Project Implementation Plan SFY23-25

John Redmond WRAPS

WRAPS Coordinator: Dan Haines

Grant Start: July 1, 2022
Grant End: December 31, 2025
Total Allocation: $420,000

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	$61,400	$62,100	$62,900
Admin/Indirect	$14,000	$14,000	$14,000
Travel/Supplies	$11,700	$11,700	$11,700
Strategy Implementation/BMPs	$52,900	$52,200	$51,400
Total:	$140,000	$140,000	$140,000

Estimated Load Reductions	
Phosphorus	18,539 lbs.
Nitrogen	36,746 lbs.
Sediment	11,663 tons

Strategy and Goals	Funding	Load Reductions		
		Phosphorus (lbs/yr)	Nitrogen (lbs/yr)	Sediment (tons/yr)
Addressing the Dissolved Oxygen Impairment in the Eagle Creek Watershed of John Redmond Reservoir: Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices. BMPs will limit cattle access by 400 AUs, improve soil quality on 3,170 acres (primarily no-till/cover cropping) through: • Cover crops	$59,999	4,760	9,440	3,051

• No-till adoption • Electric fencing systems • Permanent fence exclusions • Wind Shelters • Alternative water sources • Hardened feeding pads				
Addressing the Dissolved Oxygen Impairment in the Allen-Dow Watershed of John Redmond Reservoir Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices. BMPs will limit cattle access by 270 AUs and improve soil quality on 4000 acres (primarily no-till/cover cropping) through: • Cover crops • No-till adoption • Electric fencing systems • Permanent fence exclusions • Wind Shelters • Alternative water sources • Hardened feeding pads	$29,243	5,726	11,370	3,740
Addressing the Biology TMDL Impairment in the Fox Creek Watershed of John Redmond Reservoir Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering biological indices in the Fox-Palmer Creek watersheds. BMPs will limit cattle access by 200 AUs, improve soil quality on 120 acres through: • Cover crops • No-till adoption • Electric fencing systems • Permanent fence exclusions • Wind Shelters • Alternative water sources • Hardened feeding pads	$34,116	873	1,668	159
Addressing the Biology TMDL Impairment in the South Fork of the Cottonwood Watershed of John Redmond Reservoir	$13,647	2,753	5,423	1,529

Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering biology indices in the South Fork of the Cottonwood watershed. BMPs will limit cattle access by 200 AUs, improve soil quality on 1600 acres through: • Cover crops • No-till adoption • Electric fencing systems • Permanent fence exclusions • Wind Shelters • Alternative water sources • Hardened feeding pads				
Addressing Soil Quality Adoption of the floodplain of John Redmond Reservoir. The strategy will maximize up to budget limits and leverage watershed efforts to address JRR sedimentation, eutrophication Neosho and Cottonwood River total Phosphorus TMDLS. BMPs will improve soil quality on 3700 acres through: • Cover crops • No-till adoption	$19,495	4,427	8,845	3,184

Project Information

Project Title

John Redmond 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 Alliance for Wetland 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

Dan Haines

Street Address

5698 SE Quito Rd

City, State, Zip

Leon, KS 67074

Phone Number

785-221-9345

Email

Dan.haines@kaws.org

Project Overview

List the HUC12s that are included in this project.

Limited to the defined floodplain and riparian corridor of the Neosho River and its tributaries (0.5 mile radius from Classified Streams; not to exceed 500-year floodplain): 110702010201, 0202, 0203, 0204, 0205, 0206, 0207, 0208, 0209, 110702010301, 0302, 0303, 0304, 0305, 110702010401, 0402, 0403, 0404, 0405, 0406, 0407, 110702030101, 0102, 0103, 0104, 110702030201, 0202, 0203, 0204, 0205, 110702030301, 0302, 0303, 0304, 0305, 110702030401, 0402, 0403, 0404, 0405, 0406; and the Cottonwood River and its tributaries: 110702020106, 0107, 0108, 110702020201, 0202, 0203, 0204, 0205, 110702020301, 0302, 0303, 110702020401, 0402, 0403, 0404, 0405.

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

☒Yes
☐No

If yes, please enter the impacted public supplies.

Public water supplies in the John Redmond Reservoir Watershed include: The City of Cedar Point, Centre High School, Chase County RWD 1, Coffey County RWD 2, Coffey County RWD 2E, City of Cottonwood Falls, City of Council Grove, City of Elmdale, City of Florence, city of Hartford, City of Hillsboro, City of Lebo, Lyon County RWD 1, Lyon County RWD 2 Lyon County RWD 3, Lyon County RWD 4, Lyon County RWD 5, Marion County Improvement District 2, Marion County RWD 2, Marion County RWD 4, City of Marion County, City of Matfield Green, Morning Star Ranch, City of Olpe, Park Place Communities Management LLC, City of Peabody, Public Wholesale WSD 26, City of Strong City, and City of Wilsey.

Describe the project history.

