UPPER ARKANSAS RIVER

CONSERVATION RESERVE ENHANCEMENT PROGRAM

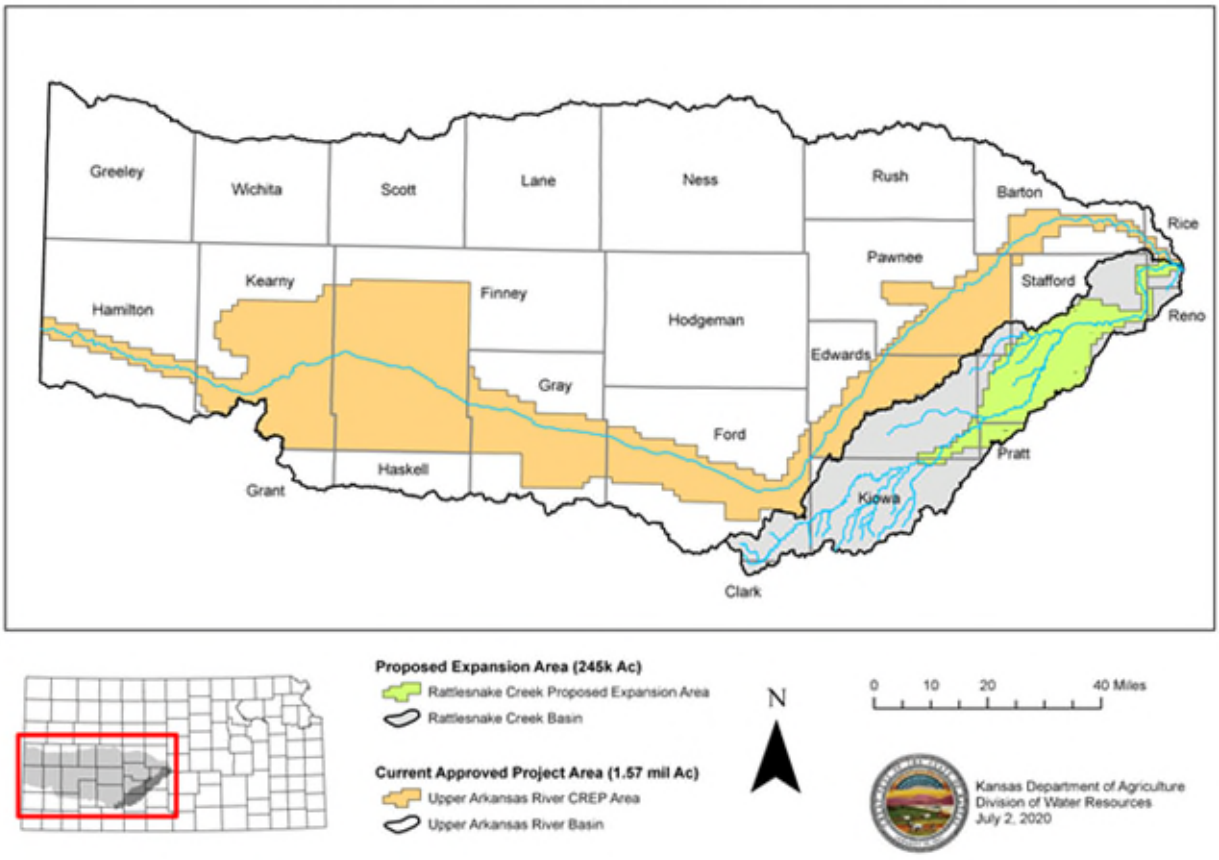
PERFORMANCE REPORT

BY THE

STATE OF KANSAS

October 1, 2019 – September 30, 2020

Kansas CREP: Proposed Expansion Area



2020 activities included a great deal of emphasis on incorporating the Rattlesnake Creek expansion area into the UAR CREP

Kansas Department of Agriculture

Table of Contents

Executive Summary 1

Overview 2

History 2

Kansas-Colorado Arkansas River Compact 3

CREP Steering Committee 3

CREP Project Implementation Summaries 3

- Outreach 5
- Technical Assistance 5
- Agency and Organization Cooperation 7
- Land Conserved 9
- Water Conserved 10
- Groundwater Monitoring and Activities 12
- Annual Irrigation Water Use in CREP Area: 2007–2018 12

Summary of Non-Federal Program Expenditures 13

Progress on Program Objectives 16

Figure 1: Map of CREP Eligible Project Area 9

Figure 2: Map of CREP Retired Water Rights 11

Figure 3: CREP Water Quality and Water Level Monitoring 12

Attachment A: CREP Brochure & Outreach Poster 21

Attachment B: Outreach Schedule 24

Attachment C: Process for Implementing CREP in Kansas 26

Attachment D: Irrigated Acres and Water Use 30

Attachment E: Monitoring Wells and Average Groundwater Levels 32

Attachment F: Steering Committee Meeting Minutes 34

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Executive Summary

The Conservation Reserve Enhancement Program (CREP) in Kansas is a federal and state partnership created for enhancing water conservation efforts along the Upper Arkansas River (UAR) corridor from Hamilton County to Rice County. **The UAR CREP has been officially approved and operating for 13 years**; this annual report provides a synopsis of the implementation activities and progress to date.

CREP is an "enhanced" version of the Conservation Reserve Program (CRP) in which the Farm Service Agency (FSA) of the U.S. Department of Agriculture (USDA) and the State of Kansas have mutually agreed to address specialized natural resource concerns. The Natural Resources Conservation Service (NRCS) is USDA's provider of field technical services to producers who are implementing CREP contracts. The Kansas Department of Agriculture (KDA) Division of Conservation (DOC) is the primary coordinator of the program in concert with numerous other state, local and private partners including KDA's Division of Water Resources; Kansas Water Office, Kansas Department of Wildlife, Parks and Tourism; Kansas Department of Health and Environment; Kansas Geological Survey; Kansas State University; Groundwater Management District Nos. 3 and 5; Ducks Unlimited; Pheasants Forever; and the Kansas Alliance for Wetlands and Streams.

The UAR CREP is a voluntary, incentive-based program allowing producers to enroll eligible irrigated acres in targeted areas for 14–15 year contracts with FSA, permanently retire the associated state water rights on the enrolled acres, and establish an approved land cover (typically a native grass) on the same acreage. The producer receives an annual rental payment, and additional cost share opportunities for specific conservation practices from FSA, plus an upfront incentive payment from DOC.

Groundwater is the dominant source of water for all uses in the basin, and aquifer declines are a serious concern. **Therefore, water conservation is the main management objective in the UAR CREP.** The program also provides other resource benefits including soil conservation, water quality protection, wildlife habitat enhancement, and energy savings. The majority of irrigated acres enrolled have been on highly erodible, sandhills soils that are unsuitable for dryland farming.

One of the most significant merits of the program to date has been establishing cover on these highly erodible lands. The extremely fragile, windblown soils of the sandhills will be very difficult to re-vegetate after irrigation is no longer possible and crop production ceases due to groundwater declines. The CREP program has provided these producers a viable option, incentive and financial opportunity for starting prairie grass stands and other conservation covers while limited irrigation water is still available.

As of Sept. 30, 2020, a total of 136 state CREP contracts on 23,146 acres have been approved by the State of Kansas. **These contracts have resulted in the permanent retirement of 47,500 acre-feet of annual water appropriation on 166 water rights from 209 wells.** The contracts represent a total of $1,644,513 in one-time state sign-up payments to producers over the past 13 years.

The State of Kansas has again met its financial commitment to provide at least 20% of the federal costs of the program through a combination of direct payments, technical assistance and in-kind contributions with at least 10% coming from direct cash match as approved in the USDA Memorandum of Agreement (MOA). Since 2007, a total of $14,540,674 of direct and indirect expenditures and in-kind costs from state, local and private partners have been made in support of the project to match an estimated total of $47,514,801 in federal program costs.

Annual Progress: In contrast to the FY2018 total of 4,141 new acres entered into the program, FY2019 and FY2020 were unusually slow ones for enrollment with only 355 new acres being added. And although actual landowner offers were subdued, many inquiries from landowners about water right eligibilities and potential payment scenarios continued to be received. The project is still evolving and interest in expansion to address new water conservation areas is still high. A great deal of effort has been concentrated on incorporating the Rattlesnake Creek sub-basin into the CREP project. With the help of K-State, Kansas officials are working to appeal the current irrigated rental rates and re-establish attractive financial incentives for producers. **With only 5,804 acres left to fill the available project allowance of 28,950 acres, the project is now 80% complete.**

Overview

CREP is a special USDA Conservation Reserve Program that creates individual rules, special conditions and financial incentives for a geographic region or watershed with unique issues and/or resource goals. The Kansas Legislature approved funding for an Upper Arkansas River Conservation Reserve Enhancement Program (UAR CREP) in 2007 and 2008. The KDA-DOC and KWO worked with USDA's FSA and NRCS to develop and launch the program. A Memorandum of Agreement (MOA), signed by Kansas Governor Kathleen Sebelius on Nov. 27, 2007, and by Acting USDA Secretary Charles Conner on Dec. 4, 2007, officially established the Kansas UAR CREP.

The UAR CREP is a voluntary program that provides signing incentives, market rental rates and cost sharing to participants who enroll their land into eligible conservation practices such as native vegetation establishment for a period of 14 to 15 years. The CREP project area lies within 10 counties along the Arkansas River corridor, covering 1,571,440 acres. Prior to program start-up, 718,683 acres were authorized for groundwater irrigation in the CREP project area. Another 10,680 acres were also authorized for irrigation from surface water. Reducing irrigation demands on the stream-aquifer system will help slow the aquifer declines, mitigate the spread of saline waters into the aquifer, and help restore stream and riparian health.

The Kansas Legislature has approved the enrollment limit up to a maximum of 40,000 acres, and FSA conducted its environmental impact assessment and initial approval procedures at that level. The state sought to first enroll up to 20,000 acres under the initial MOA — 17,000 acres of irrigated land, and 3,000 dryland corners from irrigated circles based on 1) the amount of funds that were then available; and 2) an additional stipulation regarding the amount of land coming out of CRP at that time. In 2011, FSA approved an expansion of the total project size to 28,950 acres with a target goal of 25,950 irrigated acres to be enrolled under a revised MOA. Joint efforts occurring during the 2015 program year again amended the MOA between USDA and the State of Kansas. These amendments were approved to increase state incentive rates, update important water use eligibility criteria and provide mechanisms for future flexibilities in adjusting the current county cap enrollment limits.

History

The CREP project area lies within the Upper Arkansas River basin. Overall, the target area includes portions of ten counties (Hamilton, Kearny, Finney, Gray, Ford, Edwards, Pawnee, Stafford, Barton and Rice counties) and two groundwater management districts (Southwest Kansas Groundwater Management District No. 3 [GMD3] and Big Bend Groundwater Management District No. 5 [GMD5]) along the river corridor. Within the entire project area, the Arkansas River has hydrologic interactions of surface flow and groundwater. The main water sources for producers within the project area are local stream/river surface waters, and the alluvial and High Plains aquifers. The Arkansas River flows from headwaters in the Rocky Mountains, and has been diverted for more than 100 years for irrigation in Colorado and Kansas. The river and groundwater system have had several decades of well-documented flow depletions entering the state of Kansas, and groundwater declines in the aquifer are resulting in loss of base flow to the river, decline in well yields, and in some locations, degradation of groundwater quality.

The Arkansas River is a resource of state and national concern for both water quantity and water quality. The flow into Kansas is extensively controlled though releases from the John Martin Reservoir in eastern Colorado, and is managed through the Arkansas River Compact Administration. Reduced flows as the river entered Kansas, in violation of the compact, have historically resulted in stream flow depletion, groundwater declines, and economic damage. The river is also one of the most saline in the nation where it enters Kansas, a result of the extensive concentration of salts occurring from irrigation use and reuse. The declining flows and deteriorated water quality threaten the viability of this important surface water source in western Kansas. Correlated with the reduced flow and increasing salinity of the river is the degradation of riparian health and wildlife habitat. Native plant communities have declined, and there has been an extensive and aggressive infestation of tamarisk and other non-native phreatophytes.

Kansas-Colorado Arkansas River Compact

The Kansas-Colorado Arkansas River Compact (Compact) was negotiated in 1948 between Kansas and Colorado with participation by the federal government. Its stated purposes are to settle existing disputes and remove causes of future controversy between Colorado and Kansas concerning the waters of the Arkansas River, and to equitably divide and apportion between Colorado and Kansas the waters of the Arkansas River as well as the benefits arising from John Martin Reservoir.

Kansas filed an original action in the United States Supreme Court, Kansas v. Colorado, No. 105, in 1985 to enforce the terms of the Compact. In 1994, a Special Master appointed by the Court, Arthur J. Littleworth, recommended that the Court determine that Colorado had violated Article IV-D of the Compact by means of post-compact well pumping in Colorado. On May 15, 1995, the Supreme Court agreed. Colorado paid Kansas more than $35.1 million in damages for Colorado's Compact violations. This money has been deposited in three funds created by statute that specify generally how and where the money will be spent. The acceptable uses of two of these funds are consistent with UAR CREP objectives, while the third is for future litigation. The Water Conservation Projects Fund, now known as the Western Water Conservation Projects Fund after transfer to GMD No. 3, must be applied to projects within a portion of the CREP area.

The Special Master's fifth and final report to the Supreme Court in January 2008, and the Supreme Court "Judgment and Decree" entered on March 9, 2009, provided that the Supreme Court would retain jurisdiction for a limited period while the states evaluated the sufficiency of the 1996 Colorado Use Rules.

As a result of that evaluation, modifications of the initial judgment and decree were jointly developed by Kansas and Colorado based on decisions by the Special Master and the United States Supreme Court. The decree contains several appendices, such as the hydrologic-institutional model and accounting procedures, which will be used to determine if Colorado is in compliance. The states submitted a modified appendix to the Supreme Court on Aug. 4, 2009, bringing an end to the retained jurisdiction.

CREP Steering Committee

The Upper Arkansas River CREP Steering Committee consists of the Kansas Water Office; the Kansas Department of Agriculture–Division of Conservation; the Kansas Department of Agriculture–Division of Water Resources (DWR); the Kansas Department of Wildlife, Parks and Tourism; the Kansas Department of Health and Environment; Kansas State University; and the Kansas Geological Survey. These state agencies are joined by the Farm Services Agency, Natural Resources Conservation Service, Groundwater Management District Nos. 3 and 5, Ducks Unlimited, Pheasants Forever and the Kansas Alliance for Wetlands and Streams.

The steering committee meets at least annually to review the progress of the CREP project and to make recommendations regarding the accomplishment of important goals and objectives. The Steering Committee met again on Sept. 29, 2020 (Attachment F). The input of the steering committee on the success of the CREP program and ways to improve it will become very beneficial as more acres enroll and the impact of the water right retirements and land conservation practices begin to become measurable.

CREP Project Implementation Summaries

The CREP program is designed to protect water quality and extend the usable life of the of the High Plains Aquifer by establishing conservation practices and retiring the associated water rights on irrigated project lands in Barton, Edwards, Finney, Ford, Gray, Kearny, Pawnee, Rice and Stafford counties. Hamilton County was previously ineligible for the program because it was at a maximum level of acres that could be enrolled in a Conservation Reserve Program (CRP). FSA rules regarding the maximum allowable acres specifically pertaining to CREP program enrollment were changed in 2011. Therefore, Hamilton County is now officially eligible for the program. The Kansas Legislature approved the enrollment limit up to a maximum of 40,000 acres. However, the program cap with FSA was initiated at the 20,000-acre level to stay within a legislative

stipulation which allows only one acre of land to be enrolled in CREP for every two acres of current CRP contracts which expire annually. This project cap has since been increased to 28,950 acres.

Eligible cropland conservation practices approved by FSA to meet the goals and objectives for this CREP project are as follows:

CP2 (Establishment of Permanent Native Grasses and Legumes) – up to 27,550 acres;
CP4D (Permanent Wildlife Habitat, non-easement) – up to 400 acres;
CP9 (Shallow Water Areas for Wildlife) – up to 200 acres;
CP21 (Filter Strips) – up to 100 acres;
CP22 (Riparian Buffer) – up to 100 acres and;
CP23 / CP23A (Wetland Restoration, floodplain & non-floodplain) – 200 acres.

CREP applications are typically made in the county where the land is located, and all applications are considered on a first come, first served basis. Farmers who enroll irrigated cropland in the program and permanently retire their water rights will receive rental payments for 14 to 15 years at rates between $153 and $193 per acre per year. Rates vary depending on the Hydrologic Unit Code (HUC) and irrigation system currently in place. Cost share funds and financial incentives are available for seeding and well plugging on enrolled land. As a part of CRP, CREP acres are subject to normal FSA haying, grazing, burning, and other management provisions, and they can also be leased for hunting. Producers receive an upfront signing bonus from the state of either $97 per irrigated acre (Tier 1 Soils) or $55 per irrigated acre (Tier 2 soils). The KWO office will also provide a $350 per acre bonus payment for the CP9 practice.

