	**$2,095**
Total Requested	**$36,357**	**$37,694**	**$38,267**	**$112,319**

- Map of sub-target area in Toronto WS-KDHE
- WRAPS Coordinator effort-40% of funded time-KAWS
- Google Earth Training
- Local Phone Number and email addresses
- Priority Area Map Landowners extending into Lyon County, Chase and Woodson Counties-KDHE

Strategy Two

Provide a general summary of Strategy Two

Strategy Two: Nutrient and Sediment Reduction from Cropland in Toronto and Fall River Watersheds

Implement BMPs within the Priority Areas to address sedimentation and excess nutrient loads in streams and reservoirs. This is a watershed wide strategy. WRAPS will work with landowners and partners to instill an attitude and goal of "No Soil Leaves the Field".

Riparian zones (to not be less than 1/2 mile on either side of streams or greater than the 500-year flood plain) in the following HUCS: Fall River: 110701020101 through 110701020108, 110701020201 thru 110701020206. Toronto: 110701010101 through 110701010107, 110701010201 through 110701010203, 110701010301 through 110701010306.

What are the goals for this strategy?

Goals of Strategy Two: Implement BMPs that successfully reduce nutrients and sediment throughout the watershed. BMPs include:

- Cover Crops
- Nutrient Management/Reduction from Soil Testing
- Conversion of Cropland to Permanent Grass
- Establishment of Grass Buffers
- No-Till Implementation
- Gully Erosion Repair
- Conservation Crop Rotation

BMP and load reduction goals are to be completed by December 31, 2025.

1,000 acres of cover crops
100 acres of Nutrient Management
100 acres of cropland conversion to permanent grass
100 acres of No Till
100 acres of Conservation Crop Rotation

Load Reductions	Sediment tons/year	Phosphorus lbs/year	Nitrogen lbs/year
Cover Crops	1,050	1450	2900
Nutrient Mgmt	40	50	100
Grass Planting	150	200	400
No-Till	120	155	300
Crop Rotation	40	50	100
3-year Total	**1,400**	**1905**	**3800**

Tactics and action steps

Action Steps for Strategy Two:

Assessment:

- Contact cover crop WRAPS contract holders with survey to measure effectiveness-Dec. 31, 2022
- Create a list of 10 producers/yr. who do not implement any soil health practices
- Expand list of priority area contacts to include Lyon and Woodson Counties-Dec. 31, 2022
- Perform windshield survey of soil health projects annually and visit with producers-November each year

Outreach and Communication:

- Provide article for GCCD newsletter each quarter on soil health and WRAPS
- Host 1 workshop each year focusing on Soil Health
- Host 1 Soil Health Tour each year
- Support Farmer to Farmer Education
- Support Fuller Field School and Green Cover Seed Workshops and Tours with financial assistance and attendance
- Survey workshop and tour attendees to determine effectiveness and needs
- Use past WRAPS projects for tours
- Utilize Soil Health Alliance to advertise and find speakers
- Make personal contact with the producers not implementing soil health
- Host Coffee and discussion time for producers-Quarterly
- Include Grass Restoration Practices in all tours and workshops

Implementation:

- Maintain regular contact with Seed Dealers in Madison and Eureka
- Work with producers to implement soil health practices
- Develop contracts to help fund cover crop and soil health practices
- Work with Ward Lab or other soil lab to demonstrate soil testing and applications that consider cover crop improvements
- Work with FSA to track CRP applications and keep FSA in the loop with WRAPS policies for assistance
- Work with KDWP to implement grass planting projects-use of drill, grass mixes
- Work with NRCS on no-till and crop rotation plans-1-2 producers annually

Key performance indicators for the tactics

Evaluation of Progress:

BMP Indicators	**Year 1**	**Year 2**	**Year 3**	**Total**
Cover Crops	400 acres	400 acres	400 acres	1,200 acres
Nutrient Mgmt	25 acres	25 acres	50 acres	100 acres
Grass Planting	25 acres	25 acres	50 acres	100 acres
No-Till		50 acres	50 acres	100 acres
Crop Rotation		50 acres	50 acres	100 acres
Information/Education Indicators				
Newsletter Support	4	4	4	12
Workshops	1	1	1	3
Tours	1	1	1	3