History of this new WRAPS project highlights the success toward improving and protecting the water quality of John Redmond Reservoir (JRR) and its watershed streams. In 2020 the JRR WRAPS Plan was completed with a goal to protect water quality and storage in JRR. This new plan combined the Eagle Creek, the Neosho Headwaters and a portion of the Cottonwood River WRAPS, which necessitated restructuring JRR WRAPS implementation. Kansas Alliance for Wetland and Streams (KAWS) was selected to implement this new WRAPS under KDHE direction. Implementation strategy included a new focus away from HUC 12 watershed-based and towards riparian corridor priority areas which opened up unique opportunities. A new Stakeholder Leadership Team (SLT) was organized with a different philosophy. Finally, land treatments benefitting water quality were promoted, often leveraged with multiple non-WRAPS resources unique to the JRR watershed.

Within the general riparian priority area, funding resources were limited, but enabled the WRAPS project to engage watershed residents and create interest in SLT participation. KDHE identified an opportunity in the new WRAPS to simultaneously affect JRR impairments long term, and address stream impairments in the corridor priority area. Available resources were directed toward select streams with Best Management Practice (BMP) that could resolve TMDL impairments in the short term. These were Eagle Creek and Allen/Dow Creek (dissolved oxygen TMDLs) and the South Fork of the Cottonwood and Fox Creek (Biology TMDL's). All TMDL exceedances were assessed to be from excess nutrient loads that the new SLT and WRAPS plan was uniquely positioned to address.

The new WRAPS provided an exciting opportunity to adopt a new SLT strategy focused on a "farmer - to-farmer" model, rather than a structured SLT board style. The SLT included industry, government agencies, etc, all very important participants, however the team's majority were producers and landowners. This was because the impairments are tied to cropland and livestock management in the watershed, and BMP adoption decisions belong to the producer and landowners. Supporting farmer-to farmer learning with WRAPS BMP and coordination requires multiple and growing number of showcase farmers and ranchers. The new priority areas for this WRAPS also increased the number of producers with stakes in BMPs that support sustainable farm operations that also protect water quality. This promoted producer demonstrations thus learning opportunities to neighboring producers. The value of this SLT history is expected to grow.

The new WRAPS has achieved or initiated in the first three years included:

- No till/cover crop BMP plan adoption rate was 4074 acres for the first three implementation years. WRAPS achieved approximately 6,003 acres, either directly cost shared with WRAPS funds, leveraged with other programs, or financed by producers. Two unique advantages in the JRR watershed were the Kansas Water Office's Reservoir Protection Initiative and the KDWP/KAWS supported John Redmond Watershed Technician. Typical USDA and Conservation District programs were also contributed.
- Soil quality education was accomplished by connecting showcase producers with Ward Lab to sample and then understand the soil quality parameters and indices, ultimately summarizing the usefulness to their farm operations.
- A virtual fence project was initiated that promises to offer a cost-effective means to exclude livestock from streams and options for cover crop grazing rotations while offering flexibility to the producers.
- Multiple field meetings were held to update SLT and offer educational and conversation opportunities.

- Leveraged partnership with Kansas Water Office and the Kansas Reservoir Protection Initiative.
- Partnered with the KDWP and KAWS John Redmond Watershed Technician to implement cover crop use with equipment and "boots on the ground" support for producers.
- A small feedlot manure composting and land application project was initiated justifying for producers to apply less commercial fertilizer thus achieving nutrient load reductions.
- Support of SLT to attend soil quality events and education.
- Leveraged funds and outreach with NRCS and local Conservation Districts.

In summary, this WRAPS's history evolved from older WRAPS projects, which helped spring this new WRAPS. Priority area focused on riparian areas among the older WRAPS projects, and encompassed the Lower-Upper Cottonwood River area. Specific streams were selected to target impairment removals, and BMP progress was achieved toward that goal. The new priority area enhanced new SLT formation that followed a farmer-to-farmer model. BMPs benefitting water quality were promoted, often leveraged with multiple non-WRAPS resources unique to the JRR watershed. This new WRAPS is positioned to achieve significantly greater water quality restoration and protection advantages in the JRR watershed going forward.

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 JRR WRAPS SLT is primarily an informal group of conservation minded producers throughout the watershed. At this point, there are 26 members, all with varying interests and levels of participation. Individual interest typically is based on a particular I&E effort organized by the Coordinator. For example, livestock vs cover crops field days attracted different members. Significant cross interactions are promoted. Besides area producers, this SLT includes utility, government, NGO, and Government organizations managing producers on lands in the watershed. Natural resource agency personnel are not necessarily on this SLT, but rather are kept informed and invited for SLT support. The support group includes 15 individuals representing NRCS, Conservation Districts, Extension, etc.

