

Kansas Nonpoint Source Control Program FFY 2005 Annual Report



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Kansas' vision is that all nonpoint pollutant sources are implementing water quality protection measures so that Kansas' lakes, rivers, wetlands, and groundwater will be free of pollution caused by nonpoint pollutant sources. This vision will be achieved through setting and completing both long and short term goals. This report reveals the progress made during fiscal year 2005 to achieve these goals.

Long Term Goals Nonpoint Source Management Plan

Long Term Goal #1

Insure all of Kansas' water resources are free of water quality impairments caused by nonpoint pollutant sources. This will be achieved by:

1. Developing Total Maximum Daily Loads (TMDLs)
2. Implementing TMDLs
3. Completing source water assessments
4. Developing and implementing source water protection plans

2005 Update:

Developing TMDLs

Status of Kansas TMDL Program as of December 2005

1. Eleven Basins Complete under Court Decree
2. Spring River metals TMDL approved by EPA in summer
3. 2004 303(d) Impaired Waters List Submitted and unofficially approved by EPA
4. Kansas Lower Republican new and revised TMDLs: Tuttle Creek Atrazine & Lower Kansas River E coli Bacteria TMDLs revised; Lake Olathe Eutrophication, Shunganunga Creek Dissolved Oxygen, Cedar Creek Nitrate TMDLs developed; Mill Creek (Johnson Co.) Biology and Soldier Creek Biology TMDLs undergoing revision; Public Hearings anticipated in mid-January, 2006 and submission to EPA by March, 2006.



5. Lower Arkansas Basin: Seven TMDLs regarding original impairments by chloride and sulfates must be complete by June 2006 in order to close the Court Decree. An additional nine TMDLs will be completed to address subsequent issues of interest in basin:
Lake Anthony eutrophication and siltation; Little Arkansas Atrazine; several biology, dissolved oxygen and nitrate impairments. Targeted completion of those nine Second Round TMDLs is summer 2006.
6. Upper Republican Basin: Six reinstated TMDLs on Arikaree River and Beaver Creek will be complete by June 2006
7. Development of second round Upper Arkansas Basin Selenium TMDLs begins in Summer 2006, completed by Summer 2007
8. Development of 2006 303(d) Impaired Waters List will be developed in Summer 2006 and submitted in November 2006, emphasizing impairments in the Missouri, Marais des Cygnes, Neosho, Verdigris, and Walnut Basins.
9. Second round TMDLs will begin in Marais des Cygnes and Missouri Basins in Autumn 2006, completed in Summer 2007

Implementing TMDLs:

TMDLs with High Priority are slated to be implemented over the period of State Fiscal Years (SFY) 2005 - 2010. Implementation of TMDLs with Medium Priority will be deferred until after fiscal year 2010, after a review and reevaluation of implementing those TMDLs by the Basin Advisory Committees during the respective Third Round of TMDL Development, commencing in 2010. TMDLs with Low Priority will continue to have data collected on those impaired streams and lakes and will have their impaired status reevaluated as part of the process of developing the 2010 and 2012 Section 303(d) lists. Should they continue to be impaired, those Low Priority TMDLs may begin implementation after fiscal year 2012.

303d delisting

KDHE submitted the 2004 303d list to EPA in the spring of 2005, and the list was approved in December of 2005. KDHE identified 1,639 water quality limited segments. Of these segments, 877 are newly listed, 127 segments are carried over from the 1998 303d list and 635 are carried over from the 2002 303d list.

There were 2,056 segments delisted from the 2004 list. Of these 2,056 segments, 643 were delisted because recent monitoring data indicates these segments are in compliance with water quality standards. EPA approved TMDLs were the result of 1,062 delistings. 15 segments were delisted due to error in applying criterion for non-existent designated uses, 175 segments were delisted because chronic metal criterias is not assessable during high flow events, 13 segments have been delisted for addressing impairments by finding an alternative to TMDLs and 148 category 3 stream segments were delisted meaning there was insufficient data to determine if a designated use standard was attained.



Completing Source Water Assessments

This was completed and approved by EPA in April 2004. Source Water Assessment Reports are on the KDHE website at <http://www.kdheks.gov/nps/swap/SWreports.html>.

2005 Update: Source water assessments were completed by Kansas Rural Water Association with the assistance of KDHE for two new public water supply systems using methods consistent with the 2004 SWAP.

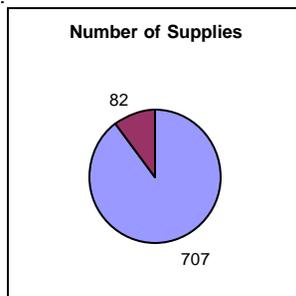
	Wellhead Protection		Source Water Assessment		Nonpoint Source Watershed Project	
	Number	Population	Number	Population	Number	Population
Registered	17	23,430	2	3,317	82	971,052
Approved	13	20,199	2	3,317		
Adopted	9	8,370	2	3,317		

Developing & Implementing Source Water Protection Plans
Communities with adopted SWPP are in various stages of implementation. Multiple agency programs exist that target resources to source water protection areas. Implementation activities are mostly voluntary, and therefore, will be a long term commitment with varying degrees of success.

The number of water supplies benefitting from NPS watershed projects:

*Red = Number of Water Supplies Benefiting

*Blue - Total Number of Water Supplies in Kansas



Sheryl Ervin joined the Watershed Management Section in October of 2004 to assist communities with the source water protection planning process. Activities to date include:

1. Source water protection planning for the City of Conway Springs. Presentations include one to the mayor and city council and another to 20 members of the community.
2. Reviewed and revised the 2003 Ks Rural Watershed Association wellhead protection plan for Barber County RWD #3.

3. Assisted KRWA with source water protections planning for four public water supply systems (20 people total). Attended meetings with each of these communities to explain KDHE's role in source water protection planning and present information regarding the Class V well inventory program.

4. Presented source water protection and the Class V well inventory program to the Groundwater Foundation's Watershed Forum in February 2005. Forty-eight people representing six communities were in attendance.

5. Members of the Marais des Cygnes, Marmaton and Little Osage Rivers Watershed Management Plan Committees are to complete a management plan for the Missouri portions of these watersheds.

6. Contacted and met with city officials from five communities to present an overview of the source water protection planning process.



Long Term Goal #2

Achieve Kansas Water Plan 2010 Objectives:

Objective 1. Reduce the average concentration of bacteria, biochemical oxygen demand, dissolved solids, metals, nutrients, pesticides, and sediment that adversely affect the water quality of Kansas' lakes and streams.

Objective 2. Reduce the average concentration of dissolved solids, metals, nitrates, pesticides and volatile organic chemicals that adversely affect the quality of Kansas' groundwater.

Objective 3. Ensure that water quality conditions are maintained at a level equal to or better than year 2000 conditions.

2005 Update

As previously reported in the 2004 Annual Report of Progress, the State of Kansas will not be developing pollutant specific implementation strategies as previously indicated in the NPS Management Plan. The Watershed Restoration and Protection Strategy planning process, which focuses on implementing pollutant specific water quality protection measures in TMDL areas, will be accomplishing the above mentioned objectives.

Long Term Goal #3

All nonpoint pollutant sources in Kansas implement measures and practices that reduce the discharge of nonpoint pollutants to the maximum extent practicable. This will be achieved by the following:

1. Reviewing federal development and permitting programs for consistency with the Kansas NPS Management Plan
2. Developing and demonstrating the effectiveness of NPS control and water quality protection measures
3. Assuring that on-site wastewater treatment systems are properly designed, installed, and maintained
4. Assuring that riparian areas and wetlands are protected and restored
5. Cropland has the highest level of residue attainable, livestock production activities have no significant pollution potential
6. Assuring that Kansas' range and pasture land is managed for sustainable production
7. Urbanized and developed lands have no significant pollution potential.



2005 Update

Reviewing federal development and permitting programs for consistency with the Kansas NPS Management Plan:

Water Quality Certification:

The Kansas Department of Health and Environment- Watershed Management Section (KDHE-WMS) is responsible for assuring all non-point pollutant sources implement water quality protection measures through a plan of action. This includes issuing letter Section 401 (Clean Water Act) water quality certifications. It conditionally certifies that a proposed permit activity will not violate Kansas Surface Water Quality Standards, for those activities requiring a non-KDHE permit, if a water quality protection plan and certification conditions are implemented. These activities, authorized by the U.S. Army Corps of Engineers (COE) and/or Kansas Department of Agriculture, Division of Water Resources (KDA-DWR), include, but are not limited to: dredging, altering a surface water body or its cross section, flood plain fill, wetlands alteration, construction, or any activity having the potential to impact water resources. The conditions of the 401 certification become conditions of the COE permit, and are included as considerations in the KDA-DWR permit. Water quality certifications are also given for “federal consistency review” to those entities applying for federal funding from non-EPA agencies such as USDA Rural Development, as per an agreement between KDHE and USDA Rural Development. The basis of the certification is the development and implementation of water quality protection measures through a plan to address the pollutants associated with the activity. KDHE recognizes the Stormwater Pollution Prevention Plan required by those entities or individuals obtaining an NPDES Construction Stormwater Permit in meeting the water quality protection plan condition. KDHE has also provided a “Water Quality Protection Plan Form” and instructions on its website. Those parties having standard operational procedures (SOP) such as consultants can consider it consistent with the condition as well. A total of **2850** water quality certifications were issued in this report’s period of record. Forty-two (42) individual permits were certified and **2,808** were issued via the Kansas Water Quality Certification for Section 404 Nationwide Permits (49 different activities).