The current goal of the UAR CREP is to enroll up to 28,950 acres of eligible cropland within the designated area to significantly reduce the amount of irrigation water consumptively used. Water quality will be improved through the reduction of agricultural chemicals and sediment entering waters from agricultural lands, and thereby impeding the spread of poor quality river water into the fresh alluvial and High Plains aquifers. Through permanent retirement of water rights appurtenant to the lands enrolled in CREP and the establishment of conservation covers and other resource management practices, the reduction of water consumption and non-point source contaminants will slow aquifer declines, moderate the loss of base flow, enhance associated wildlife habitat (both terrestrial and aquatic), and conserve energy.

Successfully meeting the goals and objectives of the UAR CREP involves interagency cooperation and adherence to a coordinated implementation plan. The implementation plan covers each agency's responsibility and the step-by-step process for outreach, processing applications, providing technical assistance, and monitoring success.

The UAR CREP is being implemented through continuous signup on a first come, first priority basis — until a county reaches the CREP program maximum for enrolled acres or the federal limit on CRP acreage enrolled in any one county. The application enrollment pattern in the first year demonstrated high interest in December of 2007, and in January and February of 2008, with a peak of more than 13,000 acres offered for enrollment. By March 2008, inquiries slowed, as most landowners had already made decisions on their land if a crop was to be planted during the upcoming season. A number of applications were subsequently withdrawn as some land was sold. Others were also withdrawn as crops were put in, as 2008 was a year of very high commodity prices and escalating land values. There were also a number of applications that ultimately were found to not meet the federal or state eligibility criteria during the review process. Finally, there were some inquiries that ultimately did not result in applications being filed because it initially appeared that the county cap had already been filled for Kearny and Gray counties.

One state requirement is that no more than 25% of the CREP program acres can be in any one county, which in 2008 was a 5,000-acre cap. That cap was raised to 7237.5 acres per county in 2012, and the cap was subsequently raised again in 2016 to 10,000 acres per county. As of Sept. 30, 2020, Kearny County is again near the county cap limit with 9,078 acres of approved / pending offers.

At the end of the first fiscal year on Sept. 30, 2008, a total of 7,252 acres had officially been approved for enrollment in the CREP program. A total of 15,354 acre-feet of annual authorized water right allocations associated with these acres had been voluntarily and permanently retired. By Sept. 30, 2009 (the end of the second fiscal year), an additional 1,902 acres had been approved for enrollment, bringing the project total to 9,155 acres. An additional 3,325 acre-feet of annual authorized water right allocations were also retired, bringing the project total to 18,679 acre-feet retired. At the end of the third fiscal year, 1,647 enrolled acres were added, and another 2928 acre-feet of annual authorized water right allocations were also retired.

At the end of the fourth fiscal year, 247 enrolled acres were added, bringing the current project total to 11,049 acres, and an additional 532 acre-feet of annual authorized water right allocations were also retired, bringing the total to 22,139 acre-feet of annual authorized water right allocations retired. By Sept. 30, 2012, 4,076 acres were added and a total of 15,126 acres had been enrolled, and 30,974 acre-feet of annual authorized water right allocations had been retired.

As of Sept. 30, 2013, a total of 15,800 acres had been enrolled, and 31,709 acre-feet of annual authorized water right allocations were retired. No additional acres were enrolled during the period Oct. 1, 2013, to Sept. 30, 2014. As of Sept. 30, 2015, an additional 1,189 acres had been enrolled, bringing the cumulative total to 16,989 acres, with 34,527 acre-feet of annual authorized water right allocations being retired. As of Sept. 30, 2016, the end of the ninth fiscal year, an additional 1,329 acres had been enrolled, bringing the cumulative total to 18,318 acres, with 37,430 acre-feet of annual authorized water right allocations being retired.

During FY2017, the enrollment total increased to 18,659 acres with 37,999 acre-feet of annual authorized water right allocations being permanently retired. As of Sept. 30, 2018, a total of 22,800 acres had been enrolled with a correlative water right retirement total of 46,919 acre-feet. In FY2019, another 355 acres were added which brought the enrollment to 23,180 acres and water right retirement total to 47,500 acre-feet.

Outreach

Public outreach for the UAR CREP was initiated prior to and during the preparation of the project proposal to gather information and assess public support. Many outreach meetings occurred on the UAR CREP throughout western Kansas and during the legislative session. The implementation team developed an informational brochure and poster about CREP for use during the awareness campaign. This brochure and related promotional posters were also updated and revised during the third program year, FY2010, and again in the fourth program year, FY2011, as well as in the ninth program year, FY2016 (attachment A).

A coordinated approach to outreach and support will continue through implementation of the program. Much of the initial success of the UAR CREP is a result of strong marketing of the program to interested producers. The outreach is accomplished through direct mailings, newspaper press releases, educational brochures, radio broadcasts and local informational meetings. Each of the agencies cooperating in the program is responsible for the outreach component, but the KWO, DOC, GMD No. 3 and GMD No. 5, and the local conservation districts were especially instrumental initially, as identified in Attachment A.

Technical Assistance

Technical assistance is provided to the producers enrolled in the UAR CREP by USDA's NRCS and the DOC. Over the brief life of the program, there have been a number of meetings between NRCS and the producers discussing the challenges of transitioning to a permanent cover on soils that are highly susceptible to wind erosion (the majority of the enrolled acres are in this category). These meetings and communications became even more frequent and heightened with the impacts of drought conditions. The process for implementing CREP in Kansas (KCREP_IP_02) has been modified to indicate that NRCS will meet at the CREP site with all new participants (Exhibit C).

A very productive meeting was convened between FSA, NRCS, DOC, KWO, DWR, GMD3 and GMD5 officials in Garden City on Feb. 26, 2009, to discuss the unique challenges, strategies, and techniques of establishing permanent grass covers on highly erodible soils associated with the majority of the CREP enrollment to date. Some very successful grass establishment was developed by the end of the 2010 season. NRCS staff had found a strategy involving an effective combination of cover crops, herbicides, irrigation and summer seeding times which has resulted in many circles of nearly 100% CRP grass establishment after just two years. Other county offices were apprised of the methodologies so that the experience can be re-created in areas where the grass establishment has been difficult.

A second meeting was held in Dodge City at the USDA Service Center on July 7, 2011. Discussion at this meeting focused on the progress of the program including establishment of permanent vegetative cover. NRCS reviewed Kansas Conservation Reserve Program Technical Guidance Number 81, "Guidelines for Cover Crop and Grass Establishment on Sandy Sites Associated with Conservation Reserve Enhancement Program Acres." This guidance document has been updated to provide emphasis on the establishment of a cover crop, weed management, irrigation for establishment, and frequent monitoring.

NRCS staff expressed their concern with current conditions resulting from the severe drought being experienced in 2011 and the ability of participants to irrigate grass stands for establishment. The full effects of the drought on CREP stands will not be known for a few years. District conservationists had reported that some stands considered to be established in 2010 appeared to have died during 2011–2012.

NRCS conducted a field tour of selected CREP sites in Kearny County on May 22, 2012. As the drought had continued and worsened over the 2011–2012 winter, it became even more apparent that alternative strategies would be necessary to re-establish grass stands that were regressing to drastically low populations of desired prairie mixture species. After convening a technical team of soil and plant specialists, NRCS conducted sampling of sites which indicated problems or issues which might be resolved through alternative cropping or cultural practices. During the summer, KDA also conducted chemical sampling on the same sites for the purposes of determining any possible pesticide residual effects which could be contributing to plant deterioration. NRCS conducted a meeting with 30 landowners in Garden City on Nov. 13, 2012, to communicate the findings of the research effort and to convey recommendations for future planting of cover crops and grasses.

At the meeting, FSA announced its revised schedule of cost-share incentives for producers who needed to re-plant during the 2013 season. DOC, FSA and NRCS discussed compliance issues with the produces. (All parties are still in agreement that until fully normal precipitation patterns resume, no requirements will be enforced to re-cultivate fields with minimal cover that are in danger of blowing if adequate irrigation water is unavailable.) However, each CREP contract owner who is facing compliance issues because of drought related effects will still be required to be reviewed with a plan approved by the local FSA county committee.

The summer of 2014 brought a summer season of near normal rainfall to the project area, and provided moisture to annuals, weeds and grass for much needed ground cover. However, another very dry fall followed. This pattern was repeated in 2015 and 2016 with most of the project area receiving average to abundant summer precipitation, but very dry fall conditions. These stands will need to be evaluated again in future seasons to determine their post-drought status. The current conditions of the drought-stricken areas will challenge CREP participant's ability to establish the permanent cover required by the program.

NRCS has continued to conduct technical evaluations of the project sites — both at the local county office level, and with teams of experts from FSA, NRCS and DOC (May 7, 2014, and April 28, 2015). Another field tour is planned for the spring 2020 season to determine how covers are re-emerging after the winter.

Unique research on the problems and challenges of seeding and maintaining re-established grass stands into the western Kansas sandhill soils of the Arkansas River Valley are now being conducted by staff from Fort Hays State University and individual cooperators in the project area.

Agency and Organization Cooperation

The ***Kansas Water Office***, the state's planning agency for water issues, provides direction for the CREP program development. KWO contributes to public outreach through presentations at the Upper Arkansas Basin Regional Advisory Committee and the Great Bend Prairie Regional Advisory Committee, the Kansas Water Authority meetings and to other interested stakeholders. KWO works collaboratively with DOC and each of the agencies identified below to prepare and provide USDA with annual CREP progress reports. The KWO director originally administered the Western Water Conservation Projects Fund for projects in the Upper Arkansas River corridor that provide water conservation, efficiency gains and aquifer recharge. Legislative directives from the 2008 session transferred the fund and administrative duties to GMD No. 3. The KWO director continues to review and give approval for proposed projects recommended by the GMD No. 3 and the Arkansas River Litigation Funds Advisory Committee, with input from the DWR's chief engineer. The use of these funds is consistent with the purposes of CREP. KWO also provides a bonus incentive payment to landowners for enrollment of CREP shallow-water development practices.

The ***Kansas Department of Agriculture Division of Conservation*** (formerly *State Conservation Commission*) coordinates with local groundwater, watershed and county conservation districts, state and federal agencies, and other conservation partners to implement programs that improve water quality, reduce soil erosion, conserve water and reduce flood potential. DOC administers the state portion of CREP. DOC also is responsible to contract with eligible participating entities for the state upfront incentive payments (SUPs); to review, and make assurances that all CREP eligibility criteria are met and correctly documented; to ensure that the relevant water right is properly and permanently dismissed; and to provide appropriate recommendations regarding final approval of FSA CREP applications. The DOC also administers a similar, solely state-funded water right retirement program (Water Transition Assistance Program). DOC utilizes an existing staff position as the State CREP Coordinator for Kansas to facilitate and oversee CREP in the Upper Arkansas River basin.

The ***Farm Service Agency*** is the lead USDA agency for CREP. FSA provided the first public announcement of the program signups and made broad outreach to all potentially eligible persons. FSA field office staff work with landowners and producers to determine if CREP is a program that fits for their acreages and circumstances. FSA initiates the contract with interested parties; provides estimates of payments, and works with the landowner and NRCS to determine suitable conservation practices. Final approval of contracts comes from FSA county committees. FSA has no responsibility for the water right terminations, but coordinates with DOC and DWR as to the sufficiency of the voluntary dismissals.

The ***Kansas Department of Agriculture Division of Water Resources*** provides verification of water rights in good standing, administration of retired water rights, issuance of term permits, water well investigations and monitoring of aquifer levels and stream flows. DWR has and will continue to provide legal partitioning of water rights to facilitate enrollments, as necessary. This agency assists the Arkansas River Compact Administration with compact compliance. The chief engineer of DWR also reviews proposed project applications for water conservation and efficiency in the Upper Arkansas River basin through the Western Water Conservation Projects Fund. These efforts are consistent with the CREP objectives.

The ***Kansas Department of Health and Environment*** monitors surface water quality in the Arkansas River and its tributaries. Activities include collection and preparation of chemical, bacteriological and radiological lab samples taken at seven sites located between Coolidge and Great Bend. Analysis is then conducted to determine chemical, microbiological and radiological content. KDHE coordinates water quality issues and meetings with Colorado and other Kansas state agencies, and partners and stakeholders.

The ***Kansas Geological Survey*** provides annual monitoring of aquifer levels and conducts technical studies on the fate and transport of salinity, aquifer characterization, and groundwater modeling. KGS maintains a long-term research site for investigating phreatophyte and stream-aquifer interactions in the Arkansas River valley northeast of Larned. Wells are screened in the alluvial aquifer and the underlying High Plains Aquifer.

Some of the wells are instrumented with pressure transducers that record water levels on a 15-minute time interval year-round. In 2017, the KGS has also installed two index wells within Finney County, the area of GMD3, which are used in model developments pertinent to the CREP project area.

The ***Kansas Department of Wildlife, Parks and Tourism*** provides fish and wildlife population monitoring. KDWPT conducts wildlife and habitat surveys through several programs including stream monitoring and assessment and shorebird surveys. KDWPT conducts statewide stream surveys to document the current range and distribution of riverine species. Since 2002, KDWPT has coordinated a volunteer effort to survey shorebirds at wetlands throughout Kansas. Portions of these ongoing survey efforts as well as additional wildlife population monitoring activities can serve as in-kind contribution towards the CREP project. KDWPT monitors visitation rates at Cheyenne Bottoms Wildlife Area, to be used in evaluation of CREP objectives.

Groundwater Management Districts monitor water levels, collect water quality samples, recommend water management actions to the chief engineer, review and advise on water conservation projects in the Upper Arkansas River valley, and promote water conservation. Both GMD Nos. 3 and 5 have sponsored stakeholder meetings to help explain and promote the Upper Arkansas River CREP. They have also provided technical assistance to interested parties on partitioning of water rights or fields to meet both the CREP eligibility criteria and the needs of the producer. GMD No. 3 provides an especially important fiduciary function in the program by serving as the administrator of the Western Kansas Water Conservation Project.

Kansas State University has provided public outreach support to the cooperating state and local agencies involved with the UAR CREP proposal and implementation. K-State Research and Extension (KSRE) has established extension agents and outreach networks to transfer important information and results to clientele and end users of program information. K-State also has the capacity to analyze and interpret economic impacts as the CREP program is further implemented. These impacts will include both positive and negative impacts in the sub-basin communities. Positive impacts will result from changes in the environment as less water is diverted for irrigation and related stream flow and the useable life of the aquifer is extended. Negative impacts will result from decreased economic activity as irrigated land is removed from agricultural production, whether temporarily or permanently.

Natural Resources Conservation Service provides technical assistance on CREP contracts to create the conservation plan of operations and implement the approved practices. NRCS employees evaluate the offered acres with the applicant to determine the appropriate suite of practices to meet needs of the land and producer. Specifications for practice implementation are documented and provided to the participant on conservation practice worksheets. NRCS personnel then follow up with participants by making site visits to evaluate progress, and by making recommendations to help with management decisions. NRCS determines whether the established conservation covers meet agency specifications.