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

Last	First	Role	Affiliaton	Phone	email
Anderson	Angela	Landowner	KWO	620 481-9547	angela.anderson@kwo.ks.gov
Bohannan	Jack	Land mgr	FHNWR	620-392-5553	jack_bohannan@fws.gov
Capizzo	Anthony	Land mgr	TNC	620 314-8404	acapizzo@tnc.org
Culbertson	Bob	Landowner	CFCD	620 364-9485	bob.culbertson@kaws.org
Davidson	Jeff	Land mgr	KSU Wshed	620 583-4437	jdavidso@ksu.edu
DeLong	Payton	Producer	Lyon County	620 757-9009	delongpayton@yahoo.com
Dieker	Justin	Producer	Eagle Creek	620 757-1340	justindieker32@gmail.com
Dieker	Rob	Producer	Eagle Creek		robdieker1972@gmail.com
Fleming	Wes	Land mgr	WCNOC	785 614-1472	Weston.Fleming@evergy.com
Glenn	J.R.	Land mgr	EVERGY	785 575-6518	JR.Glenn@evergy.com
Goff	Eugene	Land mgr	USCOE, JRR		Eugene.Goff@usace.army.mil
Haines	Derek	Wshed Tech	KDWP/KAWS	785-219-1855	derek.haines@kaws.org
Hatcher	Angela	Producer	Fox Creek	620-794-3626	tiveo691020@yahoo.com
Hatcher	Matt	Producer	Fox Creek	620-794-4400	risingsunlivestock@gmail.com
Horton	Matt	Producer	Lyon/Morris Co	620-3440173	mhortonfarms@gmail.com
Karr	Kevin	Producer	Dow Cr	620-794-4293	kkarr95@gmail.com
Karr	Randall	Producer	Dow Cr	620 794-1176	rkarr98@gmail.com
Magathan	Chuck	Producer	CW Chase	316 215-1243	charlesmagathan@fairpoint.net
Burton	Malory	Landowner	Lyon/Chase	620-343-2812	Mallory.Burton@ks.nacdnet.net
Mowry	Craig	Land Mgr	FHNWR	218-689-1640	craig_mowry@fws.gov
Mushrush	Chris	Producer	CW Chase	620 794-6151	chris@mushrushranches.com
Nurnberg	Neal	Producer	SF and CW	913-526-3212	neal.nurnberg@gmail.com
O'Conner	Zach	Producer	EC, NR, Lyon	620 341-7634	zach.oconnor03@gmail.com
Seeley	Sam	Wshed mgr	Lyon County	620 341-3471	sseeley@lyoncounty.org
Wellnitz	Kevin	Producer	EC, CW, NR	620 340-2788	plumcreekranch@gmail.com
Wells	Roger	Landowner	Ly Co Allen Cr	620 340-5808	rnwells@fairpoint.net

Lyon	Alex	Biologist	KDWP	620 343-7276	Alex.Lyon@ks.gov

Project Scope

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

Biology in Fox Creek and South fork of Cottonwood, Dissolved Oxygen in Allen/Dow and Eagle Creek, Sedimentation/Eutrophication in JRR, with secondary benefits towards Total Phosphorus in the Neosho and Cottonwood Rivers including some tributaries. A low priority TMDL for Sulfates exists for a portion of the Cottonwood River, however this plan isn't targeting the TMDL, other than coincidental influences.

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.

This watershed has been assessed per the John Redmond Reservoir Watershed WRAPS Plan and the 9-element WRAPS Plans for Cottonwood River, Neosho River Headwaters, and Eagle Creek. Soil sampling and land use cover surveys have been completed, however more for producer I&E and adoption rate estimating than overall assessment. KDHE routine stream sampling continued throughout WRAPS period.

Budget

Personnel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$54,000**	**$26,500**	**$80,500**
Year 2	**$54,700**	**$26,500**	**$81,200**
Year 3	**$55,500**	**$26,500**	**$82,000**
Total Requested	**$164,200**	**$79,500**	**$243,700**
Description	**Grant includes salary for 1.0 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 will also be generated (estimated at $25,000, annually) from Wolf Creek Nuclear, which partially funds the 1.0 FTE John Redmond Watershed Technician, a position that collaborates with the John Redmond Watershed Coordinator on projects.**		

Fringe			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$7,400**	**$0**	**$7,400**
Year 2	**$7,400**	**$0**	**$7,400**
Year 3	**$7,400**	**$0**	**$7,400**
Total Requested	**$22,200**	**$0**	**$22,200**
Description	**Fringe benefits for 1.0 FTE Watershed Coordinator including health care stipend and monthly cell phone reimbursement**		

Travel			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$10,000**	**$1,050**	**$11,050**
Year 2	**$10,000**	**$1,050**	**$11,050**
Year 3	**$10,000**	**$1,050**	**$11,050**
Total Requested	**$30,000**	**$3,150**	**$33,150**
Description	**Mileage for coordination, meetings, workshops, tours, landowner contact. Match portion will come from mileage (federal mileage rate) of SLT attendees collected via a sign-in sheet at each meeting.**		

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 include office expenses, printing of materials, SLT meeting expenses, monthly fee for hotspot, a laptop, and dedicated cell phone number.**		