See: http://www.nwk.usace.army.mil/regulatory/nwp_information/ks_nwp_401.pdf

Accomplishments:

Per the previous annual report, Watershed field coordinators were briefed on inspecting project sites for compliance with the Section 401 Water Quality Certification. The WMS and Bureau of Environment Field Service staff are finalizing a form for inspectors to complete and send to Topeka for review and filing.

Geographical Information Systems application is being utilized to better identify project sites and their spatial relationship to features such as public water supply wells and intakes, wastewater treatment plants, Total Maximum Daily Load designated waters and special waters referenced (Outstanding Natural Resource Waters, Exceptional State Waters and Special Aquatic Life



Use waters in Kansas Water Quality Standards.

Section 401 water quality certification format has been somewhat revised in the following manner:

- 1) The applicant is informed the project has the potential to discharge pollution and from the general activity it would originate.
- 2) A reference to the Kansas Surface Water Quality Standards, Kansas Surface Water Register with designated uses and classifications, and Total Maximum Daily Loads (TMDLs) has been made. This is intended to demonstrate attention required to address specific water quality restoration and protection needs.
- 3) Condition description includes the Kansas Surface Water Quality Standard citation pertinent to the impacted water resource. The most common pollutant potential includes, but is not limited to, degrading discharges of: sediment/silt, low dissolved oxygen, mechanical fluids, organic loading, pH, and nutrients.
- 4) Conditions also inform watershed district applicant's watershed restoration and protection will be accomplished through the Watershed Restoration and Protection Strategy (WRAPS) program developed by KDHE and the Kansas Water Office. The Natural Resources Sub-cabinet has approved the WRAPS process and protocol. Memorandums of agreement have been obtained by all of the different land and water resource agencies, including EPA and USGS.
- 5) As a part of the Mitigation Bank Review Team, two In-Lieu- Fee Mitigation Banking instruments (under the auspices of the US Department of Army Corps of Engineers) were thoroughly discussed with other team members. Watershed and water quality principles and practices were included in the instruments.

Topic for future Discussion:

Section 401-project compliance inspection is expected from the watershed field coordinators, stationed in the Northeast, South Central and Northwest KDHE District Offices. One issue yet to be resolved is how KDHE will know when a project activity is initiated so they can make a productive inspection. There will be a discussion on coordination strategies for inspections.



NPS Control and Water Quality Protection Measures Demonstrations:

Multiple 319 projects accomplish this goal including:

Project Name	Project Number
Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed 128 Acres of Filter Strips. Conducted Nutrient Management on 2,172 acres.	2002-0005
Kansas Buffer Partnership for Clean Water	K2-044
Kansas Buffer Partnership for Clean Water, Part 2 2477 Acres of Filter Strips.	2003-0032
Performance Evaluation of Wetlands in NE Kansas, Part 4 Evaluation Completed.	2001-0001
Sand Springs Water Quality Protection Project	K2-079
Verdigris River Basin - Fall River Watershed WRAPS	K3-023
Cheney Lake Watershed Water Quality Protection, Part 7 21,013 linear ft. of Terraces. 16,711 Acres of Nutrient Management 1.8 Acres of Waterways	K2-027B
Cheney WRAPS Implementation 1 Water/Sediment Control Basin. 16,711 Acres of Nutrient Management	2003-0031
Lake Anthony Watershed Restoration & Protection Strategy	K2-049
Conservation District Demonstration & Education Projects	K2-034
Douglas County Rain Garden 2 Water/Sediment Control Basins.	2003-0022
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
Lake Olathe Watershed Protection Plan, Part 3	K3-024
Marais Des Cygnes Watershed Riparian Initiative Program 14,064 linear ft. of Stream Protection.	K3-034
Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2 45.8 Acres of Grassed Waterways. Installed 8.8 Acres of Filter Strips. 25.5 Acres of Critical Area Planting. 177.3 Acres of Conservation Cover. 29,817 linear ft. of Terraces.	2K1-002B



NPS Control and Water Quality Protection Measures Demonstrations Continued:

Newhouse Dairy Pollution Control Demonstration 1 Water/Sediment Control Basin.	2002-0001
St. Pauls Stream Restoration 1 Water/Sediment Control Basin.	K2-063
Stranger Creek Plan Implementation and Wolf Creek Watershed Plan Development 660 linear ft. of Stream Protection.	K2-036
TMDL On-site Wastewater Education Project, Year 2 & 3	K2-009
BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3 6 Acres of Nutrient Management Implemented. 6 Acres in the Nutrient Management Plan. 350 Water Samples Collected. 8220 Soil Samples Collected.	
Deep Placement Fertilizer Demonstration 72 Acres of Nutrient Management Implemented.	2K1-022
El Dorado Lake Water Quality Protection, Phase 3 1 Well Decommissioned. 84 Water Samples Collected.	K3-002
Fall River WRAPS	2003-0029
Golf Course Water Quality Protection Implementation & Demonstration Project	1999-0001
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03	2003-0023
Kansas Organics for Water Quality Protection, Part 2 60.7 Acres of Organic Berms.	2003-0017
Kansas Organics Used to Protect Water Quality 183.9 Acres of Organic Berms.	K2-048
Kansas Rural Center: River Friendly Farms--State WRAPS Focus 11,880 Acres of Stream Protection. Inserted 11 Acres of Filter Strips. 220 Acres of Conservation Cover.	2003-0018
No-Till Farming to Protect Ground and Surface Water 16 Soil Samples Collected.	2K1-038
Restoration of Land Damaged by Oil and Gas Production 1 Acre of Critical Area Planting.	2K1-019



NPS Control and Water Quality Protection Measures Demonstrations Continued:

Rush County Water Quality Project-Livestock Waste Management 2 Water/Sediment Control Basins. 5 Acres of Critical Area Planting. 816 Acres of Nutrient Management Plan.	K3-003
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation 60 Wellhead Protection Plans. Conducted Nutrient Management on 15 Acres. Conducted Pesticide Management on 50 Acres.	K3-019
Stewart Creek Riparian Stabilization 1 Pond. 1 Acre of Critical Area Planting.	K3-038
Subsurface Drip Irrigation to Protect Shallow Groundwater Quality 8 Soil Samples Collected.	2K1-037
Water Quality Protection Model Demonstration Project for Public Educational Entities 8 Soil Samples Collected. 2 Acres of Filter Strips. 1 Water/Sediment Control Basin. 16 Acres of Mulching.	K2-042
Abatement of Fecal Coliform Bacteria, Part 4 Conducted Nutrient Management on 2 Acres. Conducted 87 Farm Assessments.	2002-0004
Kanopolis Watershed Assessment, Part 3 Assessment Completed	2002-0009
Livestock Waste Management Rainfall Simulator 126 Acres of Grassed Waterway.	2003-0028
Banner Creek WRAPS Implementation 4 Acres of Grassed Waterways. 3,246 linear ft. of Terraces.	2003-0001
BRWA Kansas City Clean Streams 1 Stream Clean Up	1999-0002
Kansas Alliance for Wetlands and Streams, Part 4 500 linear ft. of Stream Protection. 2 Acres of Filter Strips.	2003-0012



NPS Control and Water Quality Protection Measures Demonstrations Continued:

Local Wetland and Riparian Areas Alliances, Part 4 22,717 linear ft. of Stream Protection. 220.7 Acres of Filter Strips	K2-039B
Marion WRAPS Implementation, Part 3 20.2 Acres of Filter Strips.	2003-0014
Melvern Water Quality Project, Part 4 300 linear ft. of Stream Protection. 35.3 Acres of Filter Strips. 12 Acres of Critical Area Planting. 400 Acres of Conservation Cover. 3 Wells Decommissioned. 2 Farmstead WQPP. 400 Acres of Conservation Cover. 3 Wells Decommissioned. 2 Farmstead WQPP.	2002-0002
Melvern Water Quality Protection Project--Part 3 10.6 Acres of Grassed Waterways. 85.6 Acres of Critical Area Planting. 600 Acres of Conservation Cover. 1,420 linear ft. of Terraces.	K2-061B
Melvern WRAPS Implementation, Part 5 3.69 Acres of Grassed Waterways. 18.3 Acres of Filter Strips. 2 Farmstead WQPP's.	2003-0010
Volunteer Soil & Water Testing to Meet TMDL Goals 5 Farmstead WQPP's.	K2-054
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency 110,352 linear ft. of Stream Protection.	2003-0020
Coffey County Regional Watershed Restoration & Protection 31 Water Samples.	K3-035
Fecal Coliform Abatement in Southwest Kansas 85 Water Samples. 75 Soil Samples.	K2-050



NPS Control and Water Quality Protection Measures Demonstrations Continued:

Fecal Coliform Abatement in Southwest Kansas, Part 2 40 Water Samples. 12 Soil Samples.	2003-0019
Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance Inserted .5 Acres of Filter Strips. 2 Acres of Critical Area Planted. 4 Acres of Nutrient Management Plan. 2 Acres of Pesticide Management Plan. 24 Water Samples. 34 Soil Samples. 2 Invertebrate Samples.	2K1-073
Kanopolis Lake Watershed WRAPS I&E Project (Part IV) 1 Pond. 6 Wells Decommissioned. 8 Acres of Nutrient Management Plan. 2,000 lbs. of Household Hazardous Waste.	2002-0009



On-site wastewater treatment system projects:

Multiple 319 projects accomplish this goal including:

Project Name	Project Number
Environmental Health Handbook Revision	K3-018
Fort Scott Lake WRAPS	K3-039
Cheney WRAPS Implementation 5 Onsite Waste Water Treatment System (WWTS).	2003-0031
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
TMDL On-site Wastewater Education Project, Year 2 & 3 61 Onsite WWTS.	K2-009
Kansas Rural Center: River Friendly Farms--State WRAPS Focus 1 Onsite WWTS.	2003-0018
Melvern Water Quality Project, Part 4 1 Onsite WWTS.	2002-0002
Twin Lakes Watershed Restoration & Protection Project, Part 2 2 Onsite WWTS.	2003-0021
El Dorado Lake Water Quality Protection, Phase 3 1 Onsite WWTS.	K3-002
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation 105 Onsite WWTS.	K3-019
Kanopolis Lake Watershed WRAPS I&E Project (Part IV) 6 Onsite WWTS.	2002-0009
Cheney Lake Watershed Water Quality Protection, Part 7 8 Onsite WWTS.	K2-027B



Protecting and Restoring Riparian areas and Wetlands:

Multiple 319 projects accomplish this goal including:

Project Name	Project Number
Lower Fall River Source Water Protection WRAPS	2003-0011
Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed 167 Acres Riparian Forest Buffer.	2002-0005
Kansas Buffer Partnership for Clean Water	K2-044
Kansas Buffer Partnership for Clean Water, Part 2 Restored 68 acres of Wetlands.	2003-0032
Kansas Urban Water Quality Restoration & Protection Planning Process, Part 3	K2-021B
Banner Creek WRAPS Implementation	2003-0001
Kansas Alliance for Wetlands and Streams, Part 4	2003-0012
Local Wetland and Riparian Areas Alliances, Part 4 160.36 Acres of Wetlands Restored. 225.7 Acres of Riparian Forest Buffer.	K2-039B
Manchester Park Stream Restoration	2003-0024
Marais Des Cygnes Watershed Riparian Initiative Program 59 Acres of Riparian Forest Buffer.	K3-034
St. Pauls Stream Restoration .6 Acres of Wetlands Restored.	K2-063
TMDL On-site Wastewater Education Project, Year 2 & 3	K2-009
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency	2003-0020
Fall River WRAPS	2003-0029
Locally Led Core Conservation Watershed Project, Part 3	K5-001
Stewart Creek Riparian Stabilization	K3-038
Water Quality Protection Model Demonstration Project for Public Educational Entities 1 Acre of Wetlands Restored.	K2-042
Melvern Water Quality Project, Part 4 2 Acres of Riparian Forest Buffer.	2002-0002



Protecting and Restoring Riparian areas and Wetlands Continued:

Kanopolis Lake Watershed WRAPS I&E Project (Part IV) 1 Acre of Riparian Forest Buffer.	2002-0009
Cheney Lake Watershed Water Quality Protection, Part 7 5 Acres of Wetlands Restored.	K2-027B
Kansas StreamLink Watershed Stewards 1,700 Tree Shrubs Planted	2003-0027

Cropland residue demonstrations:

Multiple 319 projects accomplish this goal including:

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed Implemented No-Till on 40,457 acres. Conservation Crop Rotation being conducted on 21,043 acres.	2002-0005
Cheney WRAPS Implementation	2003-0031
Banner Creek WRAPS Implementation	2003-0001
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
Fall River WRAPS	2003-0029
Kansas Rural Center: River Friendly Farms--State WRAPS Focus	2003-0018
Locally Led Core Conservation Watershed Project, Part 3	K5-001
No-Till Farming to Protect Ground and Surface Water	2K1-038
Restoration of Land Damaged by Oil and Gas Production 1 Acre of Cover Crop.	2K1-019

**Livestock Pollution Potential:**

Multiple 319 projects accomplish this goal including:

Abatement of Fecal Coliform Bacteria, Part 4 3 Waste Storage Structures	2002-0004
Dairy Nutrient Management Technical Assistance	K2-031
Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed 1 alternative livestock watering facility. Implemented Livestock Exclusion on 4,600 Acres.	2002-0005
Livestock Pollution Control Web Site (was K3-037)	1998-0001
Waste Management Water Quality Protection Learning Center, Part 3	2002-0006
Cheney WRAPS Implementation 11,672 linear ft. of Fencing. 2 Watering Facilities.	2003-0031
Banner Creek WRAPS Implementation	2003-0001
Edmund Theis Livestock Waste Control Project 1 Waste Storage Structure.	2003-0002
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
Newhouse Dairy Pollution Control Demonstration .5 Acres of Wastewater Treatment Strips. 1 Waste Storage Structure.	2002-0001
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency 1,377 Animals on the Livestock Pollution Control Plan.	2003-0020
BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3	K2-076
El Dorado Lake Water Quality Protection, Phase 3 1 Waste Storage Structure. 1 Watering Facility.	K3-002
Fall River WRAPS	2003-0029
Fecal Coliform Abatement in Southwest Kansas	K2-050
Fecal Coliform Abatement in Southwest Kansas, Part 2	2003-0019



Livestock Pollution Potential Continued:

Kansas Rural Center: River Friendly Farms--State WRAPS Focus	2003-0018
Rush County Water Quality Project-Livestock Waste Management 5,569 linear ft. of Fencing. 10 Watering Facilities. 2,700 Animals on the Livestock Pollution Control Plan.	K3-003
Kansas Alliance for Wetlands and Streams, Part 4 600 linear ft. of Fencing. 2 Waste Storage Structures.	2003-0012
Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2 1 Waste Storage Structure.	2K1-002B
Melvern Water Quality Project, Part 4 16,368 linear ft. of Fencing. 1 Waste Storage Structure. 1 Watering Facility.	2002-0002
Melvern Water Quality Protection Project--Part 3 4,015 linear ft. of Fencing. 1 Watering Facility. 500 Animals on the Livestock Pollution Control Plan.	K2-061B
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation 200 Animals on the Livestock Pollution Control Plan.	K3-019
Cheney Lake Watershed Water Quality Protection, Part 7 2,437 linear ft. of Fencing. 5 Watering Facilities.	K2-027B



Range and Pasture Management:

Multiple 319 projects accomplish this goal including:

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed	2002-0005
Cheney WRAPS Implementation	2003-0031
Banner Creek WRAPS Implementation 1 Pond	2003-0001
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency 8,712 Acres of Pasture/Hay Planted	2003-0020
El Dorado Lake Water Quality Protection, Phase 3	K3-002
Fall River WRAPS	2003-0029
Kansas Rural Center: River Friendly Farms--State WRAPS Focus	2003-0018
Restoration of Land Damaged by Oil and Gas Production 1 Acre of Pasture/Hay Planting.	2K1-019
Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2 55.8 Acres of Pasture/Hay Planting.	2K1-002B
Marion WRAPS Implementation, Part 3 30 Acres of Pasture/Hay Planting.	2003-0014
Cheney Lake Watershed Water Quality Protection, Part 7 64 Acres of Pasture/Hay Planted.	K2-027B



Preventing Pollution in Urban and Developed areas:

Multiple 319 projects accomplish this goal including:

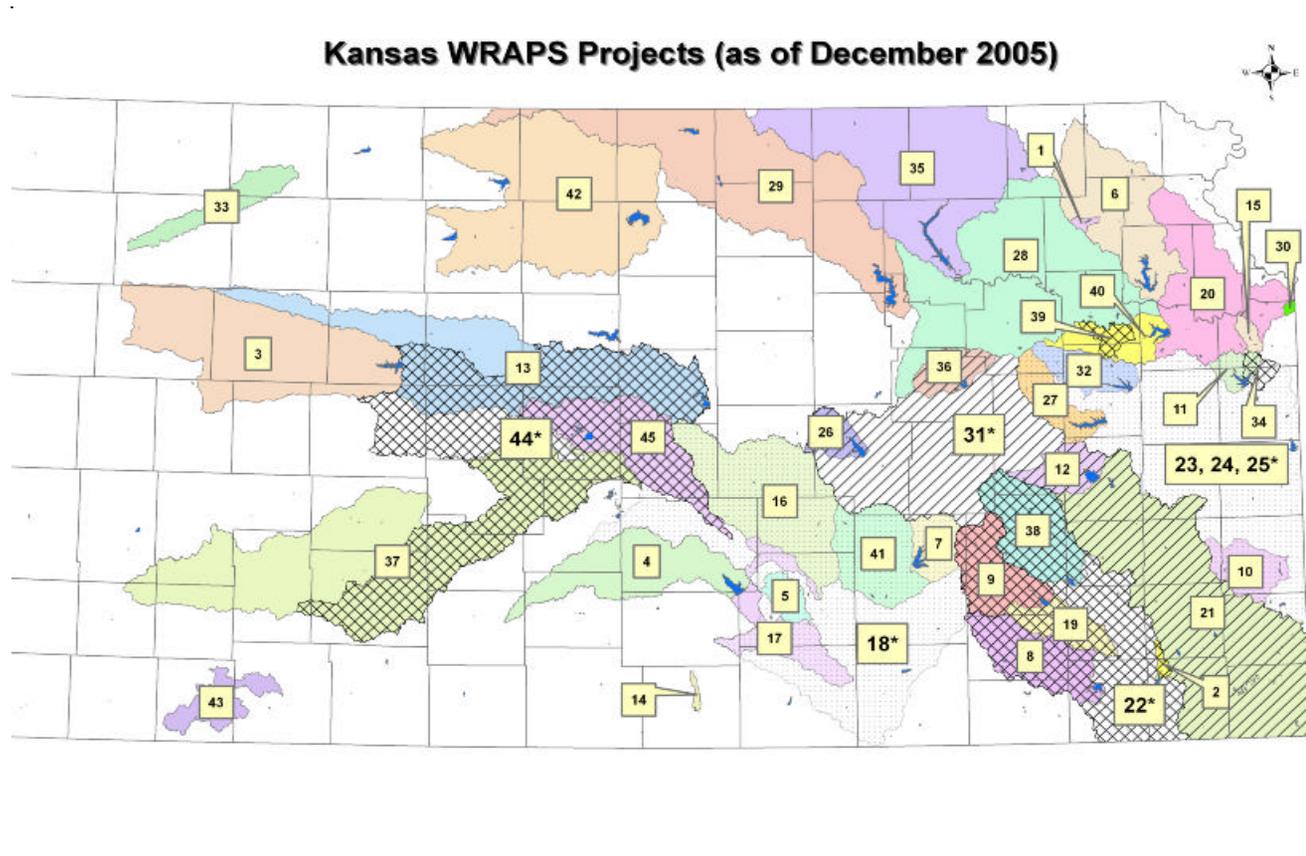
Environmental Assessment & Critical Areas Identification & TA - Part 3	2K-046C
Fort Scott Lake WRAPS	K3-039
Kansas Urban Water Quality Restoration & Protection Planning Process, Part 3	K2-021B
Cheney WRAPS Implementation	2003-0031
Odin Community Water Quality Restoration & Protection Strategy	K2-043
Banner Creek WRAPS Implementation	2003-0001
Hillsdale Water Quality Restoration & Protection Implementation	K2-078B
Lake Olathe Watershed Protection Plan, Part 3	K3-024
Manchester Park Stream Restoration	2003-0024
Metropolitan Kansas City Water Quality Initiative-Part 3	2K1-021B
Spring Hill Stormwater Management WRAPS	2003-0015
St. Pauls Stream Restoration	K2-063
Stranger Creek Plan Implementation and Wolf Creek Watershed Plan Development	K2-036
Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance	2K1-073
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation 25 Commercial/Industrial WQPP's.	K3-019