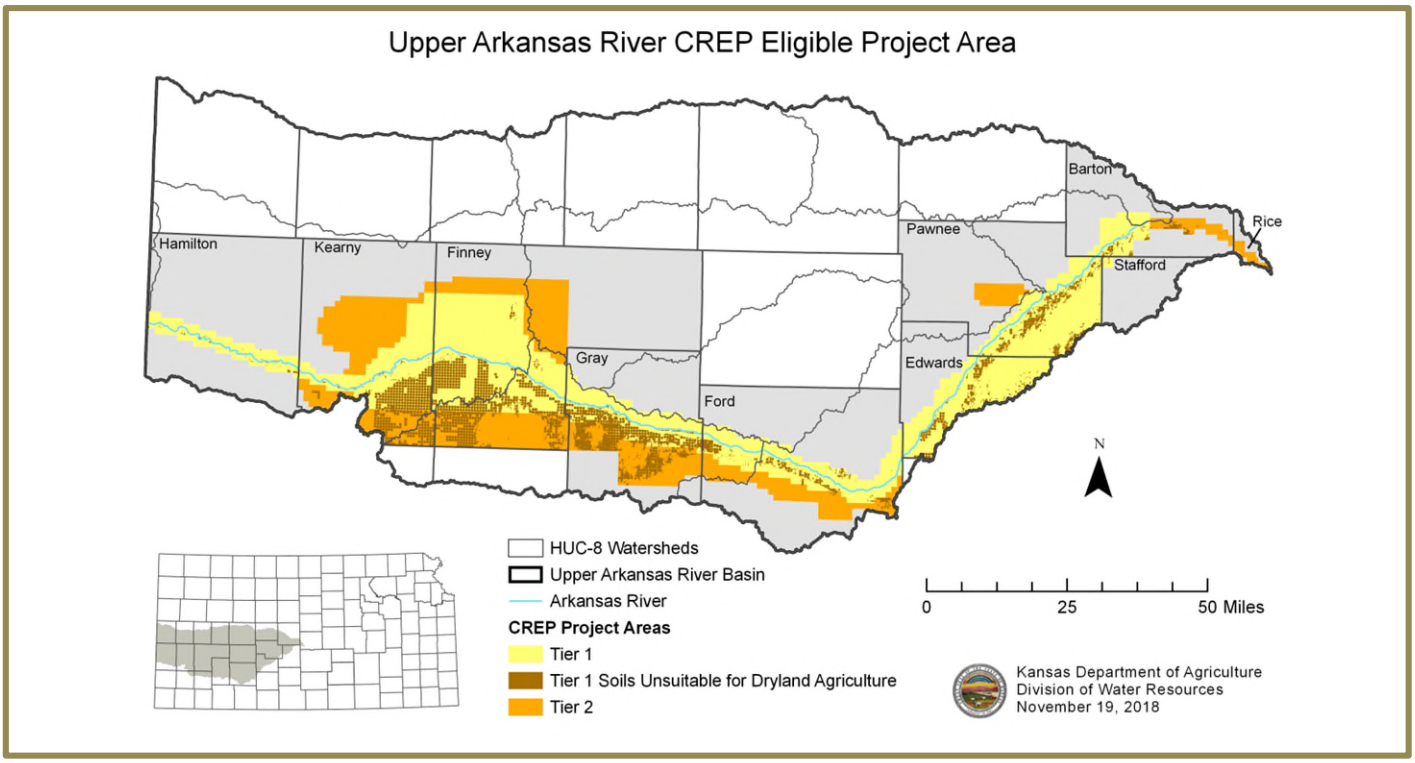
Kansas Alliance for Wetlands and Streams (KAWS) is a 501(c)(3) not-for-profit that collaborates with local people, conservation and community organizations, agencies and local governments to promote conservation of streams, wetlands, riparian areas, prairies, watersheds and wildlife. With an apolitical, inclusive, efficient, and science-based approach to promoting sustainability of the natural ecosystems and working lands of Kansas, KAWS is supported by a broad range of partners and advisors which make a good fit with the goals and objectives of the CREP program.

Ducks Unlimited (DU) became a new technical advisor to the steering committee in 2017. DU is a 501(c)(3) not-for-profit that collaborates with local people, conservation and community organizations, agencies and local governments to promote conservation of migratory waterfowl habitat and associated ecosystems. DU members are a diversified group of hunters, non-hunters, farmers, ranchers, landowners, conservation enthusiasts and wildlife officials organized in local regions who work through fundraising and project development efforts to make a difference by creating habitat, restoring wetlands and protecting prairies. With an apolitical, inclusive, efficient, and science-based approach to promoting sustainability of the natural

ecosystems and working lands of Kansas, DU is supported by a broad range of partners and advisors which make a good fit with the goals and objectives of the CREP program.

Pheasants Forever (PF) is a national nonprofit conservation organization dedicated to the conservation of pheasant, quail, and other wildlife. They promote cooperative endeavors through public awareness, education and land management policies and programs which are being implemented in the UAR CREP.

Figure 1: Map of Upper Arkansas River CREP Eligible Project Area



CREP Program Implementation Summaries

Land Conserved

As of Sept. 30, 2020, the total amount of land which has been offered and approved for enrollment into the CREP program is 23,146 acres, as detailed in the table below (also see Attachment D).

Acres Approved for Enrollment: December 20, 2007 to September 30, 2020								
CREP County	**Dec 20, 2007 – Sept 30, 2008**	**Oct 1, 2008 – Sept 30, 2009**	**Oct 1, 2009 – Sept 30, 2010**	**Oct 1, 2010 – Sept 30, 2011**	**Oct 1, 2011 – Sept 30, 2012**	**Oct 1, 2012 – Sept 30, 2013**	**Oct 1, 2013 – Sept 30, 2014**	**Oct 1, 2014 – Sept 30, 2015**
Barton								
Edwards								
Finney	**129.4**	**574.2**	**76.5**		**1,338.6**			**412.7**
Ford								
Gray	**2,677.8**	**723.5**	**1318.6**	**247.1**	**1,087.4**	**673.9**		**613.8**
Hamilton								

Kearny	4,203.8	605.0	251.9		1,520.0			162.9
Pawnee	241.7				130.7			
Rice								
Stafford								
Total	7,252.7	1,902.7	1,647.0	247.1	4,076.7	673.9	0	1,189.4

Acres Approved for Enrollment: December 20, 2007 to September 30, 2020						
CREP County	**Oct 1, 2015 – Sept 30, 2016**	**Oct 1, 2016 – Sept 30, 2017**	**Oct 1, 2017 – Sept 30, 2018**	**Oct 1, 2018 – Sept 30, 2019**	**Oct 1, 2019 – Sept 30, 2020**	**Total Acres Enrolled since Program Initiation**
Barton		107.7				107.7
Edwards		127.5				127.5
Finney	475.9	150.5	2,542.9			5,700.7
Ford						
Gray						7,296.9*
Hamilton	242.9					242.9
Kearny	610.2		1,598.5	126.6		9,078.9
Pawnee				219.0		626.3
Rice						
Stafford						
Total	1,329.0	385.6	4,141.4	345.6	0	23,146.0

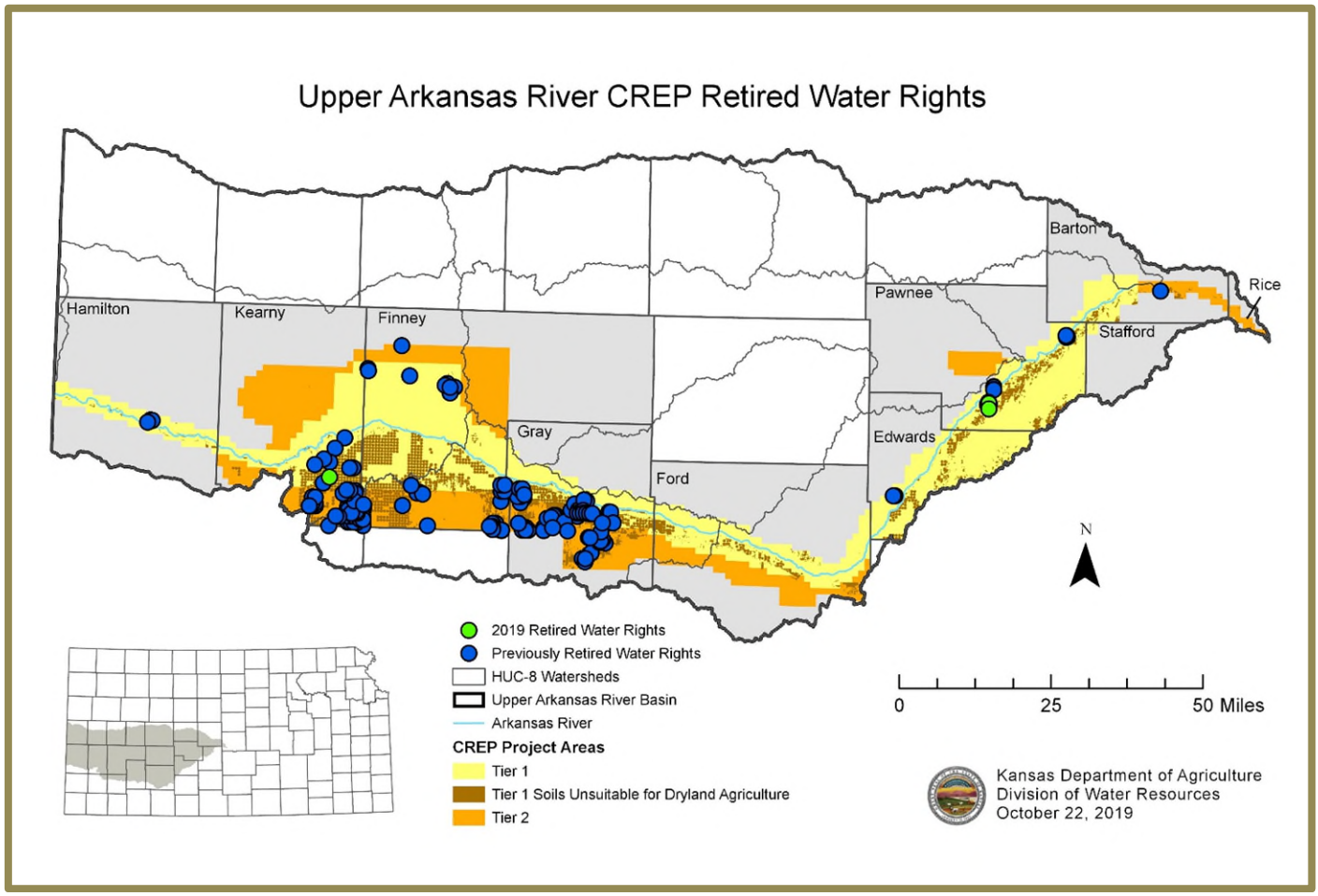
***These figures adjusted by -80.1 acres from 2016 to match and reflect FSA records**

Water Conserved

The total amount of water rights that have been offered and accepted for permanent retirement under state approved contracts from the beginning of enrollment on Dec. 20, 2007, through Sept. 30, 2019, are shown in the table below. To date, a total of 46,919 acre-feet of annual authorized water right allocation has been permanently retired from irrigation through enrollment into the Upper Arkansas River CREP.

CREP Authorized Water Right Allocation Permanently Retired: 2007–2019		
CREP County	**Authorized Quantity (Acre-Feet) of Annual Water Right Allocation Permanently Retired on State Contract Approved Acres**	**Number of Irrigation Wells Being Permanently Retired on State Contract Approved Acres**
Barton	150 AF	1 Well
Edwards	150 AF	1 Well
Finney	11,223 AF	44 Wells
Ford		
Gray	15,304 AF	62 Wells
Hamilton	386 AF	3 Wells
Kearny	19,380 AF	72 Wells
Pawnee	907 AF	26 Wells
Rice		
Stafford		
Total	**47,500 AF**	**209 Wells**

Figure 2: Map of Upper Arkansas River CREP Retired Water Rights



Groundwater Monitoring Activities

Groundwater level measurements and annual water use reports are being collected for the CREP project area (average groundwater levels and locations of monitoring wells are provided in Attachment E).

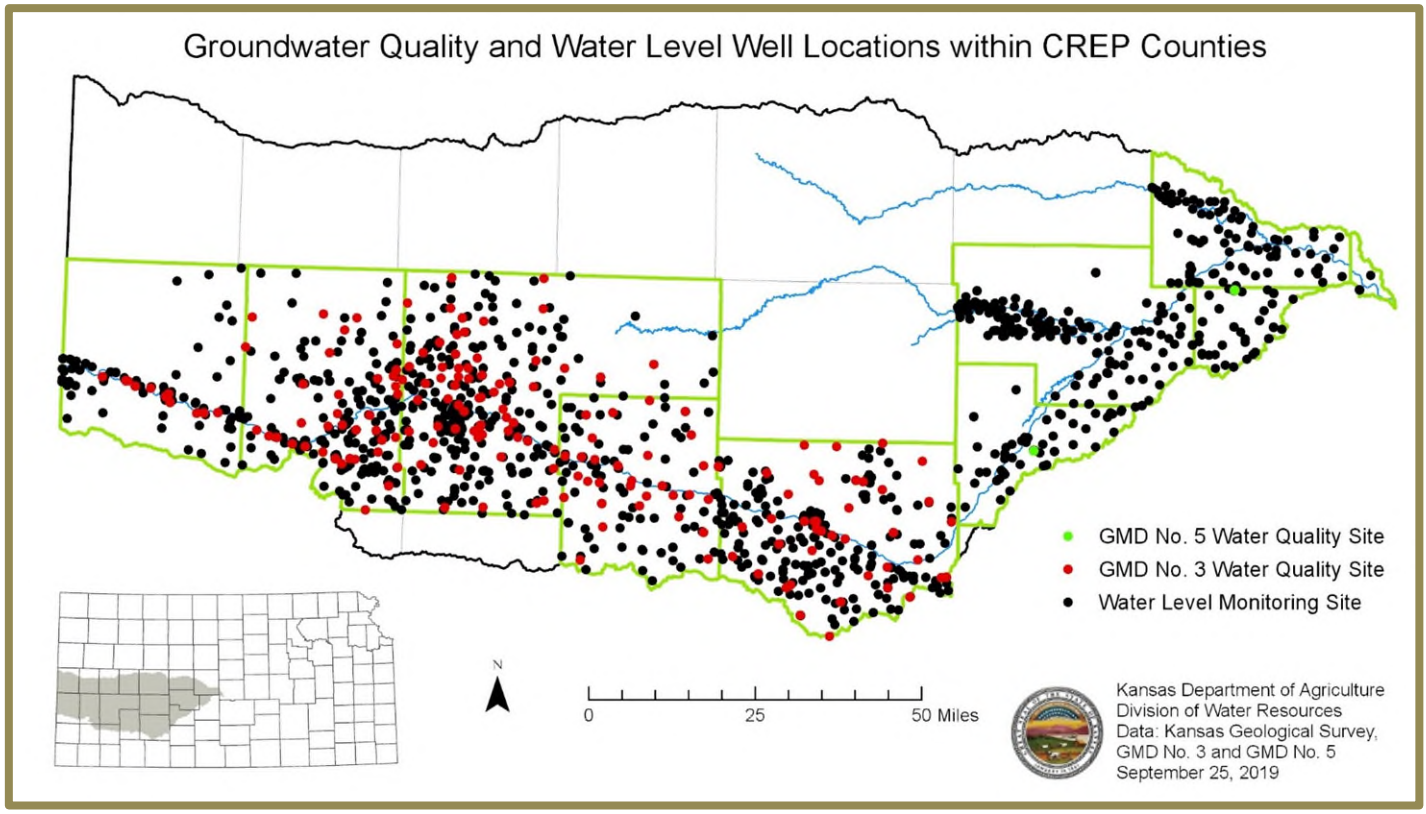
Water levels have been monitored at least annually at numerous locations in the CREP counties. Figure 3 includes the locations of historical water level measurements in the area. GMD No. 5 obtains water level measurements from 25 wells in the CREP area. Annual measurements are collected from 14 of these wells and quarterly measurements of 11 wells are planned to continue.

Water levels within the boundaries of the CREP area, particularly in the areas where contracts are approved, will be measured over time. The KGS is also working cooperatively with DWR and GMD No. 3 to enhance the monitoring network for the aquifer close to the retired CREP acres and water rights in Kearny, Finney and Gray counties. Improvements include providing additional annual monitoring wells and increasing the measurement frequency, equipping some key well sites with pressure transducers and temperature loggers, and designating some wells as index calibration wells.

Two index wells have been installed in the High Plains Aquifer in Finney County within the CREP area — one at the Willis Water Technology Farm in south-central Finney County south of the Arkansas River, and the other in west-central Finney County at an area being considered for a possible Local Enhanced Management Area (LEMA). The index wells have pressure transducers that record water levels every hour — the hydrograph data for the records can be viewed and downloaded online on the KGS index well website at http://www.kgs.ku.edu/HighPlains_/OHP/index_program/index.shtml. The record for the Willis index well started in late July 2016, and the other in the possible KE-FI LEMA started in mid-June 2017.

Plans are also in development to conduct some future comparative analysis on CREP vs. non-CREP acres/wells. Since a great deal of the enrollments in Gray and Kearny counties are in very close proximity, the establishment of such an enhanced monitoring program would result in some very specific information about the effects of substantial water right retirements in these highly localized areas.

Figure 3: Upper Arkansas River CREP Water Quality and Water Level Monitoring



Annual Irrigation Water Usage in CREP Area: 2007 - 2018

Water use reports of authorized acres actively being irrigated each year within the CREP project area have been received and verified by DWR for the 2007–2018 reporting years, as shown below (see Attachment D).