BMP/Strategy Funding			
Budget Line	**Grant Request**	**Match**	**Total**
Year 1	**$52,900**	**$71,540**	**$124,440**
Year 2	**$52,200**	**$71,540**	**$123,740**
Year 3	**$51,400**	**$71,540**	**$122,940**
Total Requested	**$156,500**	**$214,620**	**$371,120**
Description	**Best Management Practice allocations. Included in the grant request is $4,000/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. 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	**$14,000**	**$910**	**$14,910**
Year 2	**$14,000**	**$910**	**$14,910**
Year 3	**$14,000**	**$910**	**$14,910**
Total Requested	**$42,000**	**$2,730**	**$44,730**
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

This proposal will be implementing Years 4 through 6 of the John Redmond Reservoir WRAPS Plan 2020. The load reduction goals of these years of the plan are 12,269 pounds of phosphorus, and 24,089 tons of sediment. These do not include Nitrogen load reductions. The strategies in this project implementation plan will achieve targeted 36,746 pounds of nitrogen, 18,539 pounds of phosphorus, and 11,663 tons of sediment. The below strategies will focus on one or more specific impairments identified in the 9-Element Watershed Plan. As this grant does not provide enough funding to fully implement the identified best management practices from the plan, project coordinators will partner with various other natural resource programs to leverage resources for the implementation of such practices. These programs include but are not limited to county conservation districts state cost share programs, Natural Resources Conservation Service (NRCS) programs, Kansas Department of Wildlife and Parks, Farm Service Agency, municipalities, and other nonprofit organizations.

Practices implemented beyond the below strategies will focus on the widespread adoption on a sustainable basis, and could include improvement of soil health, watershed hydrology, and the mitigation of impairments identified in the 9-Element Watershed Plan.

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 strategies require $156,500 to implement the BMPs and Information/Education minimums including supplies and travel and personnel costs. 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 (KWO) and the Riparian Protection Program (KDA).

Strategy One

Provide a general summary of Strategy One

STRATEGY ONE: Addressing the Dissolved Oxygen Impairment in the Eagle Creek Watershed of John Redmond Reservoir

Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering dissolved oxygen within Eagle Creek. HUC 12s are 110702010403 through 405. Eagle Creek has low DO excursions identified in the TMDL for the stream. Within the TMDL it was shown that these excursions likely result from period of low flows. Reducing nutrient inputs will help. Though not quantified here, soil quality enhancements that increase water infiltration on a watershed scale could increase alluvial discharge supporting base flows. This strategy will employ livestock management and soil quality improvement practices, which often will be interrelated.

What are the goals for this strategy?

Goal 1: Implement BMP's limiting cattle access by 400 head over 3-year plan: N = 1,153lbs, P = 612lbs, Sed = 0tons

Goal 2: Implement BMP's to improve soil quality on 3,170 acres, primarily no-till/cover cropping over 3-year plan: N = 8,287lbs, P = 4,148lbs, Sed = 3,051tons

Goal 3: Showcase producer use, enable expert resources for producers using BMPs, and foster innovation

Tactics and action steps

Goal 1: Livestock

1. Get to know and understand the challenges producers have with cattle husbandry on their lands, particularly along the streams through face-to-face conversations.
2. Make a list of watershed livestock operations and approach an average of 1 per month.
3. Attend as much as possible the monthly Conservation District meetings, quarterly Watershed District meetings to develop contacts.
4. Use landowner information to mail postcards/flyers on WRAPS help at least annually.
5. Support producer selected to pilot a Virtual Fence technology to manage 100+ head with cover crop rotation, stream exclusion, and range management. Connect producer with Flinthills pilot to shorten learning curve. Cost share on technology startup, educate, then showcase to watershed producers during field days annually.

Goal 2: Soil Quality

1. Engage NRCS, Conservation Districts, Extension to keep in touch with watershed activities.
2. Continue good working relationships with Conservation District Managers to optimize use of KRPI.
3. Hold SLT meeting concurrent with field days to enhance farmer-to-farmer conversation at least 3 times per year. This is within as well as in neighboring watersheds.
4. Select from 2 to 4 producers annually, help sample soils on their BMP, bring experts (Ward Labs) to them to interpret result and the agronomic benefits they have gained.

5. Keep engaged with the Flint Hills National Wildlife Refuge to support their cropland tenants use, understanding, and profit of no-till/cover crop practices. This has overlap with 5 producers.
6. Proactively obtain list of producers interested in using the KRPI funds, assist with sign-ups when announced. Keep list now to prevent bottleneck at signup announcement.
7. Assist with at least 4 per year cover-crop plans. Focus such planning with FHNWR and their tenants.
8. Support/use John Redmond Watershed Technician program to maximize cover crop seeding (Hagie, drill, etc). Aid with logistics when needed, organize acres with producers. Many will not require cost share.
9. Conduct a windshield survey on as random basis as practical to assess adoption, especially non cost share adoption. Conduct annually during springtime primarily.