Long Term Goal #4

All Kansas' watersheds have a documented Watershed Restoration and Protection Strategy (WRAPS) completed and under implementation. This will be achieved by completing a WRAPS for each of Kansas' 90 HUC 8 watersheds.

As outlined in the NPS Pollution Management Plan, Kansas has adopted the goal to complete a Watershed Restoration and Protection Strategy for each of Kansas 90 HUC 8 watersheds. Currently, Kansas has forty 319 projects working to develop a WRAPS for a total of 42 watersheds. Most of these projects are focusing on HUC 8 Watersheds, with a few focusing on developing a HUC 14 or multi-watershed WRAPS. The map and below shows which watersheds are currently being served by an active 319 project and potential new WRAPS projects.



* Bold numbers indicate basin-wide and large-scale WRAPS projects shown in hatched and stippled areas.





- 1) Banner Creek WRAPS
- 2) Big Hill Creek / Big Hill Lake WRAPS Development
- 3) Cedar Bluff Lake WRAPS Development
- 4) Cheney Lake WRAPS Implementation
- 5) Cowskin Creek WRAPS Development
- 6) Delaware River WRAPS Development
- 7) El Dorado Lake WRAPS Development
- 8) Elk City Lake WRAPS Development
- 9) Fall River WRAPS
- 10) Ft. Scott Lake WRAPS and Marmaton River Source Water Protection Plan
- 11) Hillsdale Lake WRAPS Implementation
- 12) John Redmond Lake / Neosho River WRAPS Development / Eagle Creek WRAPS Implementation
- 13) Kanopolis Lake WRAPS Implementation
- 14) Lake Anthony WRAPS
- 15) Lake Olathe WRAPS Implementation
- 16) Little Arkansas River WRAPS Implementation
- 17) Lower Arkansas River WRAPS Development (A)
- 18) Lower Arkansas River WRAPS Development (B)
- 19) Lower Fall River Source Water Protection WRAPS
- 20) Lower Kansas River Watershed WRAPS Implementation: Watershed Specialist
- 21) Lower Neosho River Basin Assessment and Planning
- 22) Lower Verdigris / Oologah Lake, Oklahoma Modeling Analysis
- 23) Marais des Cygnes Basin WRAPS Implementation: Livestock Projects
- 24) Marais des Cygnes Basin WRAPS Implementation Coordination
- 25) Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3
- 26) Marion Reservoir WRAPS Implementation
- 27) Melvern WRAPS Implementation
- 28) Middle Kansas River WRAPS Development
- 29) Milford Lake WRAPS Development, Assessment & Planning
- 30) Mission Hills Urban Stream WRAPS
- 31) Neosho River Basin WRAPS
- 32) Pomona Lake WRAPS Development
- 33) Prairie Dog Creek WRAPS Development
- 34) Spring Hill Stormwater Management WRAPS
- 35) Tuttle Creek WRAPS Development, Assessment and Planning
- 36) Twin Lakes Watershed WRAPS
- 37) Upper Arkansas Basin WRAPS Development
- 38) Upper Verdigris / Toronto Lake WRAPS Development
- 39) Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)
- 40) Upper Wakarusa WRAPS Implementation Part 2
- 41) Upper Walnut River Basin WRAPS
- 42) Waconda Lake WRAPS
- 43) Seward Co. Source Water Protection
- 44) Water Quality Initiative / Grassroots Approach CWN Project
- 45) Odin Community Water Quality Restoration & Protection Strategy



Long Term Goal #5

Kansas has a high instructional capacity to restore and protect Kansas' water resources from nonpoint source pollutant impacts. This will be achieved by:

- providing financial assistance
- instituting a revolving loan fund
- graduating at least 24 students each year from KERP
- preparing and distributing the report "Progress in Abatement of Nonpoint Source Pollution in Kansas"
- reviewing and updating the management plan
- making effective use of EPA's Grants Reporting Tracking System (GRTS)
- establishing and using an Advisory Committee
- establishing and using a Coordinating Committee
- utilizing the Clean Water Neighbor Pledge
- Clean Water Celebrations
- using technology to administer grants
- maintaining and enhancing the Kansas Local Environmental Protection Program
- establishing and maintaining effective relationships among federal, state, and local government agencies, public and private institutions, non-governmental organizations, businesses, and individuals.

2005 Update:

Providing financial assistance:

The Watershed Management Section administers section 319 funding to organizations and agencies that propose NPS pollution abatement projects. The Watershed Management Section selected 39 new NPS projects for funding this year. This addition brings the total number of active projects to 91. These projects address various nonpoint source categories including information and education, streambank stabilization, soil profiling, and Watershed Restoration and Protection Strategies (WRAPS). Below is a list of the 39 new section 319 projects for July 1, 2004 - June 30, 2005.

- Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency
- Banner Creek WRAPS Implementation
- BRWA Kansas City Clean Streams
- Cheney WRAPS Implementation
- Douglas County Rain Garden



E.A.R.T.H. Program
Edmund Theis Livestock Waste Control Project
Fall River WRAPS
Fecal Coliform Abatement in Southwest Kansas, Part 2
Golf Course Water Quality Protection Implementation & Demonstration Project
Hillsdale WRAPS Support
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03
Kanopolis Lake Watershed WRAPS I&E Project (Part IV)
Kanopolis Watershed Assessment, Part 3
Kansas Agricultural Network Radio Programming Coordination for Water Quality
Kansas Alliance for Wetlands and Streams, Part 4
Kansas Buffer Partnership for Clean Water, Part 2
Kansas Environmental Leadership Program, 05/04 to 04/05
Kansas Organics for Water Quality Protection, Part 2
Kansas Rural Center: River Friendly Farms State WRAPS Focus
Kansas StreamLink Watershed Stewards
Lenexa Water Festival
Livestock Waste Management Rainfall Simulator
Locally Led Core Conservation Watershed Project, Part 3
Lower Fall River Source Water Protection WRAPS
Manchester Park Stream Restoration
Marion WRAPS Implementation, Part 3
Melvern WRAPS Implementation, Part 5
Mid America Agriculture Network Radio Programming Coordination for Water Quality
Seward County Source Water Protection
Smoky Hills RC&D Area Water Quality Grant
Spring Hill Stormwater Management WRAPS
Statewide Kansas Water Celebrations, Part 3
Twin Lakes Watershed Restoration & Protection Project, Part 2
Upper Wakarusa WRAPS Implementation
USD 501 Water Quality Education Support
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for meeting Kansas TMDL Goals, Part 2
Waste Management Water Quality Protection Learning Center, Part 3
Water Quality Improvement Through Service Learning



Instituting a revolving loan fund:

No progress at this time.