CREP Project Area Reported Irrigated Water Use and Irrigated Acres: 2007 - 2012

County	2007 Reported Irrigated Acres in CREP Project Area	2007 Reported Irrigation Water Use (AF) in CREP Project Area	2008 Reported Irrigated Acres in CREP Project Area	2008 Reported Irrigation Water Use (AF) in CREP Project Area	2009 Reported Irrigated Acres in CREP Project Area	2009 Reported Irrigation Water Use (AF) in CREP Project Area	2010 Reported Irrigated Acres in CREP Project Area	2010 Reported Irrigation Water Use (AF) in CREP Project Area	2011 Reported Irrigated Acres in CREP Project Area	2011 Reported Irrigation Water Use (AF) in CREP Project Area	2012 Reported Irrigated Acres in CREP Project Area	2012 Reported Irrigation Water Use (AF) in CREP Project Area
Barton	16,658	15,776	15,972	12,218	16,705	15,335	16,318	17,759	16,556	22,780	16,638	21,519
Edwards	36,827	31,203	36,265	38,152	36,313	35,896	37,137	39,023	37,206	49,127	37,188	45,573
Finney	209,396	254,161	206,581	282,693	202,362	243,857	200,120	276,958	200,220	330,958	196,864	320,130
Ford	43,165	45,428	41,778	50,449	41,324	44,772	42,267	47,963	44,019	61,856	42,182	55,686
Gray	85,535	99,823	83,957	105,866	83,390	93,774	81,318	97,536	77,617	114,229	76,689	100,897
Hamilton	11,384	15,870	12,658	18,377	13,316	16,219	12,585	18,253	12,617	21,204	13,471	21,854
Kearny	104,157	184,320	108,261	191,688	112,080	169,009	109,822	189,095	108,176	179,661	88,747	146,481

Pawnee	50,861	40,285	50,627	40,585	50,315	44,125	50,645	53,988	52,757	67,943	50,929	61,025
Rice	336	281	331	221	331	230	331	370	331	611	336	353
Stafford	628	601	628	552	628	695	628	788	628	969	625	860
Total	**558,947**	**687,747**	**557,058**	**740,802**	**556,764**	**663,912**	**551,171**	**741,733**	**550,127**	**849,339**	**523,669**	**774,377**

CREP Project Area Reported Irrigated Water Use and Irrigated Acres: 2013 – 2018

County	2013 Reported Irrigated Acres in CREP Project Area	2013 Reported Irrigation Water Use (AF) in CREP Project Area	2014 Reported Irrigated Acres in CREP Project Area	2014 Reported Irrigation Water Use (AF) in CREP Project Area	2015 Reported Irrigated Acres in CREP Project Area	2015 Reported Irrigation Water Use (AF) in CREP Project Area	2016 Reported Irrigated Acres in CREP Project Area	2016 Reported Irrigation Water Use (AF) in CREP Project Area	2017 Reported Irrigated Acres in CREP Project Area	2017 Reported Irrigation Water Use (AF) in CREP Project Area	2018 Reported Irrigated Acres in CREP Project Area	2018 Reported Irrigation Water Use (AF) in CREP Project Area
Barton	15,985	14,471	16,433	15,320	16,501	17,496	16,675	14,181	16,431	17,244	15,736	14,716
Edwards	36,469	34,930	37,231	36,969	36,974	39,480	37,023	33,364	35,884	39,559	33,863	28,436
Finney	198,042	288,398	193,381	272,819	191,988	229,663	194,355	226,596	191,644	205,655	184,960	210,766
Ford	42,863	46,780	43,533	43,321	42,094	40,184	42,491	37,569	41,884	42,793	40,409	40,393
Gray	74,954	94,531	71,897	87,469	72,339	71,420	71,230	70,209	71,289	71,018	68,552	73,500
Hamilton	14,223	19,307	14,474	18,336	13,842	15,931	14,483	16,183	14,197	14,728	12,449	14,081
Kearny	89,114	130,611	101,820	147,607	115,863	159,466	116,147	164,874	120,877	146,021	118,054	155,703
Pawnee	52,354	48,160	52,832	51,250	52,886	49,658	51,231	36,894	52,094	52,861	50,041	42,617
Rice	336	311	336	341	166	238	336	362	564	646	564	604
Stafford	622	588	628	657	628	711	626	528	627	759	630	554
Total	**524,962**	**678,088**	**532,565**	**674,089**	**543,281**	**624,247**	**544,597**	**600,759**	**545,491**	**591,284**	**525,258**	**581,370**

Summary of Non-Federal Program Expenditures

As of Sept. 30, 2020, a total of $1,644,514 has been expended by the DOC for the State Upfront Payments (SUPs) in 136 separate state contracts to producers who have been approved and enrolled in the CREP program, as shown below. Producers will receive an average of about $2,965,191 annually in direct payments from FSA over the 14–15 year period of the CREP contracts.

State Upfront Payments Approved by County

COUNTY	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	COUNTY TOTAL
Barton										$9,991				**$9,991**
Edwards										$9,894				**$9,894**
Finney	$8,022	$33,756	$2,677		$78,251			$34,124	$45,299	$10,864	$224,822			**$437,815**
Ford														
Gray	$156,954	$44,856	$75,618	$15,320	$64,419	$37,677		$59,540						**$454,384**
Hamilton									$23,561					**$23,561**
Kearny	$260,632	$37,510	$15,620		$94,241			$20,005	$49,286		$172,252	$12,289		**$661,835**
Pawnee	$14,291				$8,103							$24,638		**$47,032**
Rice														
Stafford														
TOTAL	**$439,900**	**$116,122**	**$93,915**	**$15,320**	**$245,015**	**$37,677**	**$0**	**$113,669**	**$118,146**	**$30,749**	**$397,074**	**$36,927**	**$0**	**$1,644,514**

As of Sept. 30, 2020, a total of $4,434,434 has been expended in the project for technical assistance and in-kind services as indirect match. A total of $335,631 was provided as indirect match during the 2020 fiscal year, as shown below:

Services by Organizations from October 1, 2019 to September 30, 2020		
Organization	**Actual**	**Activities**
Technical Assistance		
Western Water Conservation Projects Fund Management (SW KS GMD No. 3)	**$0**	TA preferred interstate, grant applications, general water rights, laws and issues
KDA – Div. of Water Resources & Information Technology	**$3,565**	CREP website / database maintenance, water right reviews, divisions and retirements for applications
Kansas Geological Survey	**$39,100**	Water level monitoring, modeling, river water quality and practical saturated thickness work, database management
Kansas Department of Wildlife, Parks and Tourism	**$5,872**	Wildlife and fish population investigations in CREP counties
Kansas Department of Health and Environment	**$25,865***	Arkansas River coordination with Colorado, sampling of Arkansas River water quality
State & Local In-Kind		
KDA – Division of Conservation	**$53,650**	Reports, outreach & CREP field inspections
Western Water Conservation Projects Fund (SW KS GMD No. 3)	**$16,113**	Alternative delivery system, storage capacity, and efficiency improvements (ARLFSC time)
Southwest Kansas Groundwater Management District No. 3	**$118,716**	Water management, stakeholder assistance in CREP area, program promotion
Big Bend Groundwater Management District No. 5	**$55,500**	Water level measurements, meter compliance, water banking, CREP assistance and clerical pay
Kansas Water Office	**$0**	Weather modification and phreatophyte CREP activities
Ducks Unlimited	**$0**	Ark River CREP Landowner / Field Review Visits
KS Alliance Wetlands & Streams	**$4,057***	2018 SW Kansas Playa Workshop
Pheasant Forever	**$13,193**	No activity to report
TOTAL INDIRECT	**$335,631**	Technical Assistance / In-Kind Services

*No report received – assumed to be the same as 2019

A total of $501,109 was provided as cash payments and direct match during the 2020 fiscal year, as shown below. As of Sept. 30, 2020, a total of $10,106,240 has been expended in the project for both cash payments and direct match.

Direct Match to Federal Dollars from October 1, 2019 to September 30, 2020		
Organization	**Amount**	**Activities**
KDA – Division of Conservation State Upfront Payments	**$36,927**	State sign-up payments to CREP participants
State CREP Coordinator		Coordinate implementation of program with FSA, conservation districts, NRCS, and state agencies
KDA – Division of Conservation	**$0**	Cost share on well plugging and other practices
Western Water Conservation Projects Fund (SW KS GMD No. 3)	**$464,182**	Alternate delivery route, ditch lining, Lake McKinney storage capacity and bypass
Pheasants Forever / Quail Forever	**$0**	Cost share on seeding; loan of grass seeder
Kansas Water Office	**$0**	Cost share on tamarisk control, or wetland bonus payments
TOTAL DIRECT	**$501,109**	Cash Payments and Direct Match

In FY2020, 0 federal CREP enrollments totaling $0 in federal costs were added to the project. The total estimated federal costs of the program to date are now approximately $47,514,807.

Federal Expenses for CRP Contracts (in dollars)												
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
				1,607,000	1,190,565	0	5,853,038	3,029,338	2,191,213	9,938,400	1,001,100	0

As part of the federal & state CREP partnership MOA, the State of Kansas agreed to pay not less than 20% of the program costs, as required for a CREP program, through a combination of direct payments, technical assistance and in-kind contributions with no less than 10% direct match.

The State of Kansas direct match now totals $10,106,240 – an amount which exceeds 10% of the federal costs ($4,751,480). And the State of Kansas, with its partners of other agencies, conservation districts, groundwater management districts and private associations, has provided a cost share of $14,540,674 – an amount which exceeds the required 20% match of federal costs ($9,502,961).

State / Federal Match Summary (in dollars)								
	2008	2009	2010	2011	2012	2013	2014	2015
DOC Payments	439,901	116,122	93,916	15,320	245,011	37,677	0	113,669
Other KS Direct	143,089	673,670	1,576,507	1,278,249	336,275	336,285	49,134	287,424
Total KS Direct	582,990	789,792	1,670,423	1,293,569	581,286	373,962	49,134	401,093
KS Indirect	651,988	412,286	374,911	318,747	302,160	286,771	357,304	287,714
KS Dir & Indirect	1,234,978	1,202,078	2,045,334	1,612,316	883,446	660,733	406,438	688,807
ACCUM Kansas		2,437,056	4,482,390	6,094,706	6,978,152	7,638,885	8,045,323	8,734,130
ACCUM Federal				19,667,225	21,274,225	22,464,790	22,464,790	28,317,828
10% of federal								
20% of federal								

State / Federal Match Summary (in dollars)						
	2016	2017	2018	2019	2020	TOTAL
DOC Payments	118,146	30,749	397,075	36,927	0	1,644,513
Other KS Direct	1,728,119	735,400	**339,025	477,441	501,109	8,461,727
Total KS Direct	*1,846,265	766,149	**736,100	514,368	501,109	10,106,240
	*Corrected from 2016		*Corrected from 2018			
KS Indirect	306,730	316,362	302,820	181,010	335,631	4,434,434
KS Dir & Indirect	*2,152,995	1,082,511	**1,038,920	695,378	836,740	14,540,674
ACCUM Kansas	*10,887,125	11,969,636	**13,008,556	13,703,934	14,540,674	14,540,674
ACCUM Federal	31,347,166	33,538,379	43,476,779	44,477,879	3,036,922	47,514,807
10% of federal						4,751,480
20% of federal						9,502,961

Progress on CREP Objectives (12 objectives)

1. Enroll a maximum of 28,950 acres into CREP in the project priority area (25,950 irrigated acres, 3,000 from dryland pivot corners as part of whole field enrollment), with a goal of up to 18,600 acres put into native grass.

   As of Sept. 30, 2020, a total of 23,146 acres have been offered, accepted and enrolled into the CREP program. Of the total number of acres currently offered, only 2.5% (594 acres) was farmed dryland. Offers which are predominately "Tier 2 soils" comprise 7.7% (1804 acres) of the total approvals to date. Essentially 100% of the 22,800 total acres have been placed into the native grass practices of CP2 or CP4d, with 827 acres enrolled in practice CP4d. This objective is 80% complete.

2. Reduce the application of groundwater for irrigation in the targeted area by 45,125 acre-feet, annually, with the enrollment of 25,950 irrigated acres.

   As of Sept. 30, 2020, a total of 47,500 acre-feet of authorized water rights for irrigation have been permanently retired from the enrollment of 22,586 irrigated acres. This rate is averaging just over 2 acre-feet per acre, a rate higher than estimated in the CREP objective, particularly because the majority of the enrollment in the project area has been in the western counties where water appropriation allowances are the highest in the state, and some irrigated acreage is authorized on land which is not being enrolled at the irrigated rate due to FSA restrictions. This objective continues to be increasingly exceeded with each additional year since 2017 and is 100% complete.

3. By 2020, increase the frequency of meeting minimum desirable stream flows in the Arkansas River at the USGS gaging stations at Great Bend and Kinsley from 71% and 52%, respectively, as measured in 1996–2004.

   No assessment of this objective has been made as of Sept. 30, 2020. Measurement of the impact of enrollment of acres into the Upper Arkansas River CREP on minimum desirable stream flow will begin after water rights have been terminated and enough time has elapsed to have an effect on the system. Most of the acres enrolled have just recently terminated the water rights, or are still allowed temporary limited irrigation to establish vegetation on soils susceptible to wind erosion. Following is a summary of the anticipated methodology for this objective.

   There are three components to stream flow: frequency, magnitude and duration. Each of these components will be reviewed at the Great Bend and Kinsley MDS gage. The daily flow from 1960 to 2004 will be summarized into annual data. The summarization parameters include:

      1. *The percent of time the MDS was not met (frequency of excursion).*
      2. *The volume of flow less than MDS as calculated by the difference between MDS and reported flow (magnitude of excursion).*
      3. *The maximum length in consecutive days that MDS was not met (duration of excursion).*

   The frequency, magnitude and duration for which MDS was not met will be compared for the pre-CREP years (1960–2006) to the post-CREP years (2007–2017). A nonparametric test, the Wilcoxon rank-sum, will be used to determine if a statistically discernible difference existed between the pre- and post-CREP period.

   The same comparison will be made using the pre- and post-CREP period and the average annual Palmer Drought Severity Index (PDSI) for the region in which the MDS gage was located. This will create an index for the antecedent moisture conditions that will be a primary factor in determining each period's flow condition. One would expect that in those regions where the PDSI had become significantly greater (wetter), one should see a concomitant improvement in the magnitude, frequency or duration of the MDS condition.

Finally, the trend for the annual summarizations of the three components of flow will be assessed. This assessment will be used to determine whether there is a discernible trend in the annual frequency, magnitude or duration of minimum desirable stream flows through time (1960–2006).

4. Reduce stream flow transit losses due to inefficiencies in the delivery of the water by improving the channel and canal delivery system.

   Improvements to the stream flow delivery system are underway. Construction is complete on the cleaning and reshaping of the canal used by the South Side Ditch Company to enhance delivery of water to its members and to more efficiently deliver water to the downstream Farmers Ditch Company during a drought. A significant number of water check control structures on this system are under construction that will greatly improve water management and system delivery efficiency of water to irrigated fields using buried pipelines instead of leaky ditch lateral structures (which are difficult to maintain). It is estimated that water delivery to the Farmers Ditch Company via the refurbished canal has at least 15% less stream flow transit loss than delivery via the river channel. Also, significant upgrades and enhancements were initiated on the Amazon Canal intake structure and flume across Sand Creek near the Lakin Golf Course during 2015 and concluding in 2016. This site was featured in a 2016 Kansas Natural Resources legislative tour of southwest Kansas hosted by the KGS that summer. Additional improvements are underway or being planned for river routing model study to improve river management and stateline river flow delivery efficiency to the South Side, Farmers and Garden City Ditch systems that will be implemented as part of the Western Water Conservation Projects Fund expenditures.

5. By 2020, reduce the rate of groundwater declines in the alluvial aquifer and the hydraulically connected High Plains Aquifer in the CREP area from those measured during the winter months for the pre-CREP five-year period (2003–2007) and pre-CREP ten-year period (1998–2007).

   A water use analysis tool and preliminary assessment of this objective has been initiated in 2018 by DWR and is described in the September 26, 2018, CREP Steering Committee Meeting report. This effort will continue to be refined and re-assessed until 2020 and beyond. The impact of enrollment of acres into the Upper Arkansas River CREP on groundwater conditions will be made in 2020 and after all water rights have been terminated.

   Water levels have been monitored at least annually at numerous locations in the CREP counties. The map below includes the locations of historical water level measurements in the area. GMD5 obtains water level measurements from 25 wells in the CREP area. Annual measurements are collected from 14 of these wells and quarterly measurements of 11 wells are planned to continue. Data collected from each of these measurements will be used to assess the progress towards meeting this objective.

   Water levels within the CREP area, particularly in the areas where contracts are approved, will be measured over time. Depending on levels of change, monitored changes could also be compared with predicted changes with computer modeled scenarios. The steering committee is cooperating to create an enhanced monitoring network for the aquifer close to the retired CREP acres and water rights. Possible improvements mentioned include providing additional annual monitoring wells and increasing the measurement frequency, equipping some key well sites with pressure transducers and temperature loggers, and designating some wells as index calibration wells. Additional plans to analyze the impact on CREP water right retirements: 1) additional water level measurements need to be taken from new monitoring wells on established CREP fields, and 2) additional monitoring should be established in undisturbed areas adjacent to the CREP enrollments (upstream, downstream and control spots) in order to analyze the relative effects of what is happening with the water right dismissals and water use reductions in the broad context of the High Plains or Ogallala Aquifer.