Goal 3: Showcase

1. Identified within Goals 1 and 2.

Key performance indicators for the tactics

Focus	Goal	Practice	Program
Soil Health (3,170 acres/3-year)	800	Cover crop	KRPI
	190	Cover crop	WRAPS (flex)
	100	Cover crop	EQIP
Livestock (400 AUs relocated/3-year)	1	Virtual fence pilot	WRAPS
	2	Tire tank	WRAPS
	1	Electric fence system	WRAPS
	1	Fence exclusion	KDWP
	1	Fence exclusion	LY CD
	1	Fence exclusion	WRAPS
	1	Well development	WRAPS
	4	Wind shelters	WRAPS
	2	Solar pump system	WRAPS
	1	Hardened feed pads	WRAPS

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

Strategy 1 is estimated to take approximately 37-40% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

- Ability to offer logistic support for John Redmond Watershed Technician during interseeding efforts
- Innovative flexibility, within parameters, to help unique operations as they arise.
- Ward Lab or equivalent partnerships

Match will be provided through:

- Match will be provided through non-federal use of cost share programs
- producer equipment and labor commitments
- Supporting business expenses, especially from I&E events. Such as Ward Lab or equivalent support.
- Mileage and time of SLT attendance to I&E events, etc.

Budget Needs Strategy 1 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Soil Quality	$5,700	$5,700	$5,700	**$17,100**
Livestock	$13,500	$12,800	$12,000	**$38,300**
Technical Service Provider	$2,500	$2,500	$2,500	**$7,500**
Outreach & Education	$1,571	$1,535	$1,494	**$4,599**
Travel	$3,926	$3,838	$3,734	**$11,499**
Supplies	$667	$652	$635	**$1,955**
Total	**$27,864**	**$27,026**	**$26,063**	**$80,953**

Strategy Two

Provide a general summary of Strategy TWO

STRATEGY TWO: Addressing the Dissolved Oxygen Impairment in the Allen-Dow Watershed of John Redmond Reservoir

Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering dissolved oxygen within Allen-Dow Creek in Lyon County Kansas. HUC 12's include 110702010301 and 302. TMDL DO excursions at sample point SC628 are contributed to excess nutrients from livestock and cropping systems. This strategy will employ livestock management and soil quality improvement practices, which often will be interrelated.

What are the goals for this strategy?

Goal 1: Implement BMP's limiting cattle access by 270 head over a 3-year plan: N = 1,153lbs, P = 612lbs, Sed = 0tons
Goal 2: Implement BMP's to improve soil quality on 4000 acres, primarily no-till/cover cropping over 3-year plan: N = 10,217lbs, P = 5,114lbs, Sed = 3,740tons
Goal 3: Showcase producer use, enable expert resources for producers using BMPs, and foster innovation

Tactics and action steps

Goal 1: Livestock

1. Get to know and understand the challenges producers have with cattle husbandry on their lands, particularly along the streams through face-to-face conversations.
2. Make a list of watershed livestock operations and approach an average of 1 per month.
3. Attend as much as possible the monthly Conservation District meetings, quarterly Watershed District meetings to develop contacts.
4. Use landowner information to mail postcards/flyers on WRAPS help at least annually.

Goal 2: Soil Quality

1. Engage NRCS, Conservation Districts, Extension to keep in touch with watershed activities.
2. Hold SLT meeting concurrent with field days to enhance farmer-to-farmer conversation at least 3 times per year. This is within as well as in neighboring watersheds.
3. Select from 2 to 4 producers annually, help sample soils on their BMP, bring experts (Ward Labs) to them to interpret result and the agronomic benefits they have gained.
4. Conduct a windshield survey on as random basis as practical to assess adoption, especially non cost share adoption. Conduct annually during springtime primarily.
5. Attend quarterly Allen Creek Watershed District 89 meeting to coordinate new conservation funding with watershed. Leverage for soil quality benefits.
6. Proactively obtain list of producers interested in using the KRPI funds, assist with sign-ups when announced. Keep list now to prevent bottleneck at signup announcement.
7. Assist with at least 4 per year cover-crop plans. Focus such planning with FHNWR and their tenants.

10. Support/use John Redmond Watershed Technician program to maximize cover crop seeding (Hagie, drill, etc). Aid with logistics when needed, organize acres with producers. Many will not require cost share.

Goal 3: Showcase

1. Identified within Goals 1 and 2.
2. Connect Allen-Dow livestock producers with Flint Hills and possible Eagle Creek Virtual Fence projects at least annually. Partner with Extension, TLA, KLA, etc. to implement.

Key performance indicators for the tactics

Annual BMP Implementation to Address Dissolved Oxygen Impairments in the Allen-Dow Watershed of John Redmond Reservoir			
Focus	**Goal**	**Practice**	**Program**
Soil Health (4000 acres/3-year)	500	Cover crop	KRPI
	100	Cover crop	WRAPS (flex)
	600	Cover crop	Allen Creek WD 89
	200	Cover crop	EQIP
Livestock (270 AUs relocated/3-year)	2	Tire tank	WRAPS
	1	Electric fence system	WRAPS
	1	Fence exclusion	KDWP
	1	Fence exclusion	LY CD
	1	Fence exclusion	WRAPS
	1	Well development	WRAPS
	4	Wind shelters	WRAPS
	1	Hardened feed sites	WRAPS

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

Strategy 2 is estimated to take approximately 18% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

- Ability to offer logistic support for John Redmond Watershed Technician during interseeding efforts
- Innovative flexibility, within parameters, to help unique operations as they arise.