Graduating 24 Students from the Kansas Environmental Leadership Program:

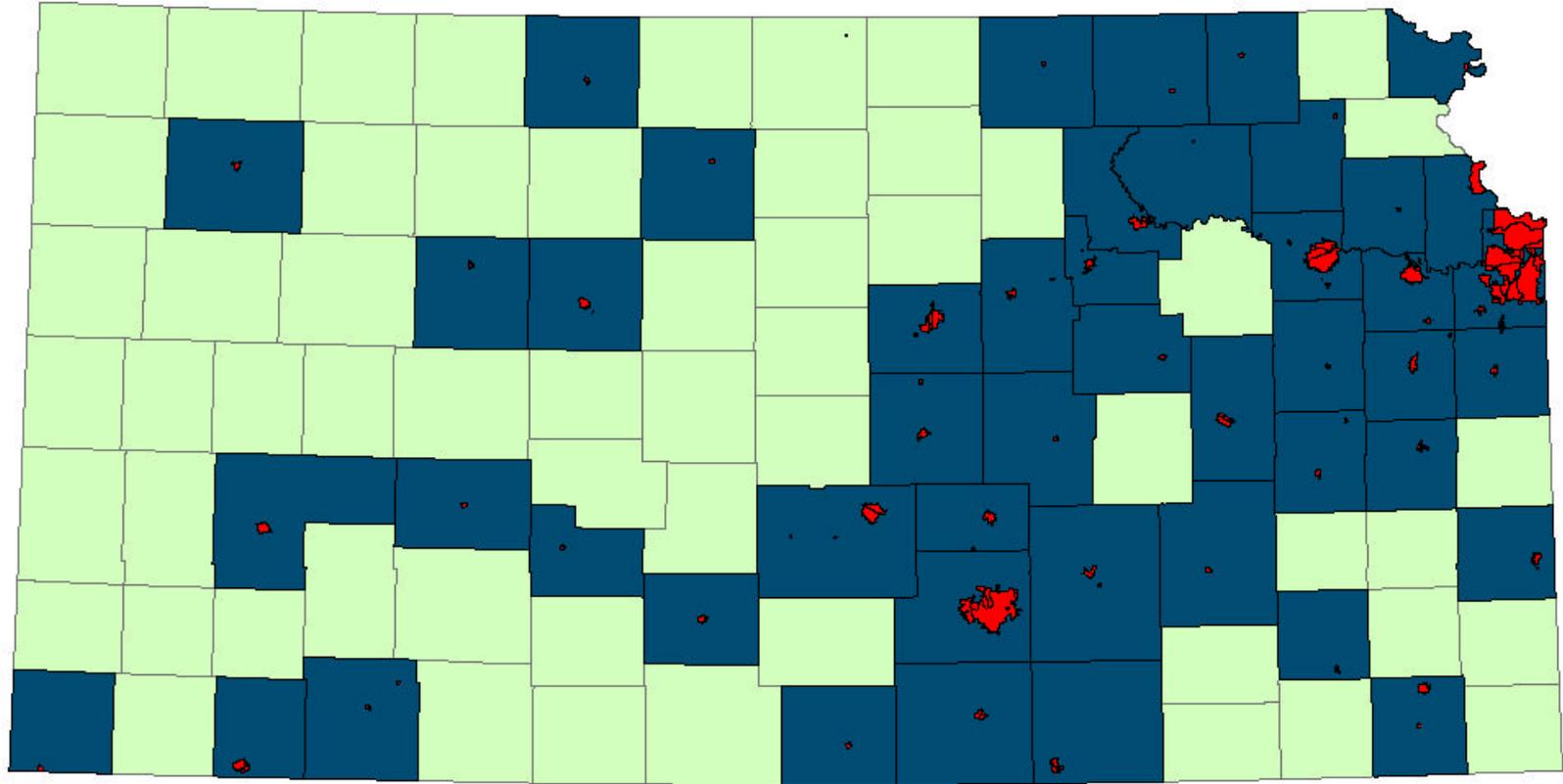
One of our program goals outlined in the NPS Management Plan is to increase the capacity to achieve nonpoint source goals. The Kansas Environmental Leadership Program was developed to increase the number of leaders with water quality intelligence from various backgrounds statewide. This year, there were 25 new graduates from KELP (Class 5, 2004). This class brings the total number of graduates up to 133, which exceeds the initial goal of 100 graduates.

KELP Graduates

Robert Beilfuss	Ronald Appletoft	Scott Satterthwaite	Charlene Weiss	Diane Coe	Jessic Baetz
Jeff Sibley	Shari Wilson	Tawnya Ernst	Daniel Baffa	Debra Smith	Derek Zongker
Vernis Flottman	Wayne Bossert	Donn Teske	Joyce Wolf	Lisa French	Ronald Brown
Roger Boyd	Paula Ford	Stan Freyenberger	Mike Christian	Jamison Bear	Doug Musci
Kate Grover	David Criswell	Carl Holmes	Carl Nuzman	Irene Hart	Barbara Dallemand
Carolyn McGinn	Scott Paszkiewicz	Bill Langley	Dirk Durant	Don Snethen	Karen Purvis
Barbara Lilyhorn	Arthur Fink	Mary Fund	Christina Schmalzried	Millie Mangerich	Robert Frisbie
Tom Bach	Paula Selby	Brian Meier	Ron Graber	Laura McClure	Vaughn Weaver
Kristen Mitchell	Mark Goldsberry	Hank Ernst	Bradley Goering	Paul Montoia	John Gough
Chris Mammoliti	Tim Wagner	Robert Schwartz	Carly Adams	Kurt Bookout	Thomas Morey
Thomas Sloan	Sandra Koontz	Ron Betzen	Leslie Olsen	Shari Stamer	Milton Krainbill
Darrel Gale	John Bristor	Robert Broweleit	Mark Eisenbarth	Susan Erlenwein	Eowyn Floyd
Pat Flynn	Allan Grilliot	Eileen Hack	John Head	Mary Howell	Paul Ingle
Tom Meek	Jim Michael	Arnold Ross	Daniel Smading	Glen Wiltse	Eugene Young
Jaime Ziesenis	Ronald Osterbuhr	Carl Rogers	Kevin Dobbs	Tom Wilson	Herschel George
Richard Basore	Guy Crabill	Ken Grotewiel	Daniel Howell	Linda Johnson-Buckner	Dale Kirkham
Gary Larson	Brian Loving	Julie MacLachlan	Howard Miller	Monty Munyon	Dave Murphy
Jeff Neel	Barbara Oplinger	Mary Lou Ponder	Beth Rowlands	Kerry Wedel	Mark Wilson
Ronald Allen	Kent Askren	Darcy Basye	Warren Bell	Will Boyer	Marilyn Eccles
Stacie Edgett-Minson	Jeremy Frazzell	Gale Garber	David Guss	John Heston	Caroline Hosford
Carol Hughes	Jerrold Jost	Cyndra Kastens	Joe Kerby	Ann Mayo	Katie Miller
Jennifer Nichols	Brent Oatney	Scott Selee	Steve Swaffer	Luann Watson	Kyle Clark
Kay Johnson					



KELP Graduates Location to Date



Legend

-  Kelp Graduate Cities
-  Kelp Graduate Counties
-  Counties



Preparing and distributing the report “Progress in Abatement of Nonpoint Source Pollution in Kansas”:

This is completed on an annual basis.

Reviewing and updating the management plan:

The NPS Management Plan was scheduled to be updated in calendar year 2005. This has been postponed and will be completed by December 31, 2006.

Making effective use of EPA’s Grants Reporting Tracking System (GRTS):

Throughout the year, continuing emphasis was placed on reporting project results to the EPA through the Grants Reporting and Tracking System (GRTS). Semi-annual reports were to be entered for each active project within 60 days of the end of the semi-annual reporting period ending on March 31, and September 30. In addition, load reduction estimates for nitrogen, phosphorous, and sediment were entered into GRTS for projects for the Federal Fiscal Year (FFY) 2002 and later. Load estimates were to be developed from two models provided by the EPA. These models were the STEPL (Spreadsheet Tool for Estimating Pollutant Load and the Region 5 model. To allow for the best estimates using these two models, an individual with modeling experience was hired to do modeling, mapping, and geo-location for the section.

This person will also be available to do geo-location using the new EPA WebRIT-WATERS (Web-based Reach Indexing Tool for Watershed Assessment Tracking and Environmental Results System). This interactive mapping tool will allow users to view surface waters in the National Hydrography Dataset (NHD). The EPA intends to use the WebRIT-WATERS system to submit and update data for programs such as Clean Water Act Sections 303(d), 305(b) and 319(h) and the Beaches Environmental Assessment and Coastal Health (BEACH) act. The intent of the EPA is to make this information available to interested parties and the general public to find about water related activities that have, or are, occurring within their watershed.

As part of the continuing process with GRTS, a representative attended the National GRTS Users Group meeting held annually by the EPA. The purpose of this meeting is to inform the state and EPA regional users of GRTS of changes and improvements to GRTS that have occurred and to suggest and review proposed improvements to the system.

The EPA is in the process of converting the GRTS system from a Lotus Notes based system to an Oracle based system. Both systems will be accessed over the Internet on secure servers housed by EPA.

The change is being made to Oracle to place all of the EPA operating database programs on one language. A Kansas representative was selected to be on the steering committee to provide guidance to the EPA during the conversion and to provide testing of the new system as it is developed.

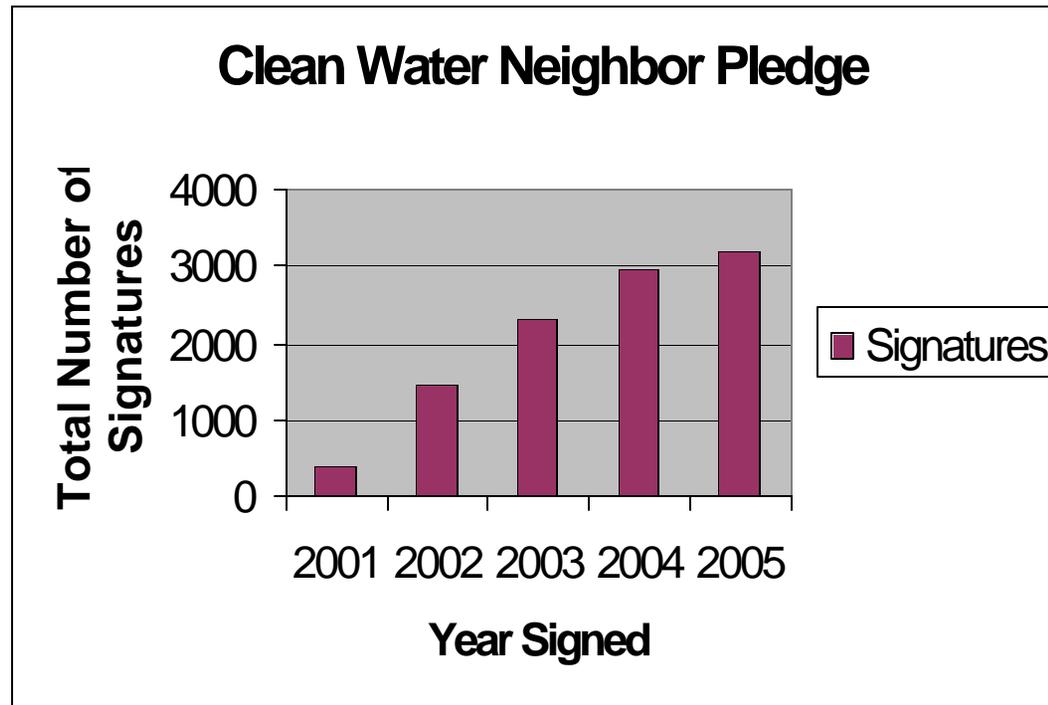


Establishing and using an Advisory Committee:

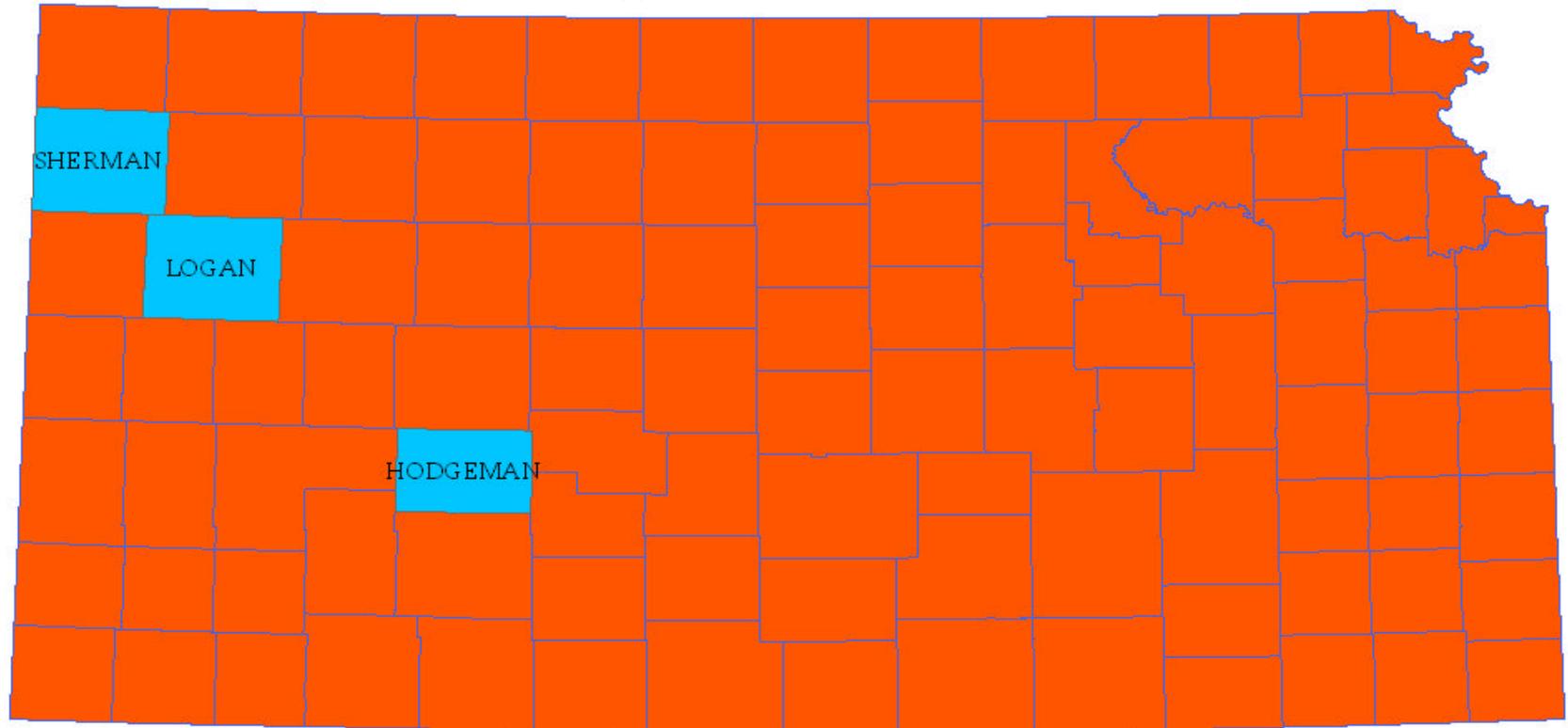
Meet as needed on a project specific basis in addition to every quarter after the Watershed Management Seminar.

Utilizing the Clean Water Neighbor Pledge:

Goal: Devise a means of securing “pledges to protect” Kansas water quality from individuals, local and state governmental entities, business and industrial organizations. Don Snethen designed a Clean Water Neighbor Pledge sheet for individuals to sign if they were committed to protecting water quality. In addition, a certificate of recognition has been designed to reward participants for their commitment. Approximately 5,000 certificates have been printed in anticipation of receiving 5,000 signatures. For every individual that signs the CWN pledge, they are encouraged to obtain 5 additional signatures for the pledge and they will then receive a Clean Water Neighbor mug. Below is a chart showing the total number of signatures obtained for the Clean Water Neighbor Pledge from November 2001 to June 2005. By June 2005, the Watershed Management Section had obtained 3,209 signatures of the CWN pledge, over halfway to our goal.



Counties where the CWN Pledge has been signed June 30, 2005



Legend

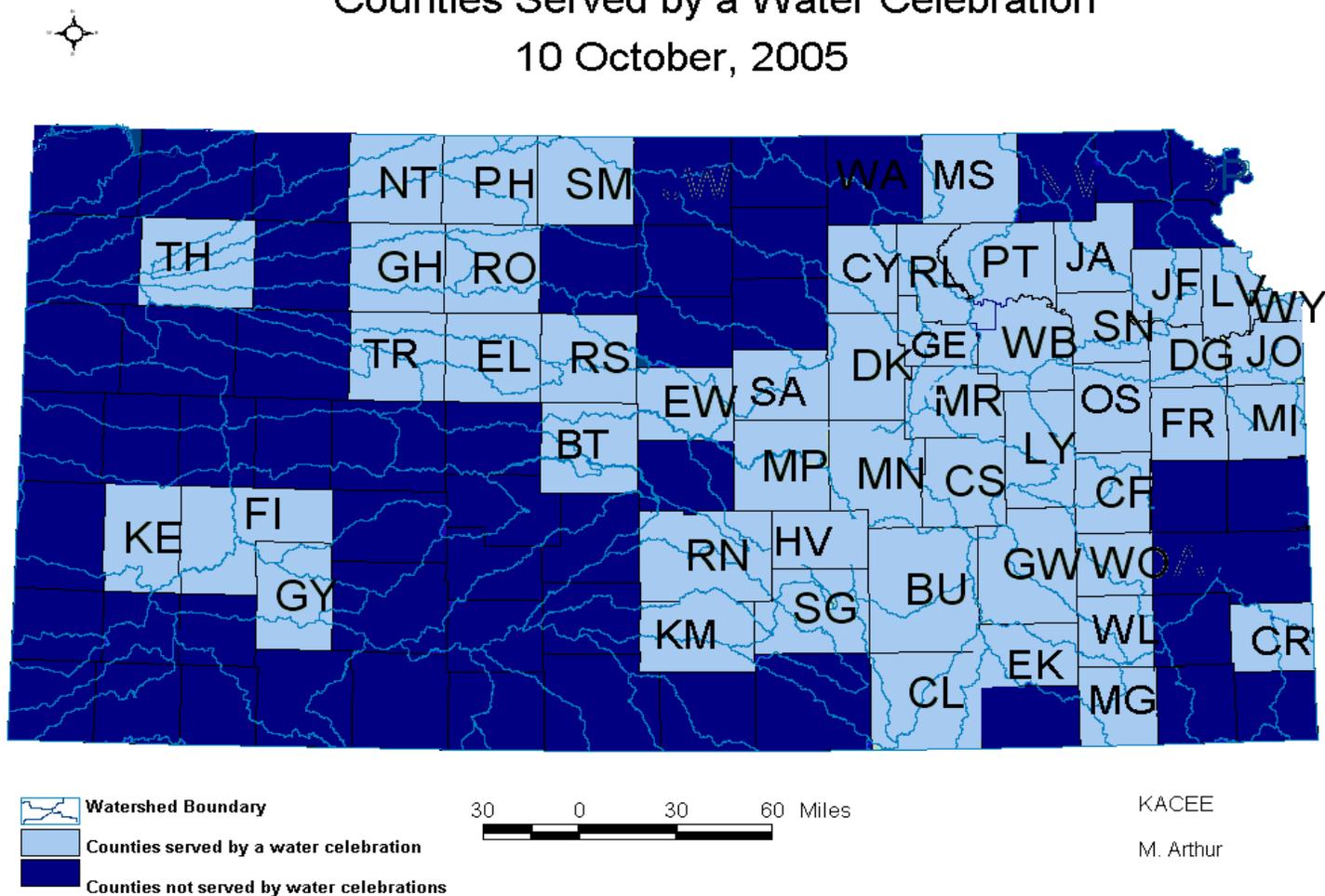
-  Non-Participating Counties
-  Participating Counties



Clean Water Celebrations

As part of the NPS Management Plan, Kansas has a goal to have a water quality celebration in each of Kansas' 105 counties. In 2002, KDHE awarded the Kansas Association for Conservation and Environmental Education a 3 year 319 grant to achieve this goal. Prior to the grant, Kansas hosted water celebrations in 16 counties out of a total of 105. Currently, 53 counties are being served by water celebrations. Over 50% of the state is served by a celebration. Below is a map of counties currently being served by water celebrations.