   Assessment of the impact of the CREP project on water use and water levels will include the recent approach taken by the KGS regarding water reduction in the Sheridan-6 LEMA in Northwest Kansas Groundwater Management District No. 4. Methods include the water-balance approach recently

published by the KGS, which is based on average annual water-level change versus annual water use, and also the correlation between annual water use and radar precipitation for the area of the LEMA before and after its implementation. The use of precipitation data for the CREP project area is important because it allows discernment of water-level and water use changes that are related to climate from those that are related to water conservation.

6. By 2020, reduce the outward migration of river salinity within the High Plains Aquifer from the currently projected extent based on 1990s groundwater conditions in the Arkansas River valley.

   As of Sept. 30, 2020, 22,586 irrigated acres have been offered, approved and enrolled into the CREP program. Some of the offered acres are close to the river, and most are further south of the river. An assessment of this objective will be made in the future, once more acres are enrolled, and when most of the wells are permanently turned off. Due the significant enrollment which occurred in 2018, a number of the wells are still in use for limited irrigation to help establish permanent vegetative cover. While no formal assessment of this objective is made at this time, the state's comprehensive stream water quality monitoring network, and past and future data from the groundwater quality networks of GMD3 and GMD5 as described below, will be used to determine progress in meeting this objective.

   Instream water quality and groundwater quality have been recorded historically through monitoring programs at the state and local level. KDHE has a long-standing network of monitoring stations along the Arkansas River from Coolidge to Great Bend. These stations are the foundation for the TMDL work in the Upper Arkansas Basin. Three years (2004–2006) of intensive bacteria sampling have been conducted with over 12 sessions of sampling 5 times within 30 days at these stations on the Arkansas River, in accord with K.S.A. 82a-2001, et seq. KDHE has been developing additional TMDLs in the Upper Arkansas Basin since 2011 for the next round of TMDLs on the Arkansas River.

   The existing stations will be used to assess future post-TMDL conditions, over the 15 years of CREP rental periods. It is not expected that CREP will have an impact on the overall TDS (Total Dissolved Solids) levels in the river, however improvement is expected in the reduction of the advance of TDS or sulfate into the freshwater aquifers laterally from the river.

   Annual groundwater sampling was temporarily suspended by GMD No. 3 in 2011–2014 for the 183 monitoring sites in the CREP counties this report period. They were replaced by 40 additional groundwater samples collected for analysis of uranium in the CREP area by the KGS, including the regular suite of analysis. This work was done by KGS as an enhancement to a cooperative river flow sampling project funded by an EPA grant; it evaluates the deposition of uranium in Arkansas River flows. This work should broaden the water quality evaluations of CREP benefits and future management progress.

   Further east, groundwater quality monitoring in the area by GMD No. 5 has been conducted for specific projects from 12 wells. This information can provide a basis for comparison in the future.

   This data will provide water quality information prior to CREP, and the continuing monitoring program will enable data analysis for documenting impacts of the program. This monitoring, along with the groundwater monitoring for other state initiatives, provides a baseline for post-CREP comparison. Stream and groundwater samples will be analyzed to determine mineral content at a frequency appropriate to determine representative water quality at least on an annual basis. At a minimum, sulfate, selenium and total dissolved solids will be quantified. Groundwater samples will be obtained for analysis and result comparison from wells with an analysis history. Wells with previous data will be monitored from both the alluvial and High Plains aquifers.

7. By 2020, reduce the bacterial, nutrient and pesticide levels in the Arkansas River in Edwards and Pawnee counties from the 1990–2000 levels.

Bacterial impairments under the new state definition are in the middle reaches of the basin. Intense sampling for bacteria after 2016, concentrating on the Kinsley area, was conducted. Additional data will be available through the monitoring network as described in Objective #6. However, an assessment of this objective will not be made at this time.

As of Sept. 30, 2020, only 626 acres have been enrolled into the CREP program in Pawnee County. 127 acres were enrolled in Edwards County in 2017.

8. Increase aquifer recharge and wildlife habitat by enrolling 400 acres of playa lakes and soils, and other suitable locations for shallow water development.

   As of Sept. 30, 2020, no acres have been formally offered for the CP9 Shallow Water Areas practice. Approximately 8 acres of playa soils occur on acres offered into the CREP program.

9. Reduce agricultural use of highly erodible soils with a goal of enrolling 7,000 acres that are unsuitable for dryland farming.

   As of Sept. 30, 2020, approximately 20,033 acres of soils unsuitable for dryland farming have been enrolled in the CREP program. This objective continues to be increasingly exceeded with each additional year since 2008 and is 100% complete

Acres Enrolled as of September 30, 2019	
Tier 1	1,309
Tier 1 Unsuitable Soils	20,033
Tier 2	1,804
Total Acres Enrolled	**23,146**

10. Reduce the amount of soil lost to erosion by approximately 80,000 tons per year on all enrolled acres.

    Soil erosion in the Upper Arkansas River Basin occurs primarily due to wind erosion. Water erosion is also a factor in soil erosion in the basin, but to a lesser extent. In comparison, wind erosion can reach 4 tons/acre whereas water erosion would total 0.3 ton/acre on the same soil types with the same cropping patterns and management practices. Factors that affect wind erosion include residue cover, field width, crop rotation intensity, and tillage operations (USDA 2006).

    With 23,146 acres enrolled in the CREP program as of Sept. 30, 2020, the amount of soil lost to erosion will be reduced by about 92,584 tons per year. In order to help establish vegetative cover, limited irrigation for up to two full calendar years will be a condition on the water right termination for offers with highly erodible soils of factor I-34 or greater. Prior to final contract approval, a conservation plan of operation will be prepared, and limited irrigation may be recommended. 100% of this objective has been met.

Soil Erosion	
4 tons/acre/year	23,146 acres
Total soil erosion reduction	**92,584 tons per year**

11. Protect the ecological and recreational viability of the Cheyenne Bottoms with improved Arkansas River stream flow, as measured by an increase in the average annual bird count at the Bottoms in 2015–2023 as recorded from 1996–2004, and with increased human visitation rates in 2015–2023 as recorded from 1996–2004.

    No assessment of this objective has been made as of Sept. 30, 2020. The impact of enrollment of acres into the Upper Arkansas River CREP on the ecological and recreational viability of Cheyenne Bottoms will not be discernible until water rights have been terminated and wells turned off. Many

application acres just recently had the associated water rights terminated, or have limited irrigation to establish permanent vegetative cover. Monitoring of the average annual bird count and human visitation rates will continue.

12. Reduce energy consumption from an average of 59,850 kW-hr to less than 5,000 kW-hr per pivot for the first two years on pivots enrolled in the CREP. In subsequent years, energy consumption will be reduced to zero, as the pivots eligible for limited irrigation will be removed from the enrolled parcel. Total energy savings for the term of the CREP contracts will approach 8 million kW-hr.

    K-State Research and Extension staff provided a rough estimate of energy consumption for a 125-acre center pivot in counties along the Upper Arkansas River. An average energy consumption of 59,850 kW-hr per pivot per year was derived from their estimates. In the first two years of the program, offers made for acres that occur in soils unsuitable for dryland agriculture will have the opportunity to irrigate minimally to ensure establishment of grass cover. Therefore, a small amount of energy consumption will still be experienced in the first years of the program.

    With 22,586 irrigated acres enrolled in CREP as of Sept. 30, 2020, more than 7 million kW-hr of energy savings may be achieved each year. This objective continues to be increasingly exceeded with each additional year since 2013 and is 100% complete.

Energy Savings	
Irrigated Acres Enrolled as of September 30, 2019	22,586 acres
Approximate Number of Center Pivots Retired	180 pivots
Average Energy Consumption per Pivot	59,850 kW
Total Energy Savings per Year (kW)	**10,773,000 kW**

WATER AND SOIL CONSERVATION IN THE UPPER ARKANSAS RIVER CORRIDOR

The Conservation Reserve Enhancement Program affords potential benefits for both farmers, land and water resources in 10 counties along the Upper Arkansas River. Landowners who enroll in CREP will receive up to 15 years of rental payments, a state sign-up bonus, as well as state and federal dollars to put irrigated acres into a conservation planting. The water rights associated with the enrolled land will be permanently retired. Enrollment is on a first-come, first served basis - individual county caps apply. Enrollment availability is only assured through June 2016, at this time.

What is CREP?
CREP is a targeted, enhanced Conservation Reserve Program (CRP), a federal program administered by USDA's Farm Service Agency (FSA). CRP was designed to prevent soil erosion, but also has provided water quality and wildlife habitat benefits. CREP allows the focus to be on a state resource concern; in this case, water conservation.

What are the water and soil benefits?
Reducing irrigation demands on the stream-aquifer system will reduce aquifer declines. It will also reduce the spread of saline river water into the aquifer and help restore stream and riparian health. Most acres enrolled have highly erodible, sandy soils. Multi-year transition with limited irrigation allows establishment of cover vegetation.

This program provides cash payments for land transition, while irrigation is still possible. Irrigation is permitted to establish a suitable land cover.

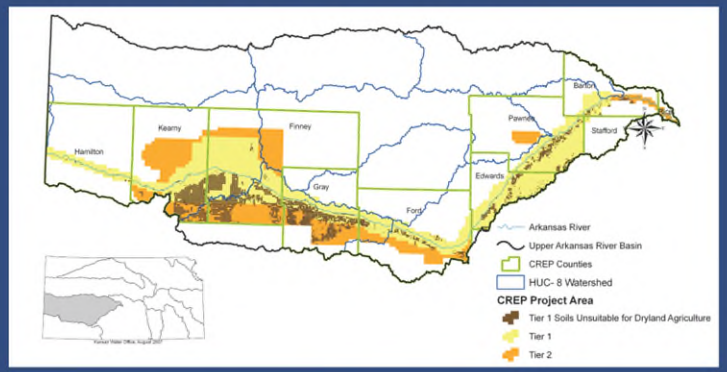
Among the approved practices eligible for cost share money are native grass seeding, wildlife habitat establishment, shallow water area construction, wetland restoration and filter strip and riparian buffer installation.

Are there targeted areas?
The program places priority on acreage where the retirement of the land and attendant water rights would have the greatest water conservation benefit and protect highly erodible soils.

Are there wildlife benefits?
The conservation practices to be implemented open a host of opportunities for wildlife and landowner revenue related to hunting, recreation and other forms of agritourism.

Landowner visits with FSA, NRCS and KDA officials about CREP grass covers.

NEW IN 2016
INCREASED FEDERAL RENTAL PAYMENTS AND STATE INCENTIVES



8-Digit HUC	DAFP Approved Irrigated Rental Rates ($/AC)
11030001 - Pivot	160
11030001 - Gravity	153
11030003 - Pivot	161
11030003 - Gravity	154
11030004 - Pivot	183
11030004 - Gravity	176
11030005 - Pivot	166
11030005 - Gravity	159
11030006 - Pivot	161
11030006 - Gravity	154
11030008 - Pivot	193
11030008 - Gravity	186

Eligibility Criteria

Federal and state eligibility criteria must be met to enroll your land in CREP. The partial list of the criteria will help to screen your eligibility in advance. Your local FSA office has a database to screen your application on these criteria.

1. At least one-half acre foot of water per acre was applied four out of six years (2008-2013).

2. At least 50 percent of the maximum annual quantity authorized to be diverted under the water right has been used in any three years within the most recent five years preceding offer submission for which DWR reports are available.

3. At least 51 percent of the offered land must be located within the CREP boundary.

Benefits to Farmers

- Federal annual irrigated rental and maintenance payments for 14 to 15 years.
- Rental payment on dryland cropland (i.e. center pivot corners) that's part of a whole field enrollment. State upfront payment of either $97 or $55 per irrigated acre.
- Up to 50 percent cost share on seeding.
- Well plugging cost share of $1,000 per well.
- Bonus payment of $350 per acre for shallow water area development in Kearny or Finney counties.
- Land can be leased for hunting.

A pheasant calls this CREP area his home

As you decide whether CREP enrollment fits your business plan, you'll be working with the USDA Farm Service Agency (FSA), Natural Resources Conservation Service (NRCS) and the Kansas Department of Agriculture (KDA).

1. First stop is your local FSA office. FSA personnel will use a CREP database to determine whether at least half of the irrigated land offered for enrollment lies within the CREP boundaries and if minimum water use criterion have been met. They also will be able to provide eligible producers with a preliminary estimate of rental and upfront payments.

2. Any questions on water rights will be referred to the KDA Division of Water Resources or Groundwater Management District No. 3 or 5. Producers whose land is accepted into the voluntary program are expected to permanently retire the associated water right(s).

3. KDA will make the state's upfront payments and practice cost-share payments on approved CREP contracts.

Arkansas River CREP Partners

Working partners include FSA, KDA, NRCS Southwest Kansas GMD No. 3, Big Bend GMD No. 5, Pheasants Forever, KGS, KDHE, KWO and Kansas Alliance for Wetlands and Streams

Contact

Steve Frost, CREP Coordinator, KDA
(785) 564-6622, Steve.Frost@kda.ks.gov

Carla Wikoff, USDA-FSA
(785) 539-3531, Carla.Wikoff@ks.usda.gov

Applicants Water Right Questions:

DWR, Garden City	(620) 276-2901
DWR, Stafford	(620) 234-5311
GMD No. 3, Garden City	(620) 275-7147
GMD No. 5, Stafford	(620) 234-5352

Farm Service Agencies (FSA)

Barton	(620) 792-5329
Edwards	(620) 659-3142
Finney	(620) 275-0211
Ford	(620) 227-3731
Gray	(620) 855-3515
Hamilton	(620) 384-6955
Kearny	(620) 355-7911
Pawnee	(620) 285-2821
Stafford	(620) 549-3321
Rice	(620) 257-5184

Upper Arkansas River CREP

Conservation Reserve Enhancement Program

Water and Soil Conservation in the Upper Arkansas River Corridor

Sign Up Today

At Your Local USDA Farm Service Agency Office

Upper Arkansas River CREP

Conservation Reserve Enhancement Program

Water and Soil Conservation in the Upper Arkansas River Corridor

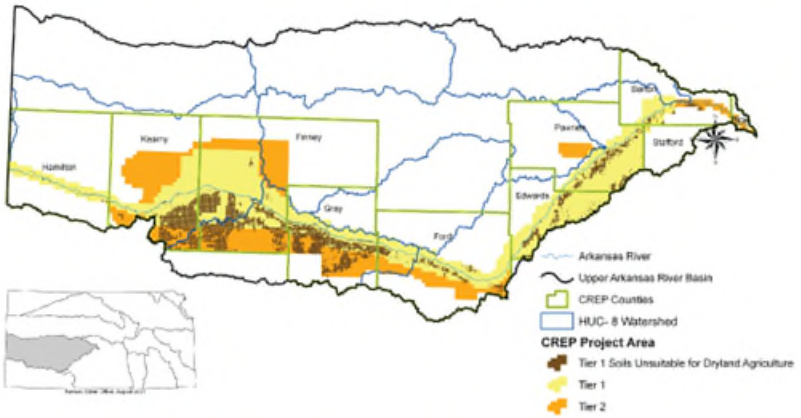
What's in it for you?

Farmer's Benefits

- Upfront signing payment of up to $97 per irrigated acre
- 50% cost share on seeding
- FSA irrigated rental payments are between $153-$193 for 14-15 years
- Renewed landowner revenue from hunting, recreation and agritourism
- Assured income with annual cash payments

Regional Benefits

- Reduce aquifer declines
- Protect land from soil erosion with irrigated transition to a conservation cover
- Reduce the spread of saline water
- Restore stream and riparian health



Want more information?

Contact

Steve Frost, CREP Coordinator
Kansas Department of Agriculture
Steve.Frost@kda.ks.gov

Sign up at your local USDA Farm Service Agency Office!