Match will be provided through:

- Match will be provided through non-federal use of cost share programs. Some KRPI and Allen Creek Watershed District funds are available in this watershed
- producer equipment and labor commitments
- Supporting business expenses, especially from I&E events. Such as Ward Lab or equivalent support.
- Mileage and time of SLT attendance to I&E events, etc

Budget Needs **Strategy 2 Summary**	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Soil Quality	$3,000	$3,000	$3,000	**$9,000**
Livestock	$6,000	$6,000	$6,000	**$18,000**
Technical Service Provider	$2,500	$2,500	$2,500	**$7,500**
Outreach & Education	$736	$747	$759	**$2,243**
Travel	$1,840	$1,867	$1,899	**$5,606**
Supplies	$313	$317	$323	**$953**
Total Requested	**$14,390**	**$14,432**	**$14,481**	**$43,302**

Strategy Three

Provide a general summary of Strategy THREE

STRATEGY THREE: Addressing the Biology TMDL Impairment in the Fox Creek Watershed of John Redmond Reservoir

Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering biological indices in the Fox-Palmer Creek watersheds in Chase County Kansas. HUC 12 is 110702030204. This watershed has few landowners, includes the Tallgrass Prairie Preserve. Targeted BMPs through landowner partnerships offers an excellent opportunity to alleviate the impairment and remove TMDL listing. This strategy will employ livestock management primarily. Soil quality improvement on limited cropland in this watershed is still part of the strategy, but more to enhance landowner partnerships with livestock efforts than simple cover crop advantages.

What are the goals for this strategy?

Goal 1: Implement BMP's limiting cattle access by 200 head over 3-year plan: N = 1,264lbs, P = 671lbs, Sed = 0tons
Goal 2: Implement BMP's to improve soil quality on 120 acres, primarily to enhance grazing BMP adoption over 3-year plan: N = 404lbs, P = 202lbs, Sed = 159tons
Goal 3: Showcase producer use, enable expert resources for producers using BMPs, and foster innovation

Tactics and action steps

Goal 1: Livestock

1. Get to know and understand the challenges producers have with cattle husbandry on their lands, particularly along the streams through face-to-face conversations.
2. Contact every rancher in watershed to develop partnership with BMPs. Likely only two more. Do this in the first year.
3. Attend as much as possible the monthly Conservation District meetings, quarterly Watershed District meetings to develop contacts.
4. Connect with individual tours, field days, etc ranchers learning opportunities of TNC virtual fencing initiative. Neighbor to neighbor. Connect with Eagle Creek Virtual Fence Pilot to encourage rancher-to-rancher interaction. Success when they talk without going through WRAPS.
5. Continue connection with TNC at the Tallgrass Preserve to ensure opportunities to enhance aquatic populations measured by the biology TMDL monitoring. Keep partners engaged at least semiannually.

Goal 2: Soil Quality

1. With livestock cooperator in Fox Creek watershed, investigate brome/cover crop sequence per Green Cover Seed model to enhance/manage grazing distribution, and reduce/eliminate brome fertilizer. Work in concert with livestock BMPs.
2. Connect Green Cover resources (Dale Strickler) at least semiannually to increase education demonstration value.

Goal 3: Showcase
Identified within Goals 1 and 2. Coordinate potential ESU Prophet Aquatic Research and Outreach partnership with Flinthill virtual fence initiative for outreach activities, including publication if practical.

Key performance indicators for the tactics

Annual BMP Implementation to Address Biology TMDL Impairment in the Fox Creek Watershed of John Redmond Reservoir

Focus	Goal	Practice	Program
Soil Health (120 acres/3-year)	0	Cover crop	KRPI
	0	Cover crop	WRAPS (flex)
	40	Cover crop	Chase County CD
	0	Cover crop	EQIP
Livestock (200 AUs relocated/3-year)	2	Tire tank	WRAPS
	1	Electric fence system	WRAPS
	1	Fence exclusion	KDWP
	0	Fence exclusion	Lyon County CD
	0	Fence exclusion	WRAPS
	1	Well development	WRAPS
	4	Wind shelters	WRAPS
	0	Hardened feed sites	WRAPS

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

Strategy 3 is estimated to take approximately 22% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

- Ability to offer logistic support for John Redmond Watershed Technician during interseeding efforts
- Innovative flexibility, within parameters, to help unique operations as they arise.

Match will be provided through:

- Match will be provided through non-federal use of cost share programs. Some KRPI and Allen Creek Watershed District funds are available in this watershed
- producer equipment and labor commitments
- Supporting business expenses, especially from I&E events. Such as Ward Lab or equivalent support.
- Mileage and time of SLT attendance to I&E events, etc.