Counties Served by a Water Celebration
10 October, 2005





Using technology to administer grants

The Kansas Clean Waters (KCW) continues to be in use for project management. This system allows the cooperator to submit ideas for projects in a general format. If Watershed Management Section staff believe it is a feasible project, a fully developed project implementation plan (PIP) is then developed by the cooperator and submitted through the KCW. The PIP is distributed by the KCW to reviewers both inside and outside of the section, including the regional EPA project officer. Revisions are made as necessary and a grant agreement is generated, all within the KCW. Quarterly progress reports and affidavit of expenditures are also submitted through the KCW.

The KCW has allowed for electronic processing of documents and provided readily accessible centralized database of project related documents. This will afford access to relevant project data by all members of the staff and provide for more efficient project management.

Maintain and enhance the Kansas Local Environmental Protection Program

Staff are currently working on completing the June 30, 2004 - July 1, 2005 LEPP Annual Report. The June 30, 2003 - July 1, 2004 Annual Report was completed in January of 2004 and is posted on our website at: http://www.kdheks.gov/nps/lepp/LEPP_Annual_Report_SF2004.pdf

Establish and maintain effective relationships among federal, state, and local government agencies, public and private institutions, non-governmental organizations, businesses, and individuals.

Annually the Watershed Management Section compiles an extensive e-mail list of individuals that have participated in Kansas nonpoint source events and activities and signed the Clean Water Neighbor Pledge. Notices of upcoming events, grant opportunities and other items of interest are sent to this group on an as needed basis. In addition, nonpoint source advisory committee forums are held on a quarterly basis. These forums are held at various locations throughout Kansas.



NonPoint Source Pollution Load Reduction Estimates

Program accomplishments reported in this section are a result of collaborative efforts between the Kansas Department of Health and Environment (KDHE) and many organizations, universities, and state agencies. These cooperating agencies and organizations work together to best meet the needs of the state of Kansas. The best management practice codes throughout this section were developed by the Natural Resource Conservation Service to define and describe the management practice. These codes were adopted by KDHE.

Stream/Shoreline Protection

Stream/Shoreline Protection (580) is defined as treatment used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.

Protection Purpose

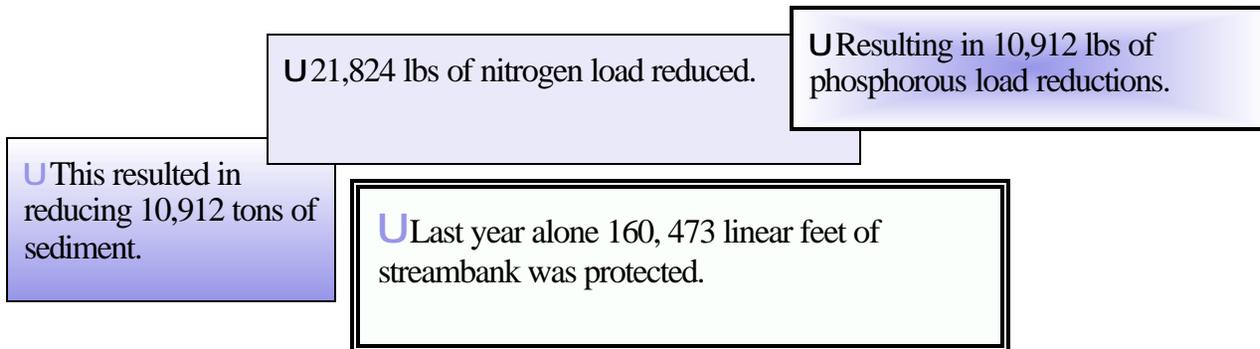
To prevent the loss of land or damage to land uses, or other facilities adjacent to the banks.

To maintain the flow or storage capacity of the water body or to reduce the offsite or downstream effects of sediment resulting from bank erosion.

To improve or enhance the stream corridor for fish and wildlife habitat, aesthetics, recreation.



Achievements



319 Projects contributing to figures:

Melvern Water Quality Project, Part 4

Kansas Alliance for Wetlands and Streams, Part 4

Stranger Creek Plan Implementation and Wolf Creek Watershed Plan Development

Kansas Rural Center: River Friendly Farms--State WRAPS Focus

Marais Des Cygnes Watershed Riparian Initiative Program

Local Wetland and Riparian Areas Alliances, Part 4

Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency



Filter Strips

Filter Strips (393) are defined as a strip or area of herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forest land) and environmentally sensitive areas.

Protection Purpose

To reduce sediment, particulate organics, and sediment adsorbed contaminant loadings in runoff

To reduce dissolved contaminant loadings in runoff

To serve as Zone 3 of a Riparian Forest Buffer, Practice Standard 391

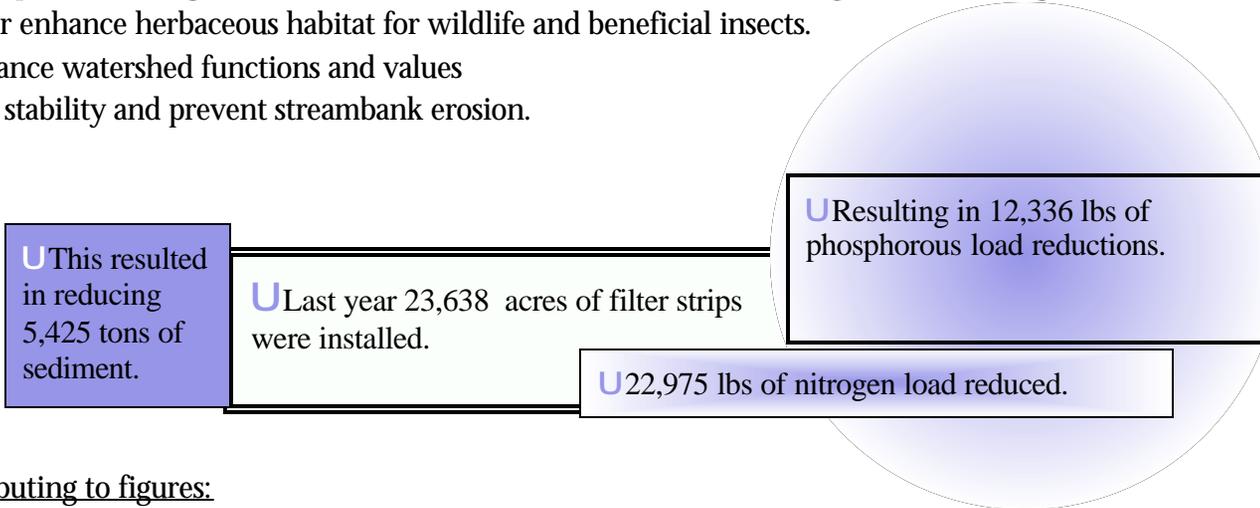
To reduce sediment, particulate organics, and sediment adsorbed contaminant loadings in surface irrigation tailwater

To restore, create, or enhance herbaceous habitat for wildlife and beneficial insects.

To maintain or enhance watershed functions and values

To provide channel stability and prevent streambank erosion.

Achievements



319 Projects Contributing to figures:

Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance

Waste Management Water Quality Protection Learning Center, Part 3

Water Quality Protection Model Demonstration Project for Public Educational Entities

Melvern WRAPS Implementation, Part 5

Banner Creek WRAPS Implementation

Melvern Water Quality Protection Project--Part 3

Kansas Rural Center: River Friendly Farms--State WRAPS Focus

Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2

Kansas Buffer Partnership for Clean Water, Part 2

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed



Fencing

Fencing (382) is defined as a constructed barrier to livestock, wildlife, or people.

Protection Purpose

This practice may be applied as part of a conservation management system to facilitate the application of conservation practices that treat the soil, water, air, plant, animal and human resource concerns.

This practice may be applied on any area where livestock and/or wildlife control is needed, or where public access is to be managed.

Achievements

U There were 19,983 linear feet of fence installed as a result of KDHE funded projects such as:

- Kansas Alliance for Wetlands and Streams, Part 4
- Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2
- Melvorn WRAPS Implementation, Part 5
- Marion WRAPS Implementation, Part 3
- Melvorn Water Quality Project, Part 4
- Local Wetland and Riparian Areas Alliances, Part 4
- Cheney Lake Watershed Water Quality Protection, Part 7
- Rush County Water Quality Project-Livestock Waste Management
- Cheney WRAPS Implementation



Waste Storage Structure

A Waste Storage Structure (313) is defined as a waste storage impoundment made by constructing embankment and/or excavating a pit or dugout, or by fabricating a structure.

PROTECTION PURPOSE

To temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.

Achievements

U There were 7 waste storage structures constructed or renovated last SFY year.

319 Projects Contributing to figures:

Newhouse Dairy Pollution Control Demonstration
El Dorado Lake Water Quality Protection, Phase 3
Rush County Water Quality Project-Livestock Waste Management
Abatement of Fecal Coliform Bacteria, Part 4



Water / Sediment Control Basin

A Water / Sediment Control Basin (683) is defined as an earth embankment or a combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.

Basin Purpose

A water and sediment control basin may be established to:

Improve farmability of sloping land

Reduce watercourse and gully erosion

Trap sediment

Reduce and manage onsite and downstream runoff

Improve downstream water quality

Achievements

25 Tons of Sediment is removed per year, 22 lbs of Phosphorous, and 62 lbs of Nitrogen per year. There were a total of 8 Basins installed.