Attachment B
Upper Arkansas River Conservation Reserve Enhancement Program Outreach

December 2007 – December 2008 Outreach for the Conservation Reserve Enhancement Program Events (Brochure distribution and conversation)

- Stakeholder Meeting – Garden City, GMD3, December 2007
- Conservation District Meetings in the 10 counties in CREP area – Jan. 11 - Feb. 28, 2008
- GMD5 Meeting – Stafford, February 7, 2008
- No-till on the Plains – Salina, January 2008
- 3i Show – Great Bend, May 2008
- Upper Arkansas Basin Advisory Committee Public Meeting – Jetmore, May 21, 2008
- Upper Arkansas Basin Advisory Committee Public Meeting – Garden City, July 16, 2008
- KSU Agronomy Day – August 2008
- Kansas Agribusiness Expo – November 2008
- CREP Producer Outreach Information Meeting – Larned, December 12, 2008; Garden City, December 17, 2008; Dodge City, December 18, 2008

December 2008 – December 2009 Outreach for the Conservation Reserve Enhancement Program

- Garden City Farm Show – January 2009
- NRCS All Personnel Meeting – Hays, February 11, 2009
- NRCS All Personnel Meeting – Scott City, February 12, 2009
- Collaborative Technical Issues Meeting – Garden City (FSA, NRCS, SCC, KWO, GMDs), February 26, 2009
- Middle Ark WRAPS Meeting – Dodge City (KSU, GMD3), March 3, 2009
- Middle Ark WRAPS Meeting – Larned (KSU, GMD5), March 5, 2009
- Upper Ark WRAPS Meeting – Garden City (KSU, GMD3), March 10, 2009
- Water and the Future of Kansas Conference – Topeka (SCC, KWO Presentation), March 12, 2009
- 3i Show – Great Bend, May 2009
- Kansas Legislative Field Tour – Lakin (SCC, KWO Presentation), June 4, 2009
- Stakeholder Meeting – Garden City, GMD3, October 13, 2009
- Public Information / Education Meeting – St. John (w/ GMD5) October 29, 2009

December 2009 - December 2010 Outreach for the Conservation Reserve Enhancement Program

- 3i Show – Garden City May 2010
- GMD3 CREP promotion – Ongoing

December 2010 – September 2011 Outreach for the Conservation Reserve Enhancement Program

- FSA National Press Release – August 23, 2011
- KDA & KWO Kansas Press Release – August 23, 2011
- 3i Show – Great Bend May 2011
- GMD3 CREP promotion – Ongoing
- Second technical meeting preparing for 2011 MOA updates - Dodge City, July 7, 2011 at USDA Service Center (DOC, NRCS, FSA, DWR, GMD3, and GMD5 participating)
- September 29, 2011 – DOC sent a directed mailing to 1235 landowners who appeared to have eligible water rights in the project area

October 2011 – September 2012 Outreach for the Conservation Reserve Enhancement Program

- 3i Show – Great Bend May 2012
- May 22, 2012 – NRCS CREP Drought Impacts Field Tour in Kearny County
- August 2012 – KDA field chemical sampling project in Gray, Finney and Kearny counties
- November 13, 2012 – NRCS CREP Drought Impacts Landowner Meeting in Garden City
- GMD3 CREP promotion – Ongoing

October 2012 – September 2013 Outreach for the Conservation Reserve Enhancement Program

- November 11, 2012 – CREP Producer Meeting in Garden City
- February 6, 2013 – Presentation to Kansas Water Congress Annual Meeting in Topeka
- August 1, 2013 – Presentation to Kansas Water Congress Summer Meeting in Garden City

October 2015 – September 2016 Outreach for the Conservation Reserve Enhancement Program

- Program training meeting for FSA, NRCS, DWR and GMD personnel – Dodge City, January 2016
- March 21, 2016 – DOC sent a directed mailing to 1,103 landowners who appeared to have eligible water rights in the project area

Brochures / Posters

- Updated CREP promotional poster to be distributed at CREP informational meetings in December to FSA offices and Conservation Districts
- Updated CREP promotional brochure for distribution by State Conservation Commission at stakeholder meetings in August
- Updated CREP promotional brochure used at 2011 K-State Agronomy Day
- Updated CREP promotional brochure used at 2011 Kansas Agribusiness Expo
- Updated CREP Promotional brochure and posters used in 2016 refreshed program rollout

Articles

- **Establishment of Upper Arkansas River CREP**, (December 2007, Governor Sebelius and KWO press release)
- ***Upper Arkansas River CREP Attracts More Than 12,000 Acres in Seven Days*** (January 2008 KWO HydroGram)
- ***CREP Conservation Practices Include Aquifer Recharge*** (January 2008 KWO HydroGram)
- ***Conservation Reserve Enhancement Program Benefits Water Resources & Farmers*** (September 2008 KWO HydroGram)
- ***Response to Hutchinson Daily News editorial by SCC executive director on behalf of KDA, KDWP, and the KWO*** November 2008)
- ***Congressional funding measure keeps CRP rolls open*** (January 2008 HPJ news release)
- Pratt newspaper article on KDWP conducting a wildlife impact survey starting last spring per an article, as part of the CREP effort.

Internet

- **Access to various resources and reports on the Upper Arkansas CREP program are continuously updated and made available on the DOC's website at:**

  www.agriculture.ks.gov/CREP

ATTACHMENT C
PROCESS FOR IMPLEMENTING UPPER ARKANSAS RIVER CREP IN KANSAS

FSA Kansas Exhibit 44 (Par. 171, 401)
2-CRP (Rev. 5), KS Amend. 6
March 9, 2016

STEP	ACTION	RESULT
1. Initial Application with FSA	a. Producer visits local FSA office and provides a recent water use report with water use permit number for offered acreage. FSA enters water right number in CREP database to determine general eligibility. Water rights are by legal description. The website is: https://connect.kda.ks.gov (No WWW in front) (Each County will be provided a password)	a. FSA enters water right number into database and a register number is automatically assigned. This state developed database indicates eligibility based on water right information and location.
	b. If a water right is ineligible, process would stop.	b. If ineligible on CREP database, process stops here. Producer can contact DWR, GMD, or DOC to review water use history.
	c. If producer's water right meets basic eligibility as determined by CREP database, producer identifies physical location of acres and CREP practice (identify on an aerial photo). If, necessary consult with CREP coordinator to determine water rights acreage. FSA uses CRP-GIS tool, and determines total # acres and soil rate within CREP boundary and within HUCs. FSA estimates payment rate through CREP calculator. FSA reviews with producer total incentive package on another tab (includes state upfront payments, cost share, SIPs, PIPs if apply, etc.). NOTE: FSA follows normal continuous enrollment processing found in 2-CRP, Part 7, Section 3. Producer initiates process by signing CRP-2C and CRP-1 and processes the offer according to 2-CRP. NOTE: Applicant signs CRP-2C and CRP-1 based on application acres. The forms will be finalized based on actual contracted acres after water right review.	c. Save an electronic copy of estimated total CREP payments and provide a copy to the producer. After acreage has been determined by measurement service scan and email an encrypted copy of the CRP-1, CRP-2C, aerial photo and summary of payment to the State Coordinator using password: KSCREP4State.
	d. FSA informs producer of process and works in conjunction with NRCS to determine appropriate practice. Producer is provided a packet with the process and practices. Producer is provided a sheet listing guidelines for cover crop establishment on sandy sites associated with CREP acres. If producer has questions on a water right issue, he/she is directed to a) DWR or GMD on water right termination issues; b) KDA-DOC for state upfront payments and Shareholder Agreement; and c) KWO for wetland bonus payment. **NOTE: No water right is terminated without an approved, signed CREP contract.**	d. Producer is responsible for getting additional signatures if needed, make a copy for personal record. The State Coordinator will complete any additional needed forms and provide to the producer.

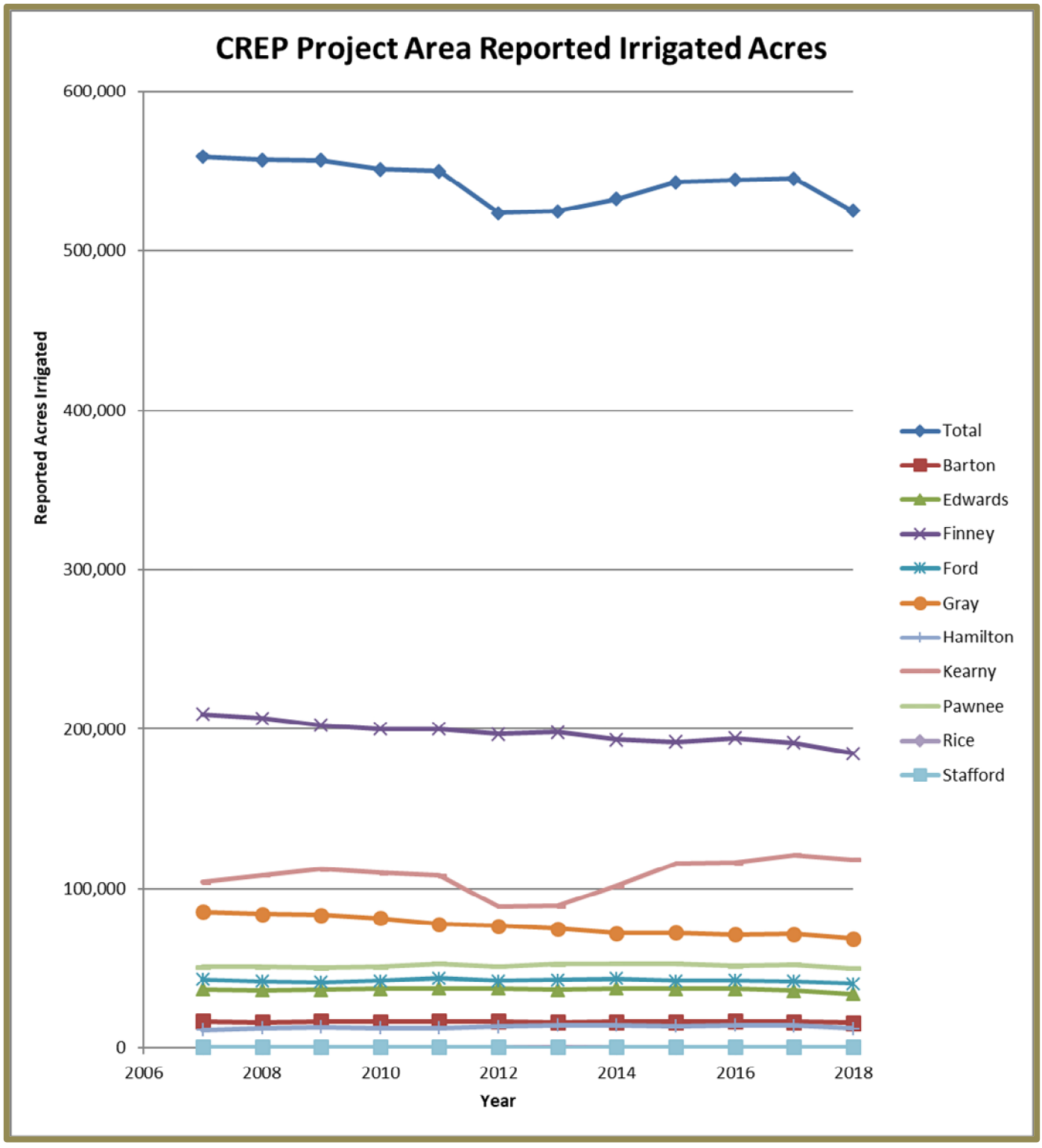
STEP	ACTION	RESULT
2. FSA	a. Determination of basic Federal CREP Eligibility (FSA County Office) Example: ownership, person, land, practice, cropping history, CRP acreage cap. Ensure all eligibility requirements are met as provided in paragraph 181 in 2-CRP handbook.	a. FSA enters supplemental information related to practices and acres offered are entered into the CREP database.
	b. If eligible, FSA recommends conservation practices for application acres, and FSA provides NRCS a copy of CRP-2C.	b. If eligible, process moves forward with NRCS and State CREP coordinator.
	c. If ineligible based on Federal criteria, FSA notifies producer and copies State CREP coordinator. Explain appeals process to applicant.	c. If ineligible on federal criteria, producer can review with FSA.
3. KDA-DOC	a. State CREP Coordinator receives CRP-2C and map from FSA, and reviews for state eligibility, including county cap of 25% of total CREP acres. If not eligible, inform producer of finding and explain review process. State CREP coordinator determines predominant tier of irrigated acres in application, in consultation with FSA office.	a. If applicant doesn't meet state eligibility, explain applicant can meet with KDA-DOC to review application. Predominant tier will determine SUP rate.
	b. Review water right termination form for manageable unit and eligibility. 1) Identify if water right needs to be divided or if application acres have overlapping water rights. If yes, go to Step 3B. 2) Identify if application acres have both a ground water right and ditch water irrigation. If yes, go to Step 3C. 3) Identify if application acres unsuitable for dryland farming; if yes, notify owner he/she has option of requesting limited irrigation condition on water right termination to establish vegetative cover.	b. Owner may consider limited irrigation option if soils predominantly unsuitable for dryland farming, and discuss it with FSA as part of CPO, and request it from DWR, if desired.
	c. After steps 3B & 3C are complete, if needed, and application meets state eligibility, sign water right termination form and forward it to KDA-DOC and copy FSA County Office with current status of application and file completion.	c. If needed, CREP coordinator notifies producer to meet with DWR on water right changes, or to get signatures on shareholder agreement and return to KDA-DOC (see 3B and 3C). Copy DWR on the referral.
	d. Enter necessary information on application for SUP.	d. Inform FSA office and producer on preliminary status of state eligibility and file completion.
	e. Check GIS coverage for Tamarisk on application acres; note it on a file with applicant's name and HUC 8.	e. SUP is to be shared with participants in same arrangement as on CRP contract.
	f. Forward to KWO contract sheet for wetland bonus on CP-9, if applicable, with update on application status.	f. Notify KDA-DOC tamarisk control program manager.
	g. Notify producer if application meets state eligibility and if all forms are in order. Provide information on State cost share for well plugging and tamarisk control and see if interested in participation.	g. Wetland bonus is to be shared with participants in same arrangement as on CRP contract.

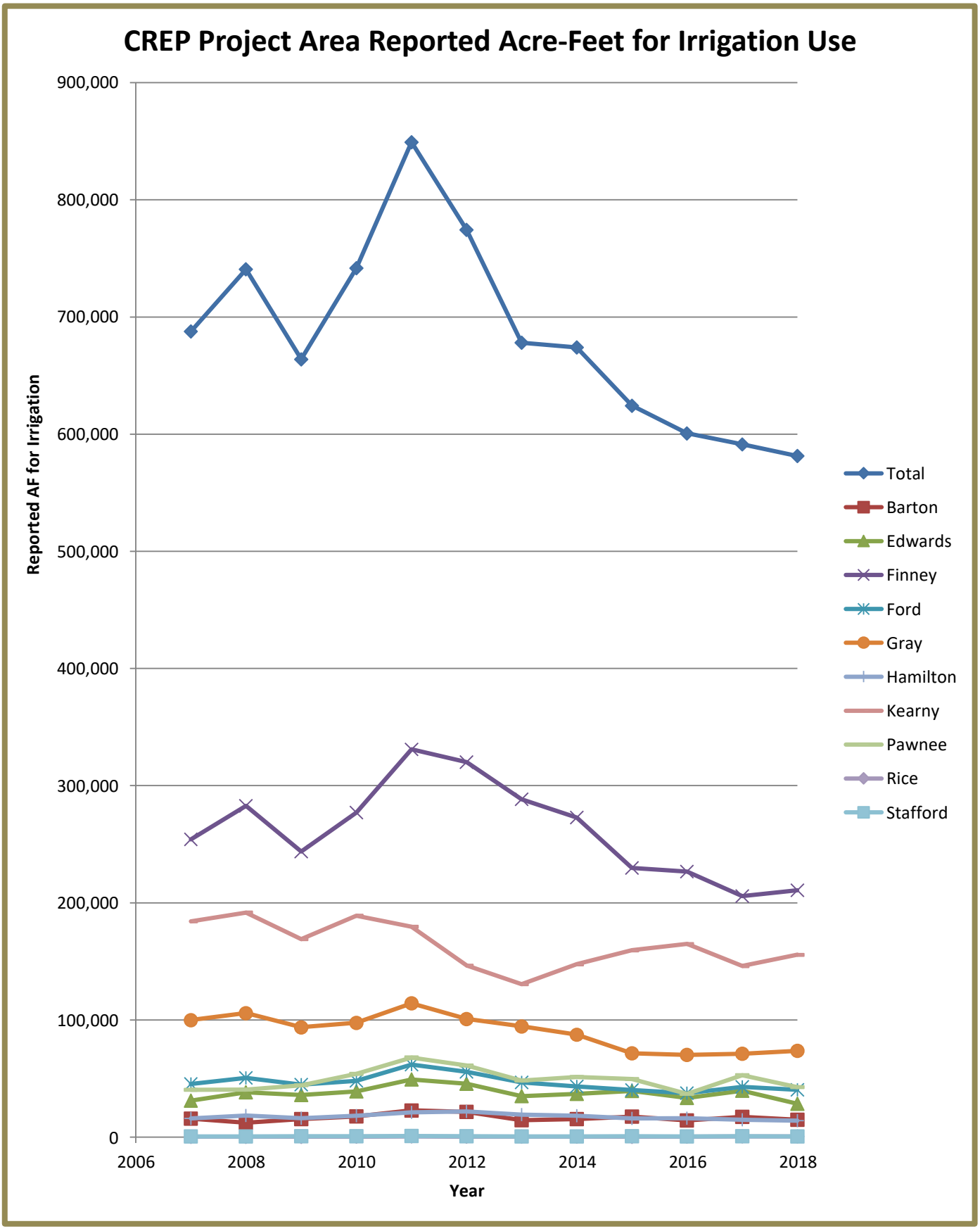
STEP	ACTION	RESULT
3B. KDA-DWR and KDA-DOC	<u>If needed</u>: a. Applicant meets with DWR or GMD to request necessary changes on water right. DWR or GMD flag change forms as a CREP Application. b. DWR completes process to adjust water right or place of use, so that a water right can be retired on CREP application acres. c. State CREP coordinator re-evaluates application based on split water right or adjusted application acres to confirm eligibility and maximum acres.	a. Water right may need to be legally split or eligible place of use adjusted, so that a manageable unit is available for CREP enrollment. b. DWR copies CREP coordinator on changed water right information. c. KDA-DOC notifies producer and FSA County Office of re-evaluated application, maximum acres and file completeness.
3C. KDA-DOC	<u>If needed</u>: a. CREP Coordinator receives a signed copy of CREP Shareholder Agreement (KCREP_SA_03). Application acres with both a ditch surface irrigation and a ground water right, must file this form to not deliver ditch company surface water on specific tract(s) while enrolled in a CREP contract. b. When CREP Coordinator receives a fully signed form, update CREP database, and notify FSA County office and DWR.	a. Applicant gets Irrigation Association or Ditch Company's signature, and returns signed shareholder agreement to CREP Coordinator. b. Enrolled acres cannot be irrigated by surface water during the life of the CREP contract. The associated ground water right must be terminated.
4. KDA-DWR	Receives owner and KDA-DOC signed water right termination form. NOTE: **The termination of the water right is conditional upon final approval of CREP contract**. The CRP-1 is not approved by the COC at this point.	a. Water right termination form will be held by DWR, and cannot be processed without a copy of producer and FSA signed CRP-1 contract.
5. NRCS	NRCS makes a site visit to determine suitability of practice, needs and feasibility.	NRCS notify FSA County Office of practice suitability. Use CRP-2C form.
6. FSA and NRCS	a. When KDA-DOC indicates application file is complete, FSA makes an appointment with applicant to finalize application at county office. b. FSA completes CRP-2C and CRP-1 for irrigated & dryland acres. c. NRCS develops CPO, and fills out CPA-52. CED completes & signs CPA-52. Identify if soil and climate conditions make this site at risk for wind erosion during seeding and special cover crop considerations should be included.	a. Finalize application and adjust final contracted acreage at the county office. If necessary, enter the effective date and actual contracted acreage and practice totals to the CREP database.
7. FSA with producer	a. County FSA meets with producer to complete application materials.	