Budget Needs **Strategy 3 Summary**	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Soil Quality	$6,000	$6,000	$6,000	**$18,000**
Livestock	$4,500	$4,500	$4,500	**$13,500**
Technical Service Provider - watershed specialist	$2,500	$2,500	$2,500	**$7,500**
Outreach & Education	$859	$871	$886	**$2,616**
Travel	$2,147	$2,178	$2,215	**$6,541**
Supplies	$365	$370	$377	**$1,112**
Total Requested	**$16,371**	**$16,420**	**$16,478**	**$49,269**

Strategy Four

Provide a general summary of Strategy FOUR

STRATEGY FOUR: Addressing the Biology TMDL Impairment in the South Fork of the Cottonwood Watershed of John Redmond Reservoir

Information and education resources supported with BMP demonstration will be focused to enhance producer landowner self-adoption of practices reducing nutrient and sediment loads hindering biology indices in the South Fork of the Cottonwood watershed in Chase County Kansas. HUC 12's include is 110702030301 through 305. This strategy will employ livestock management and soil quality improvement practices, which often will be interrelated. Significant overlap with the Fox Creek (Strategy 3) and General (Strategy 5) exist with this watershed.

What are the goals for this strategy?

Goal 1: Implement BMP's limiting cattle access by 200 head over 3-year plan: N = 1,264lbs, P = 671lbs, Sed = 0tons
Goal 2: Implement BMP's to improve soil quality on 1600 acres, primarily no-till/cover cropping over 3-year plan: N = 4,159lbs, P = 2,082lbs, Sed = 1,529tons
Goal 3: Showcase producer use, enable expert resources for producers using BMPs, and foster innovation

Tactics and action steps

Goal 1: Livestock

1. Get to know and understand the challenges producers have with cattle husbandry on their lands, particularly along the streams through face-to-face conversations.
2. Make a list of watershed livestock operations and approach an average of 1 per month.
3. Attend as much as possible the monthly Conservation District meetings, quarterly Watershed District meetings to develop contacts.
4. Use landowner information to mail postcards/flyers on WRAPS help at least annually.

Goal 2: Soil Quality

1. Engage NRCS, Conservation Districts, Extension to keep in touch with watershed activities.
2. Hold SLT meeting concurrent with field days to enhance farmer-to-farmer conversation at least 3 times per year. This is within as well as in neighboring watersheds.
3. Select from 2 to 4 producers annually, help sample soils on their BMP, bring experts (Ward Labs) to them to interpret result and the agronomic benefits they have gained.
4. Conduct a windshield survey on as random basis as practical to assess adoption, especially non cost share adoption. Conduct annually during springtime primarily.
5. Leverage Chase County Conservation District cover crop cost share program to encourage BMP.
11. Assist with at least 4 per year cover-crop plans.
12. Support/use John Redmond Watershed Technician program to maximize cover crop seeding (Hagie, drill, etc). Aid with logistics when needed, organize acres with producers. Many will not require cost share.

Goal 3: Showcase

1. Identified within Goals 1 and 2.

Connect South Fork livestock producers with Flint Hills and possible Eagle Creek Virtual Fence projects at least annually. Partner with Extension, TLA, KLA, etc to implement.

Key performance indicators for the tactics

Annual BMP Implementation to Address Biology TMDL Impairment in the South Fork Cottonwood Watershed of John Redmond Reservoir			
Focus	**Goal**	**Practice**	**Program**
Soil Health (1,600 acres/3-year)	0	Cover crop	KRPI
	200	Cover crop	WRAPS (flex)
	200	Cover crop	Chase County CD
	200	Cover crop	EQIP
Livestock (200 AUs relocated/3-year)	2	Tire tank	WRAPS
	1	Electric fence system	WRAPS
	1	Fence exclusion	KDWP
	0	Fence exclusion	Lyon County CD
	1	Fence exclusion	WRAPS
	1	Well development	WRAPS
	0	Wind shelters	WRAPS
	1	Hardened feed sites	WRAPS

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

Strategy 4 is estimated to take approximately 8.5% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

- Ability to offer logistic support for John Redmond Watershed Technician during interseeding efforts
- Google earth training

- Innovative flexibility, within parameters, to help unique operations as they arise.