Coffee and Discussion	4	4	4	12
Coordination Indicators				
Soil Health Plans	1	2	2	5
Field Visits w/ L.O.	12	12	12	36
WRAPS Contracts	6	6	6	18
Contact w/ Producers not in soil health	10	10	10	30
Farmer to Farmer Ed. Contacts	2	4	4	10

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

Strategy two is estimated to take approximately 36% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Resources Needed:
Budget

Budget Needs - Strategy 2 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Cover Crops	$10,000	$10,000	$10,000	**$30,000**
Nutrient Management	$2,000	$2,000	$1,000	**$5,000**
Grass Planting	$7,500	$7,000	$7,100	**$21,600**
No Till	$0	$0	$0	**$0**
Crop Rotation	$0	$0	$0	**$0**
Technical Service Provider	$0	$0	$0	**$0**
Outreach & Education	$1,854	$1,823	$1,754	**$5,431**
Travel	$2,966	$2,917	$2,806	**$8,689**
Supplies	$630	$620	$596	**$1,847**
Total Requested	**$24,950**	**$24,361**	**$23,256**	**$72,567**

- Addresses for priority area extending into Lyon, Chase and Woodson Counties
- WRAPS coordinator effort-36% of funded time
- Communication Plan for Soil Health

Strategy Three

Provide a general summary of Strategy Three

Strategy Three: Sensitive Riparian Buffer Protection

Implement BMPs on cropland adjacent to streams to address sedimentation and nutrient runoff. WRAPS will work with landowners and partners to create more grass buffers in critical areas that may also be used for hay production or short-term grazing. Priority sites will include flood prone areas, small fields adjacent to streams and cropland that is adding substantial sediment to the stream. Incentives in the form of up-front payment/acre will be used to encourage this practice. This strategy will be focused on acres that are not enrolled in CRP or may not qualify for the program.
Riparian zones (to not be less than 1/2 mile on either side of streams or greater than the 500-year flood plain) in the following HUCS: Fall River: 110701020101 through 110701020108, 110701020201 thru 110701020206. Toronto: 110701010101 through 110701010107, 110701010201 through 110701010203, 110701010301 through 110701010306.

What are the goals for this strategy?

Goals for Strategy Three:
Implement the following BMPs:

- Permanent Grass Planting
- Cover Crop
- Buffer Establishment

The BMPs below are the goals to be completed by December 31, 2025.

10 acres of Grassland or Hay land Establishment
10 acres of Buffer Establishment

Load Reductions

	Sediment tons/yr	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)
Grassland Est	150	220	300
Buffer Est.	220	220	300
3-year Total	**370**	**440**	**600**

Tactics and action steps

Action Steps for Goal Three:
Assessment

- Utilize google earth to locate potential fields or buffer areas (January 2023)
- Locate priority land suitable for Riparian Buffer Protection
- Communicate with FSA and NRCS – CRP applicants and potential applicants

Outreach/Communication

- Utilize Rack Cards to provide information for WRAPS and grass seeding
- Include newsletter article pertaining to buffer strips and grass plantings near streams
- Include this practice in workshops and field tours

Implementation:

- Develop plan to have funds available for up front incentive payments $50/acre for 10 years
- Work with landowners to use CRP when desirable as an alternative
- Work with KDWP to supply grass drill and assistance

Key performance indicators for the tactics

Evaluation of Progress:

BMP Indicators	Year 1	Year 2	Year 3	Total
Grass Planting	3 acres	4 acres	3 acres	10 acres
Buffers	3 acres	4 acres	3 acres	10 acres
Information/ Education				
Workshops	1	1	1	3
Newsletters/Articles	4	4	4	12
Coordination Indicators				
Field Visits	3	3	3	9
Contracts	1	1	1	3
FSA Referrals	1	1	1	3

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

Strategy 3 is estimated to take approximately 5-7% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Resources Needed:

Budget

Budget Needs - Strategy 3 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Grass Planting	$1,500	$2,000	$1,500	**$5,000**
Buffer Planting	$1,500	$2,000	$1,500	**$5,000**
Technical Service Provider - watershed specialist	$0	$0	$0	**$0**
Outreach & Education	$285	$384	$291	**$960**
Travel	$456	$614	$465	**$1,536**
Supplies	$97	$131	$99	**$326**
Total Requested	**$3,838**	**$5,129**	**$3,855**	**$12,822**

- Google Earth Training
- Project Coordinator effort - 7% of funded time
- KDWP assistance and funding via Habitat First

Strategy Four

Provide a general summary of Strategy Four

Strategy Four: Brine Scar Implementation and Restoration Efforts
Work with landowners interested in correcting and restoring historical brine scar sites within the priority area. Emphasis will be placed on management of these sites to improve organic content of soils, reseed, and protect during grass establishment. Continue to gather data on restored sites, monitor success, work with partners to develop methods of restoration and search for additional funds to address this resource concern. BMPs utilized for this strategy:

- Grazing Management Plan
- Critical Area Seeding
- Soil Testing
- Fencing (Permanent or Electric) to control livestock access
- Land Leveling
- Mulching

Riparian zones (to not be less than 1/2 mile on either side of streams or greater than the 500-year flood plain) in the following HUCS: Fall River: 110701020101 through 110701020108, 110701020201 through 110701020206. Toronto: 110701010101 thru 110701010107, 110701010201 through 110701010203, 110701010301 through 110701010306.

What are the goals for this strategy?

Goals for Strategy Four: Coordinate restoration efforts on 2 sites during this segment ending December 31, 2025. Initiate grazing management on 3 other sites to address the first phase of restoration of adding organic content to the soil through grazing.

- 5 grazing plans
- 5 soil tests
- 2 acres of mulching
- 2 acres of critical area seeding
- 2,000 feet of fence

Load Reductions:

	Sediment tons/yr	Phosphorus lbs/yr	Nitrogen lbs/yr
Critical Area Seeding	23	22	43
Total	23	22	43

The Load Reductions could be much greater if gully erosion is a part of the brine site and it is being addressed also in the restoration.

Tactics and action steps

Action Steps for Strategy Four:

Assessment:

- Use google earth to locate 5 brine scars within the priority area (January 2023)
- Visit sites that have been restored via past contracts
- Communicate with NRCS and Watershed Specialist for site ideas, landowners to approach

Outreach/Communication:

- Field Tour of active sites and restored site-2
- Newsletter article addressing brine scars -1
- Include information on brine scars in project summaries and reports to partners

Implementation:

- Site visits to brine scars landowners bring to the table 1/year
- Windshield tour of sites prioritized with Google Earth
- Work with landowners to develop a grazing, feeding plan to initiate restoration- 5 plans
- Reach out to other agencies or partners for ideas and funding
- Contract on 2 sites to assist financially with project

Key performance indicators for the tactics

Evaluation of Progress:

BMP Indicators	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Grazing Plans	1	2	2	5
Critical Area Seeding and fence		1 acre	1 acre	2 acres
Information/Education/Outreach				
Field Tour	1	1		2
Articles in newsletter/paper	1	1	1	3
Coordination Indicators				
Site Visits	1	1	1	3
Contracts with landowners		1	1	2
Coordination w/ other agencies	1	1	1	3

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

Strategy 4 is estimated to take approximately 5-7% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

Resources and Budget Needs:

Budget Needs - Strategy 4 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Critical Area Seeding	$3,000	$2,000	$3,000	**$8,000**
Fencing	$1,000	$1,000	$1,000	**$3,000**
Grazing Plans	$0	$0	$0	**$0**

Technical Service Provider	$0	$0	$0	**$0**
Outreach & Education	$380	$288	$388	**$1,056**
Travel	$608	$461	$620	**$1,689**
Supplies	$129	$98	$132	**$359**
Total Requested	**$5,118**	**$3,846**	**$5,140**	**$14,104**

- WRAPS Coordinator effort – 7% of time
- KDWP assistance with critical area seedings
- Water Quality Specialist time and assistance for grazing plans, winter feeding options
- Research time and contact with other agencies, partners, universities
- Larger funding source, separate from 319 funds