STEP	ACTION	RESULT
FSA with producer Cont.	b. Producer signs CPO. c. Notify CREP Coordinator Producer has signed CRP-1 and CPO.	
8. FSA KDA-DWR KDA-DOC	a. FSA County office confirms by electronic receipt and verification of CREP database, that water termination agreement has been signed by producer and evaluated by DWR. b. COC approves CRP-1 and CPO. c. FSA send a copy of CRP-1 and map to State CREP Coordinator, and notifies NRCS.	a. FSA notifies producer. DOC updates CREP database. b. FSA County office updates CREP database with COC approval date.
9. KDA-DWR KDA-DOC FSA	a. DWR receives the copy of signed CRP-1 and issues the water right termination order by the Chief Engineer. DWR sends order to owner, with a reminder owner is responsible for filing a copy with County Registrar of Deeds. DWR provides a copy to State CREP coordinator. b. KDA-DOC notifies FSA county office of agreement completion, and updates CREP database.	a. As applicable, FSA approves and pays SIP and State CREP Coordinator approves and pays SUP based on CRP contract shares.
10. NRCS or producer FSA KDA-DOC KWO	a. As required by procedure, either NRCS conducts an on-site review of practice installation and certifies installation on form FSA-848 or producer self certifies completion of practice on form FSA-848. b. CREP coordinator notifies KWO of CP-9 practice installation, where eligible for wetland bonus payment, and updates CREP database.	a. As applicable, FSA issues PIP and cost share payments. b. KWO pays wetland bonus on CP-9, to participants as share on CRP contract.

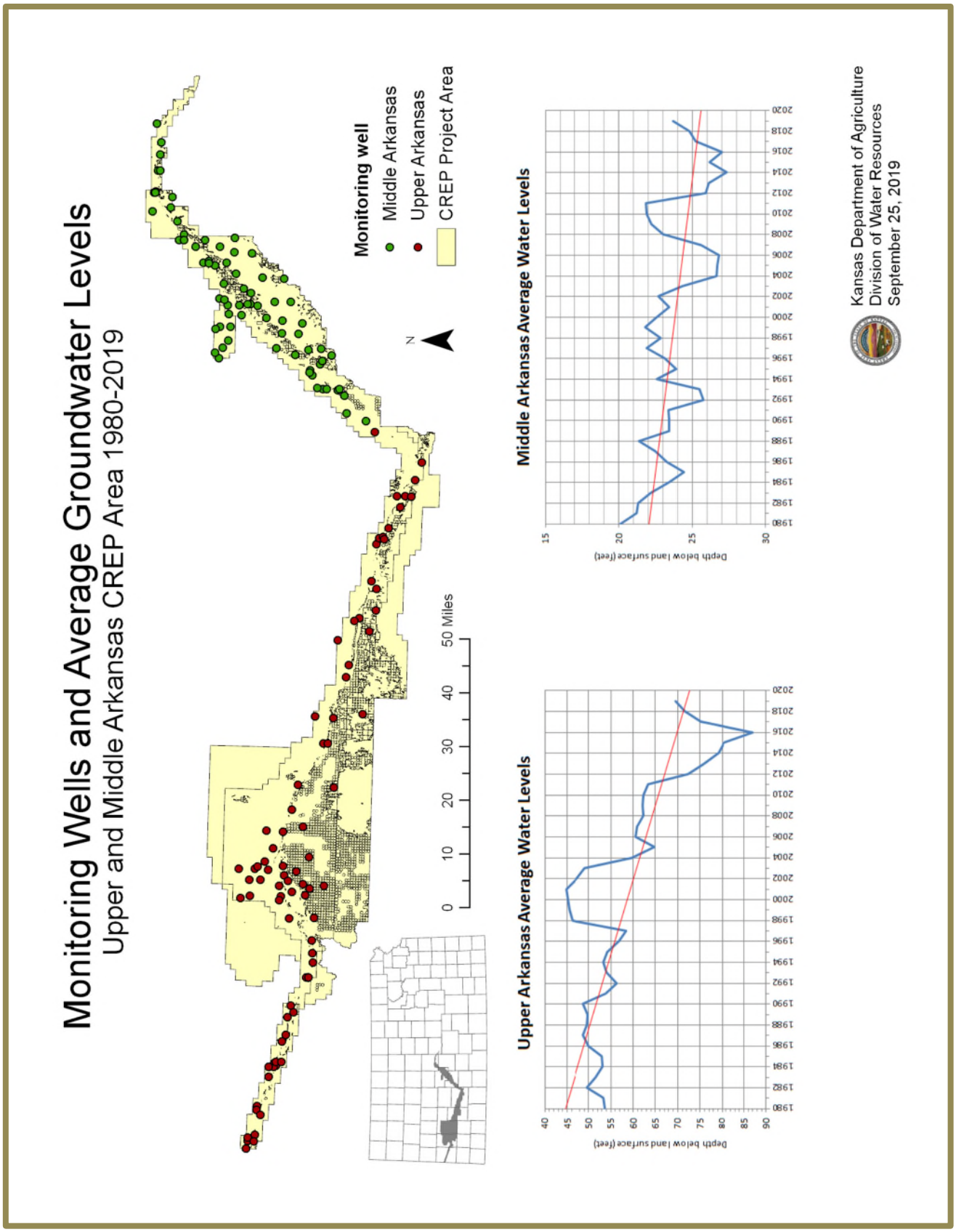
ATTACHMENT D

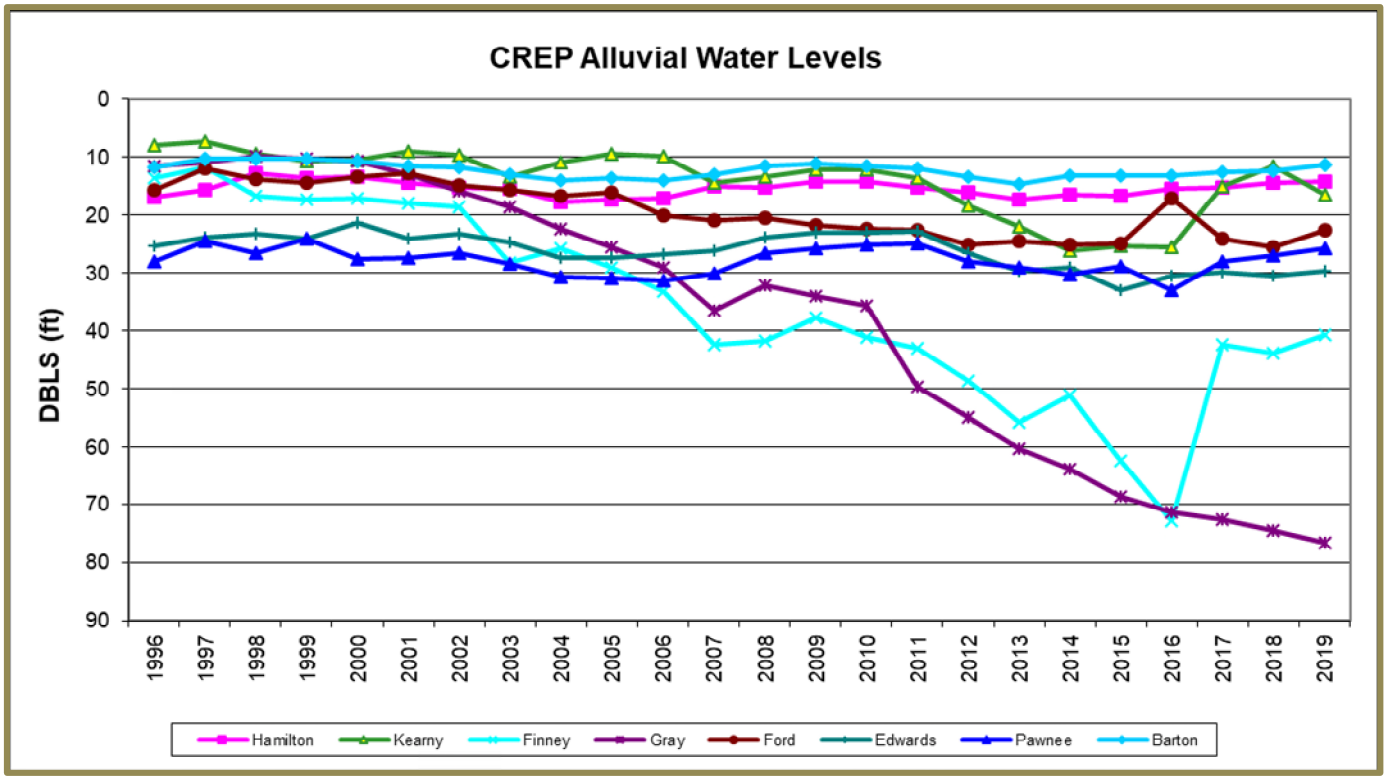
CREP Project Area Reported Irrigated Acres and Irrigated Water Use: 2007 – 2018

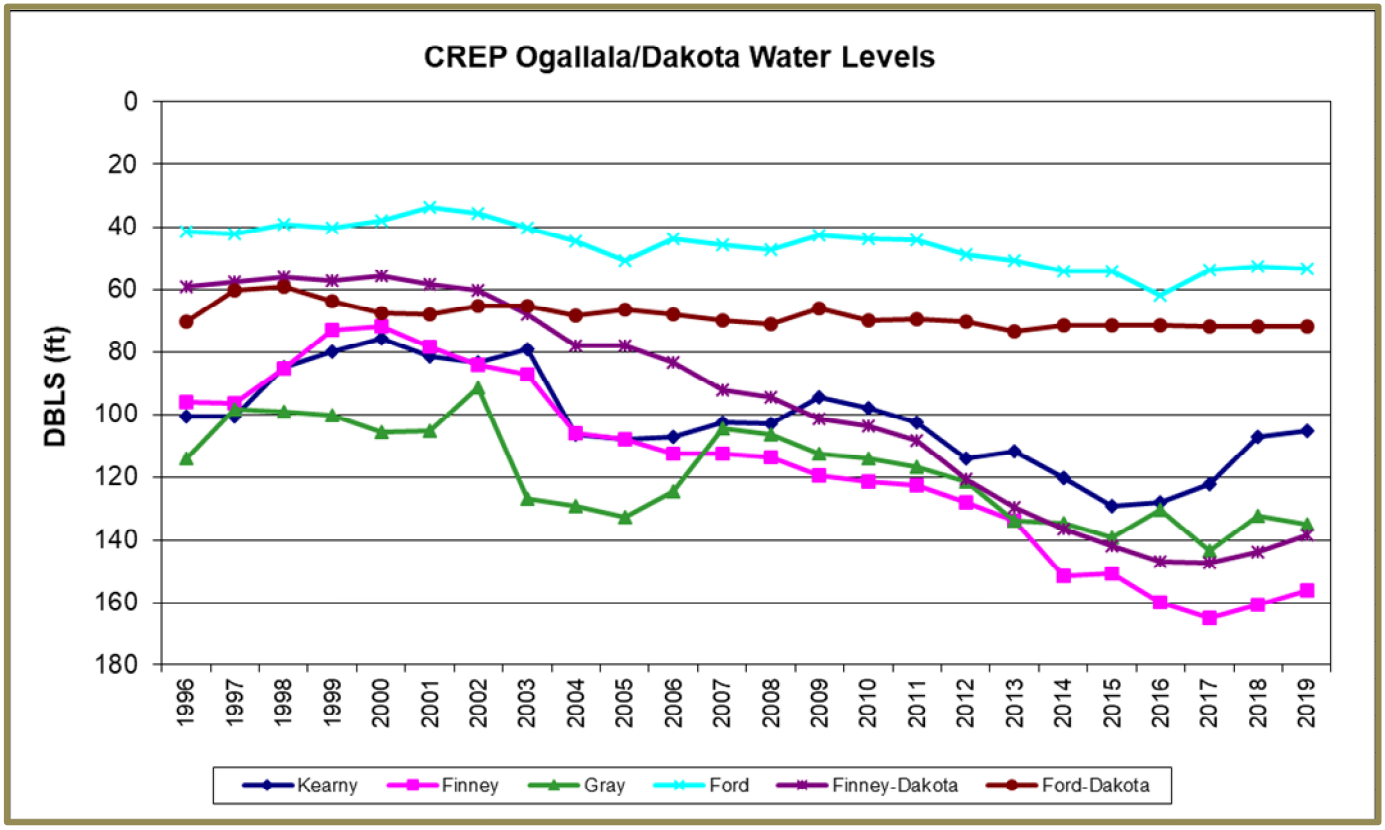



CREP Project Area Reported Acre-Feet for Irrigation Use
Reported AF for Irrigation
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
2006
2008
2010
2012
2014
2016
2018
Year
Total
Barton
Edwards
Finney
Ford
Gray
Hamilton
Kearny
Pawnee
Rice
Stafford

Attachment E
Monitoring Wells and Average Groundwater Levels




CREP Alluvial Water Levels
DBLS (ft)
0
10
20
30
40
50
60
70
80
90
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Hamilton
Kearny
Finney
Gray
Ford
Edwards
Pawnee
Barton


CREP Ogallala/Dakota Water Levels
DBLS (ft)
0
20
40
60
80
100
120
140
160
180
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Kearny
Finney
Gray
Ford
Finney-Dakota
Ford-Dakota

Attachment F
Steering Committee Minutes

CREP Steering Committee Meeting (Virtual)
Tuesday, September 29, 2020
10:00 a.m.
KDA Conference Room 322/Virtual

Attendees:

Carla Wikoff and Nicole Welborn (FSA); Dean Krehbiel and Andy Burr (NRCS); Steve Frost, Christy Koelzer and Andy Lyon (DOC); Don Whittemore (KGS); Matt Unruh and Armando Zarco (KWO); Tom Stiles (KDHE); Jake George (KDWPT); Mark Rude (GMD#3); Orrin Feril (GMD#5); Jessica Mounts and Libby Albers (KAWS); Matt Hough and Abe Lollar (DU); Jacob Christiansen (PF); Heidi Mehl (TNC).

Proceedings:

Steve started the virtual meeting with introductions and providing tentative updated enrollment numbers for the CREP program during the current federal fiscal year – October 1, 2019, to September 30, 2020:

County	Total Acres
BT	107.7
ED	127.5
FO, RI, SF	0.0
FI	5,700.7
GY	7,296.9
HM	242.9
KE	9,078.9
PN	626.3
Program Total to Date	23,180.9

* 23,180 acres will be approved for enrollment

* 385 additional acres were added in FY2019

* 209 wells retired on 22,586 irrigated acres from 166 water rights

* 47,500 acre-feet of annual water appropriation rights have been permanently retired

* 136 state contracts approved for a total of $1,644,514 in sign-up cost-share incentives

* 99% are CP2 practice code (native grasses) – and 86% are Tier 1 / Unsuitable soils

Compared to FY2018's 4,141 acres (the second highest since the initial program rollout), FY2019 and FY2020 were very slow ones for enrollment with only 385 acres added. However, with only 5,770 acres left to fill to the available project allowance of 28,950 acres, the project is now 80% complete.