Match will be provided through:

- Match will be provided through non-federal use of cost share programs. Some KRPI and Allen Creek Watershed District funds are available in this watershed
- producer equipment and labor commitments
- Supporting business expenses, especially from I&E events. Such as Ward Lab or equivalent support.
- Mileage and time of SLT attendance to I&E events, etc

Budget Needs Strategy 4 Summary	**Yr 1**	**Yr 2**	**Yr 3**	**Total**
Livestock	$4,200	$4,200	$4,200	**$12,600**
Technical Service Provider	$2,500	$2,500	$2,500	**$7,500**
Outreach & Education	$344	$349	$354	**$1,047**
Travel	$859	$871	$886	**$2,616**
Supplies	$146	$148	$151	**$445**
Total	**$8,048**	**$8,068**	**$8,091**	**$24,208**

Strategy Five

Provide a general summary of Strategy FIVE

STRATEGY FIVE: Addressing Soil Quality Adoption of the floodplain of John Redmond Reservoir

This strategy is to keep the WRAPS engaged in the entire watershed to promote farmer-to-farmer interaction and widespread BMP adoption. It will diversify the farmer-to-farmer pool to make the efforts much more valuable in the targeted watersheds in Strategies 1 through 4. The strategy will maximize up to budget limits and leverage watershed efforts to address JRR sedimentation, eutrophication Neosho and Cottonwood River total Phosphorus TMDLS. HUC 12's are identified above. Focus will be entirely on soil quality benefits to soil water absorption. Livestock projects will be considered on a case-by-case basis.

What are the goals for this strategy?

Goal 1: Implement BMP's to improve soil quality on 3700 acres, primarily no-till/cover cropping over 3-year plan: N = 8,845lbs, P = 4,427lbs, Sed = 3,184tons
Goal 2: Showcase producer use, enable expert resources for producers using BMPs, and foster innovation. Collaborate with Emporia State University Prophet Aquatic Research & Outreach Center for monitoring, outreach and education opportunities.

Tactics and action steps

Goal 1: Soil Quality

1. Engage NRCS, Conservation Districts, Extension to keep in touch with watershed activities.
2. Hold SLT meeting concurrent with field days to enhance farmer-to-farmer conversation at least 3 times per year. This is within as well as in neighboring watersheds.
3. Select from 2 to 4 producers annually, help sample soils on their BMP, bring experts (Ward Labs) to them to interpret result and the agronomic benefits they have gained.
4. Conduct a windshield survey on as random basis as practical to assess adoption, especially non cost share adoption. Conduct annually during springtime primarily.
5. Leverage Chase County Conservation District Cover Crop Program for soil quality benefits.
6. Proactively obtain list of producers interested in using the KRPI funds, assist with sign-ups when announced. Keep list now to prevent bottleneck at signup announcement.
7. Assist with at least 4 per year cover-crop plans. Focus such planning with FHNWR and their tenants.
8. Stay engaged with FHNWR and their crop tenants to support no-till and cover crop use on lands. Significant crossover with Neosho and Cottonwood River producers.
9. Connect soil quality expert (Dale Strickler, for example) as personal consultants to producers on FHNWR, at least semi-annually.
10. Support/use John Redmond Watershed Technician program to maximize cover crop seeding (Hagie, drill, etc). Aid with logistics when needed, organize acres with producers. Many will not require cost share.
11. Support Lyon County Floodplain Management in assessing potential for soil quality infiltration benefits for flood abatement.

12. Support Lyon County Floodplain Management in riparian area restoration on County land near Cottonwood River, with ESU PAROC outreach/education potential.
13. Talk to Lyon County Conservation District to initiate a cover crop program, especially in non-WRAPS and KRPI areas. Promote CD requesting Lyon County commission to augment CD budget to earmark cover-crop funds, all under CD guidance.

Goal 2: Showcase
Identified above. Coordinate potential ESU Prophet Aquatic Research and Outreach Center (PAROC) partnership with Lyon County riparian restoration at Emporia for outreach activities, including publication if practical.

Key performance indicators for the tactics

Annual BMP Implementation to Address Sediment and Nutrient Impairments in the Floodplain of John Redmond Reservoir			
Focus	**Goal**	**Practice**	**Program**
Soil Health (3,700 acres/3-year)	200	Cover crop	WRAPS (flex)
	100	Cover crop	Chase County CD
	200	Cover crop	EQIP
	800	Cover Crop	KRPI, Neosho and tributaries east of Hwy 99

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

Strategy 5 is estimated to take approximately 12.5% of the Project Budget. The Coordinator has estimated a similar percentage of need for the Outreach & Education, Travel, and Supplies needs for this Strategy.

- Ability to offer logistic support for John Redmond Watershed Technician during interseeding efforts
- Innovative flexibility, within parameters, to help unique operations as they arise.

Match will be provided through:
- Match will be provided through non-federal use of cost share programs. Some KRPI and Allen Creek Watershed District funds are available in this watershed
- producer equipment and labor commitments
- Supporting business expenses, especially from I&E events. Such as Ward Lab or equivalent support.
- Mileage and time of SLT attendance to I&E events, etc

Budget Needs Strategy 5 Summary	Yr 1	Yr 2	Yr 3	Total
Soil Quality	$6,000	$6,000	$6,000	**$18,000**
Technical Service Provider	$0	$0	$0	**$0**
Outreach & Education	$491	$498	$506	**$1,495**
Travel	$1,227	$1,245	$1,266	**$3,738**
Supplies	$209	$212	$215	**$635**
Total	**$7,926**	**$7,954**	**$7,987**	**$23,868**