Strategy Five

Provide a general summary of Strategy Five

Strategy Five: Soil Health BMPs
Implement BMPs in the priority areas of Toronto and Fall River Watersheds that address general soil health improvement and general soil loss. This will include BMPs and soil testing that will help guide further soil health investments. This strategy also includes some BMPs that are not addressed elsewhere in the strategies but are of great interest to landowners and play an important role in nutrient and sediment reductions.
Riparian zones (to not be less than 1/2 mile on either side of streams or greater than the 500-year flood plain) in the following HUCS: Fall River: 110701020101 through 110701020108, 110701020201 through 110701020206. Toronto: 110701010101 through 110701010107, 110701010201 through 110701010203, 110701010301 through 110701010306.

What are the goals for this strategy?

Goals for Strategy Five: This strategy will focus on soil health improvements in the watershed, but not covered under previous strategies. This strategy also allows TFR to engage landowners in a variety of practices that are common problems and at the top of the priority list for landowners. These concerns include gully erosion in go-back rangeland and waterways. Addressing these issues can lead to further discussions about livestock management, cropland erosion and management and water quality.
BMPs in this strategy include:

- Cover Crops
- No-Till
- Gully Erosion in Rangeland or Pasture
- Waterways
- Critical Area Seeding
- Range Seeding

The following BMP goals are to be completed by December 31, 2025.

- 3 Gully Erosion Repairs – 300' each
- 2 Waterways
- 175 acres of Cover Crops
- Critical Area Seeding – 3 acres
- Range Seeding – 5 acres each year

Load Reductions	Sediment tons/year	Phosphorus lbs/year	Nitrogen lbs/year
Gully Erosion	100	100	200
Cover Crops	200	250	500
Waterways	35	50	70
Critical Area Seeding	5	5	10
Range Seeding	20	30	50
Total	**360**	**435**	**830**

Streambank Restoration funding would come from other sources within KDHE.

Tactics and action steps

Action Steps for Strategy Five:

Assessment:

- Communicate with NRCS and Watershed Specialist for site ideas, landowners to approach
- Review previous project sites and landowners

Outreach/Communication:

- Field Tour of sites to demonstrate BMPs -2
- Newsletter article addressing general BMPs 1/year
- Use rack cards to advertise these BMPs
- Utilize local radio to communicate general water quality issues and the use of BMPs 1/year

Implementation:

- Site visits to landowners with concerns for BMPs and issues
- Work with landowners to develop plans to address issues- 5 plans
- Develop contracts to address concerns with BMPs

Key performance indicators for the tactics

Evaluation of Progress:

BMP Indicators	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Gully Erosion	300’	300’	300’	900’
Waterways		1	1	2
Cover Crops	75 acres	50 acres	50 acres	175 acres
Critical Area Seeding	1 acre	1 acre	1acre	3 acres
Range Seeding	5 acres	5 acres	5 acres	15 acres
Information/Education/Outreach				
Field Tour	1	1		2
Articles in newsletter/paper	1	1	1	3
Radio or similar outreach	1	1	1	3
Coordination Indicators			Re	
Site Visits	3	3	3	9
Contracts with landowners	1	1	1	3
Coordination w/ other agencies	1	1	1	3

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

Strategy 5 is estimated to take approximately 8-10% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needed for this Strategy.

Resources and Budget Needs:

Budget Needs - Strategy 5 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Gully Erosion	$2,000	$1,000	$1,000	**$4,000**
Waterways	$0	$2,000	$2,000	**$4,000**
Cover Crops	$2,000	$1,000	$1,000	**$4,000**
Critical Area Seeding	$1,500	$500	$500	**$2,500**
Technical Service Provider	$0	$0	$0	**$0**
Outreach & Education	$523	$432	$436	**$1,391**
Travel	$837	$691	$698	**$2,225**
Supplies	$178	$147	$148	**$473**
Total	**$7,037**	**$5,770**	**$5,782**	**$18,589**

- WRAPS Coordinator effort – 10% of time
- NRCS Assistance to plan and implement practices