Program Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Acres Enrolled	7,252	1,903	1,647	247	4,077	674	0	1,189	1,329	385	4,141	385	0	23,180

Steve stated that there have been continued CREP water right inquiries and payment estimate requests from landowners, and a few valid offers were withdrawn at the last moment before the end of the fiscal year. Wells under offers this year were being flow rate tested to determine their compliance with the new NRCS policy on

“documentation of suitability and feasibility.” This measure is a worthwhile precaution to ensure that the state and federal investment in the enrollment is justified in both the amount of water being conserved and the quality of CRP being implemented. Steve thanked the staffs of the Groundwater Management District No. 3 and DWR field office in Garden City for their timely cooperation in conducting flow rate tests for landowners seeking to get determinations on enrollment eligibility.

All project HUCs now reflect irrigated rental rates of $153 - $193 per acre (increased from $110 - $140 in 2015, which was increased from the very first rates of $100 - $125 in 2007). In 2016, the State of Kansas raised its incentive payments from $62/ acre (Tier 1 soils) and $35/acre (Tier 2 Soils) to $97 and $55 respectively.

The legislative CREP appropriation was $302,046 in FY2020 — enough for about 2,000 acres of Tier 1 soils after program expenses. The current balance of CREP funds is $460,374 ($100,000 was designated as start-up for the Rattlesnake Creek project by the FY2020 legislature). The Kansas Water Authority has again recommended $302,046 base funding in FY2022 with a full funding recommendation of $427,046.

Proposed budgets are presently projected at $200,000 for each of the next three years. The total project limit is currently 28,950 acres with an individual county cap of 10,000 acres. Kearny County is still near the new cap level with 9,078.9 acres of approved offers.

Considerable effort has been invested in further development of the Rattlesnake Creek expansion effort and communicating with FSA officials about the options for amending the existing CREP project and/or initiating a new one. After extensive consideration with Kansas leaders and partners, a decision was made to request that the existing project be amended to a minimal but sufficient amount as to avoid federal requirements of conducting another comprehensive environmental assessment.

On September 17, 2020, a formal request for a categorial exclusion to the environmental assessment requirement was submitted to USDA which outlined three objectives: 1) expand the current project area to include a portion of the Rattlesnake Creek sub-basin; 2) increase the total allowable enrollment acres to 40,000; and 3) add a new conservation practice, CP-43 “Prairie Strips” for certain offers.

The essence of the request to amend the existing project is summarized, as follows:

The current Kansas CREP approved project area contains a total of 1,571,437 acres. The proposed expansion area contains an additional 244,679 acres. The approved project area includes 999,844 acres of cropland, and the proposed expansion area would add 150,401 acres of cropland.

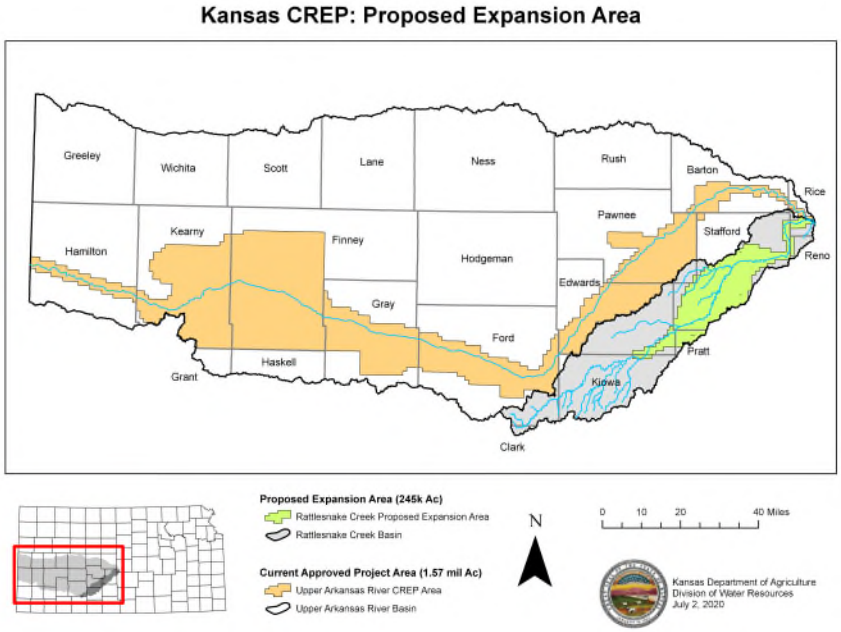
In 2007, when the approved Kansas CREP project started, 729,363 (72.9%) of the total cropland acres in the project area were authorized for irrigation. The proposed expansion area contains 53,912 acres authorized for irrigation (35.8% of the total cropland acres in the proposed expansion area), as shown in Table 1.

Table 1: Attributes of the approved project area and proposed expansion area.

Land Area (Acres)	Current KS CREP Approved Project Area (2007)	Proposed Expansion Area (2020)
Geographic Area	1,571,437	244,679
Total Cropland (FSA)	999,844	150,401
Land Authorized for Irrigation	729,363	53,912

The proposed expansion area will add a geographic region that includes portions of Kiowa, Edwards, Pratt, Stafford, Pawnee, Reno and Rice counties, as shown in Figure 1, and includes the incorporated cities of Hudson, Macksville and St. John, and the unincorporated communities of Dillwyn and Hopewell. Kiowa, Pratt, and Reno counties are not part of the current Kansas CREP approved project area. See Figure 1.

Figure 1: Map of the current CREP project area and proposed expansion area.



The proposed expansion area consists of a portion of the Rattlesnake Creek watershed (sub-basin), which drains into the Upper Arkansas River. Rattlesnake Creek reaches the Upper Arkansas River at the easternmost point of the approved project area in Rice County.

KDA Secretary Mike Beam, and KWO Director Earl Lewis are encouraging that letters of support be provided to USDA's Farm Service Agency. If you interested in writing one, you may email your letter to Steve by October 9 and he will collectively forward them to FSA. Letters should indicate a brief and general statement of your organization's role and interest in the project and be addressed as follows:

Virgil Ireland, CREP Program Manager Conservation Division
USDA – Farm Service Agency
6501 Beacon Drive, Room 344
Kansas City, MO 64133

Steve talked about the MOA revisions which will be necessary to incorporate the new Rattlesnake Creek area and bring all of the project language up to the new 2018 Farm Bill standards. Part of those revisions will necessarily include a restatement of the 12 project goals or objectives in the current MOA. Steve encouraged the steering committee members to review those objectives that are of most relevance to each of their agencies and provide suggestions and recommendations to streamline them and make them more amenable to reporting and achieving realistic expectations.

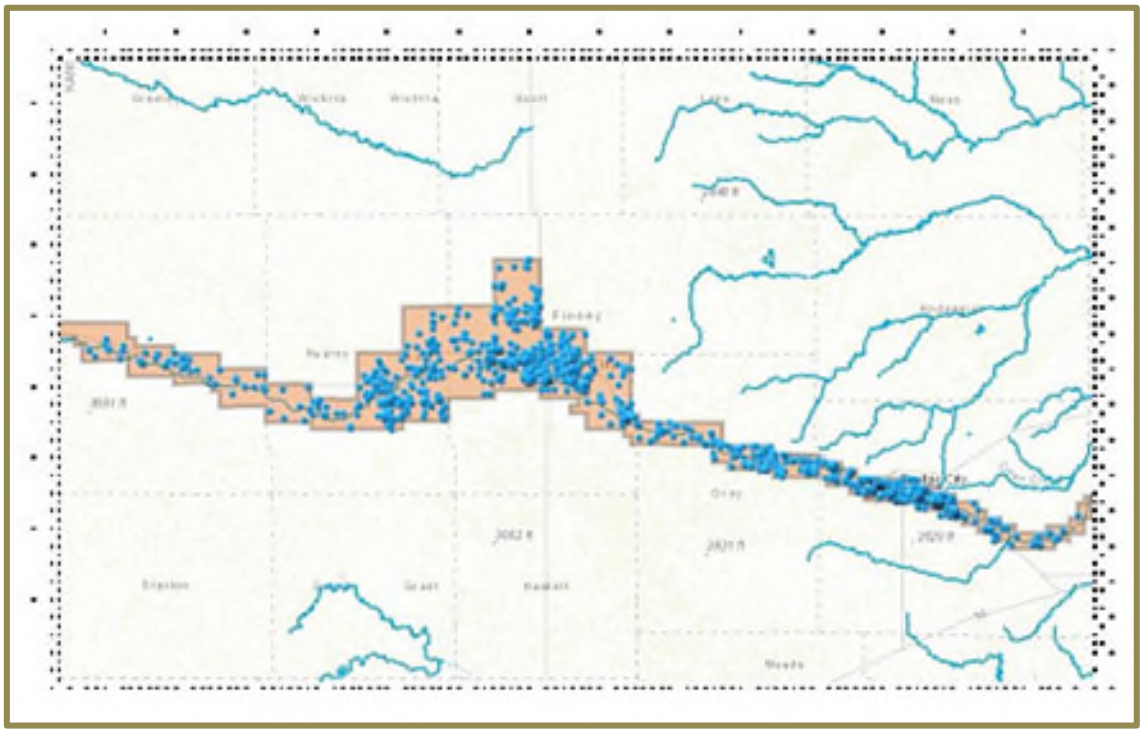
Steve also reported that the new Farm Bill rules may also affect the state matching requirements under the project. Bringing in additional area in the Rattlesnake Creek may necessitate more third-party landowner incentive contributions in order to meet the state match requirements.

Agency Reports / Special Comments from the Agencies:

FSA — Changes required in the new 2018 Farm Bill rules are still being incorporated. Gearing up for payments first of October. CREP falls in line with how other CRP works, by county and avg county statistics. Irrigated rate is figured the same way. Counties can propose alternative rates. With the Farm Bill there is also a reduction, additional 10% reduction in rental rate that's figured for contract for each individual offer. Rental rate adjustment used to happen periodically, now there is a mandatory rental rate adjustment every year. Additional incentives are needed to push interest.

NRCS — This fall met with Amanda Shaw at Garden City to look at CREP contracts. Saw some well-established and some emergency grazing going on that looks good. Also looked at some having trouble with grass establishment. Mark Goudy with FSA was with them. They also met with Mark Sexson to look at his grass establishment and are revising technical guidance based on what they saw at Mark's. Steve can send out a report from Mark.

KDHE — In April or May, EPA approved the 2020 list of impaired waters along the Upper Arkansas dominated by mineralized pollutants. Greater improved hydrology; more traditional pollutants.
Ark river mineralization study of household wells—handed off the data to Don. Kansas Geological Survey—no finding of radioactive activity. There were a number of hits of uranium in 10% of the samples.



KGS — Update the mineralization area from the 90s. Uranium map in progress. Collect samples 2009-2013. Looked at where uranium is going in crops. Kansas Resource Institute generated preliminary map. Collect additional samples within the area. When a well is retired, what is the requirement for the future? Must meet state standards for being inactive or abandoned and plugged. Have seen instances of very high concentration of uranium in wells. Good possibility that water is draining, when a well is plugged. Need to ensure no contamination. Trying to determine how ground water flowing in system overall—next year, working on updating the ground water flow model GP3 area. Update with wells turned on and compare with wells off.

KWO — Process of revising Kansas Water Plan. Water Conference will be virtual.

KDWPT — New grant for $2.1 million, 3rd year of the grant, successful program access to good habitat properties. 2015 process of rebranding Habitat First. Moved to model wildlife restoration program. Growing it to $1.2 million per year program. Direct cost share and 100% walk in hunting access, 75% of it on private lands not enrolled in public access. Some money to equipment purchases like tree saws, trailers, grass drills and sprayers. Equipment to loan. Focus on problem areas where couldn't find help for work and landowners couldn't do themselves like tree clearing. If sign up for walk in access, they'll clear trees. Habitat First and walk in hunting work hand in hand; willing to partner.

USGS Sandhills Seeding Grant Proposal — Steve updated the report on the USGS / Fort Hays State University grant which has been approved to study the unique germination characteristics of vegetation in the Southwest Kansas sandhills where most of the CREP enrollments are occurring. The grant is very encouraging for the reason that some of the complicated variables in play for successful grass establishment can start to be unraveled under some semi-controlled conditions. Mark Sexson of Garden City has been very instrumental in providing his own personal study findings on this subject to the research and implementation communities, and he has also been a fundamental driving force in helping to coordinate this important grant opportunity.

DWR — Liz worked on Rattlesnake Creek mapping the expansion area (see Figure 1 on the handout). Liz worked with Steve to ensure it was a certain size in relation to the existing area to avoid another comprehensive environmental assessment. Also provided a map of enrollment tiers of highly erodible soils areas. Used stream flow response modeling to justify the area they were choosing based on goals of the expansion and to have it not be arbitrary.

GMD3 — Key focus to get producers interested in signing up for the program. Challenges of reestablishing grass on those soils. It equates to giving up the farm in some people's minds by giving up water rights. Project overall is very constructive. The value of the water right and helping people make the decision to take advantage of the opportunity to get off the treadmill of water use. Continue the collaborative work of this project. Water quality is shared with upper basin in CO, look for ways to have win-wins with their water supply. Federal level boundaries/regional boundary — has collaborative challenges. Continue to focus upstream and identify win-win activities. Mineralization study — the district will be getting samples to fill in data gaps. Happy to have Don on board to work on water quality issues.

GMD5 — Thank you for bringing Rattlesnake Creek into CREP as it will help achieve goals for that sub-basin. Rental rate questions — annual release of rates — when available? In order to provide additional cost share on top of that? Will provide a letter of support for Rattlesnake Creek. KDHE is critical for project to work. Looking forward to Tom's feedback on water quality sampling. Get mapping of proposed Rattlesnake area and coordinate promotional material. Steve would like to do public outreach meetings**.**

KAWS — Begin interviews for coordinator tomorrow. Grant funded project to place public information signage at each of 22 access points. Working with Evergy to install the signs over the next 24 months. The intent is to connect people to resources and prioritize conservation. Playa Workshop hybrid event will have virtual options.

DU — Playa Workshop will be a hybrid of in-person and virtual options. January 12-13. Continue to cost share with landowners with CP25 and CP23a practices and sediment removal. Word is getting out to neighbors, promoting CREP program. Many unknowns on how it works that close to the river—education and promotion needed. Promote CREP federal and state programs.

PF — In the process of working on another round of funding, another enrollment, and revising program rules. Adding two employees. PF interested in providing a support letter.

TNC — Nature Conservancy supportive of CREP and effort to expand in Rattlesnake Creek. Successful in being awarded a CIG On-Farm Trials grant last year—provide cost share irrigation technology, do workshops and field days (webinars if not in person). Three-year grant. CREP opportunity can be promoted at outreach events.

Enhancing Enrollment during 2020 – 2021:

Steve stated that another mailing to eligible water right holders will be conducted in 2021 after the new MOA revisions are completed and another rollout of the project occurs with the addition of the Rattlesnake Creek area. This effort has typically been successful in drawing some inquiries and applications from interested landowners.

Data Needs for Monitoring Results:

It was again noted that many of the monitoring activities which are incorporated in the CREP MOA are difficult for the agencies to significantly undertake at this time — or to determine any significant changes in results or impacts due to the CREP project because of the broad expanse of the water wells and related water use occurring in the overall aquifer area, both inside and near CREP fields. Even though enrollment is still increasing at this time, almost the entirety of the enrollment has been located in areas of the "Tier 1 / Unsuitable" soils classification in heavy water use areas some distance from the river valley. The new DWR water level analysis tool will be a substantial asset towards documenting these results.

Identification of Other Issues:

In regard to the annual report, Steve asked that all the team entities submit their costs and narratives of activities by early November. The next annual report is based on the federal fiscal year of October 1, 2019, to September 30, 2020. Committee members were again asked to update the "Progress on CREP Objectives" section for the next report, particularly highlighting the narratives and contributions of each of their agencies.

Items to be addressed again in the upcoming project year include potentially expanding the overall CREP project size, and evaluating results of the Kearny County grazing study and progress of the USGS seeding grant. With some contracts approved in the early years of the project nearing contract completion in 2023, the committee and agencies should begin addressing post-contract issues such as needs, special EQIP contracts, and involving academics and the research community on what has been learned from the project so far.

Playa Photo by Abe Lollar – Ducks Unlimited

Conclusion:

The steering committee members were sincerely thanked for their time and efforts in fulfilling the mission of the CREP program. The meeting was concluded at 11:44 a.m.

Arkansas River west of Dodge City, Kansas – January 8, 2019