319 Projects Contributing to figures:

Newhouse Dairy Pollution Control Demonstration

Water Quality Protection Model Demonstration Project for Public Educational Entities

Melvern Water Quality Project, Part 4

Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2

Cheney WRAPS Implementation

Edmund Theis Livestock Waste Control Project

Rush County Water Quality Project-Livestock Waste Management



Wetland Restoration

Wetland Restoration (657) is defined as rehabilitation of a drained or degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to the natural condition to the extent practicable.

Protection Purpose

To restore hydric soil conditions, hydrologic conditions, hydrophytic plant communities, and wetland functions that occurred on the disturbed wetland site prior to modification to the extent practicable.

Achievement

There were 78 acres of restored wetlands.

1 acre was restored by the Newhouse Dairy Pollution Control Demonstration, 1 acre by the Water Quality Protection Model Demonstration Project for Public Educational Entities and 1 by the St. Pauls Stream Restoration project. 2 acres were restored by the Douglas County Rain Garden project, 5 acres by the Cheney Lake Watershed Water Quality Protection, Part 7 and 68 acres were restored by the Kansas Buffer Partnership for Clean Water, Part 2 project.



Critical Area Planting

A Critical Area Planting (342) is defined as establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.

Protection Purpose

Stabilize areas with existing or expected high rates of soil erosion by water.

Stabilize areas with existing or expected high rates of soil erosion by wind.

Restore degraded sites that cannot be stabilized through normal methods.

Achievements

- Planted 10 acres of vegetation in critical areas.

KDHE 319 Projects contributing to figure:

Banner Creek WRAPS Implementation

Restoration of Land Damaged by Oil and Gas Production

Stewart Creek Riparian Stabilization

Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance

Rush County Water Quality Project-Livestock Waste Management



Ponds

A water impoundment made by constructing an embankment or by excavating a pit or dugout.

In this standard, ponds constructed by the first method are referred to as embankment ponds, and those constructed by the second method are referred to as excavated ponds. Ponds constructed by both the excavation and the embankment methods are classified as embankment ponds if the depth of water impounded against the embankment at the auxiliary spillway elevation is 3 feet or more.

Purpose

To provide water for livestock, fish and wildlife, recreation, fire control, and other related uses, and to maintain or improve water quality.

Achievements

There were 4 ponds constructed during the calendar year. These ponds help to remove approximately 13 tons of Sediment per year, 18 lbs of Phosphorous, and 33lbs of Nitrogen.

319 Projects associated with the pond construction are:

St. Pauls Stream Restoration

Stewart Creek Riparian Stabilization

Kanopolis Lake Watershed WRAPS I&E Project (Part IV)

Local Wetland and Riparian Areas Alliances, Part 4



Mulching

Mulching (484) is defined as applying plant residues, by-products or other suitable materials produced off site, to the land surface.

Protection Purpose

Conserve soil moisture

Moderate soil temperature

Provide erosion control

Suppress weed growth

Establish vegetative cover

Improve soil condition and increase soil fertility

Achievements

366 Tons of Sediment were estimated to be removed.

416 lbs of Phosphorous were estimated to be removed.

831 lbs of Nitrogen are estimated to be removed.

Mulch was applied to 139.1 acres.

KDHE 319 Projects contributing to figure:

Melvorn Water Quality Project, Part 4

Water Quality Protection Model Demonstration Project for Public Educational Entities

Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2

Melvorn Water Quality Protection Project--Part 3



Riparian Forest Buffer

Riparian Forest Buffers (391) are defined as an area of predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.

Protection Purpose

Create shade to lower water temperatures and improve habitat for aquatic organisms.

Provide a source of detritus and large woody debris for aquatic and terrestrial organisms.

Create wildlife habitat and establish wildlife corridors.

Reduce excess amounts of sediment, organic material, nutrients, and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow ground water flow.

Provide a harvestable crop of timber, fiber, forage, fruit, or other crops consistent with other intended purposes.

Provide protection against scour erosion within the floodplain.

Restore natural riparian plant communities.

Moderate winter temperatures to reduce freezing of aquatic over-wintering habitats.

To increase carbon storage.

Achievements

168 acres of Riparian Forest Buffers were installed. These buffers remove approximately 239 tons of Sediment per year, 377 lbs of Phosphorous per year, and 703 lbs of Nitrogen per year.

KDHE 319 Projects contributing to figure:

Kanopolis Lake Watershed WRAPS I&E Project (Part IV)

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed



Conservation Cover

Conservation Cover (327) is defined as establishing and maintaining permanent vegetative cover to protect soil and water resources.

Protection Purpose

Reduce soil erosion and sedimentation.

Improve water quality.

Enhance wildlife habitat.

Achievements

1,157 tons of sediment estimated to be removed.

1,358 lbs of Phosphorous estimated to be removed.

2,714 lbs of Nitrogen estimated to be removed.

319 Projects totaled 506.7 acres of retired farmland for conservation. Projects include:
Melvern Water Quality Project, Part 4
Marais Des Cygnes Watershed Riparian Initiative Program
Kansas Rural Center: River Friendly Farms--State WRAPS Focus
Local Wetland and Riparian Areas Alliances, Part 4



Well Decommissioning

Well Decommissioning (351) is defined as the sealing and permanent closure of a water well no longer in use.

Protection Purpose

Prevent entry of vermin, debris, or other foreign substances into the well or well bore hole.

Eliminate the physical hazard of an open hole to people, animals, and farm machinery.

Prevent entry of contaminated surface water into well and migration of contaminants into unsaturated (vadose) zone or saturated zone.

Prevent the commingling of chemically or physically different ground waters between separate water bearing zones.

Achievements

KDHE sponsored 10 well pluggings.

KDHE 319 Projects contributing to figure:

El Dorado Lake Water Quality Protection, Phase 3

Melvern Water Quality Project, Part 4

Kanopolis Lake Watershed WRAPS I&E Project (Part IV)



Watering Facility

Watering Facility (614) is defined as a device (tank, trough, or other watertight container) used for providing animal access to water.

Protection Purpose:

To provide watering facilities for livestock and/or wildlife at selected locations in order to:

protect and enhance vegetative cover through proper distribution of grazing;

provide erosion control through better grassland management; or

protect streams, ponds and water supplies from contamination by providing alternative access to water.

Achievements

KDHE sponsored 7 projects that installed 21 alternative watering supplies for livestock.

Projects contributing to figure:

El Dorado Lake Water Quality Protection, Phase 3

Melvorn Water Quality Project, Part 4

Melvorn Water Quality Protection Project--Part 3

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed

Cheney WRAPS Implementation

Cheney Lake Watershed Water Quality Protection, Part 7

Rush County Water Quality Project-Livestock Waste Management



Cover Crop

Cover Crop (340) is defined as grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.

Protection Purpose:

- Reduce erosion from wind and water
- Increase soil organic matter
- Manage excess nutrients in the soil profile
- Promote biological nitrogen fixation
- Increase bio-diversity
- Weed suppression
- Provide supplemental forage
- Soil moisture management

Achievements

The Restoration of Land Damaged by Oil and Gas Production Project planted 1 acre of cover crop. It is estimated that by covering this acre with cover crops rather than leaving the soil bare reduces sediment erosion by approximately 5 tons per year, reduces phosphorous load by 5 lbs per year, and reduces nitrogen loading approximately 10 lbs per year.



Terraces

Terraces (600) are defined as an earth embankment, or a combination ridge and channel, constructed across the field slope.

Protection Purpose:

This practice may accomplish one or both of the following:

Reduce soil erosion

Retain runoff for moisture conservation

Achievements

KDHE projects contributed to 55,496 feet of terraces installed.

These projects included:

Melvern Water Quality Protection Project--Part 3

Banner Creek WRAPS Implementation

Cheney Lake Watershed Water Quality Protection, Part 7

Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2

Melvern Water Quality Protection Project--Part 3



Pasture / Hay Planting

Pasture and/or Hay Planting (512) is defined as establishing native or introduced forage species.

Purpose

Establish adapted and compatible species, varieties, or cultivars for forage production.

Improve or maintain livestock nutrition and/or health.

Balance forage supply and demand during periods of low forage production.

Reduce soil erosion and improve water quality.

Increase carbon sequestration

Achievement

8,862.8 acres of native or forage specie grasses were planted by 5 319 projects.

These projects are:

Restoration of Land Damaged by Oil and Gas Production

Marion WRAPS Implementation, Part 3

Marion Reservoir Water Quality Protection Project - Phase 2 - Part 2

Cheney Lake Watershed Water Quality Protection, Part 7

Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency

The acres of pasture and hay planted reduce approximately 5,673 tons of sediment per year, 11,150 lbs of phosphorous per year and 20,281 lbs of nitrogen per year.



Nutrient Management

Nutrient Management (590) is defined as establishing native or introduced forage species.

Protection Purpose:

Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

Reduce soil erosion by wind and/or water.

To properly utilize manure or organic by products as a plant nutrient source.

To minimize agricultural nonpoint source pollution of surface and ground water resources.

Provide emergency forage production.

Establish adapted and compatible species, varieties, or cultivars.

To maintain or improve the physical, chemical, and biological condition of soil.

Achievements

KDHE supported projects that implemented a nutrient management program or developed a management plan on over 19,799 acres. Projects contributing to this figure are:

Waste Management Water Quality Protection Learning Center, Part 3

Abatement of Fecal Coliform Bacteria, Part 4

Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance

BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3

Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation

Deep Placement Fertilizer Demonstration

Rush County Water Quality Project-Livestock Waste Management

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed

Cheney Lake Watershed Water Quality Protection, Part 7



Tree Shrub Planting:

Tree Shrub Planting (612) is defined as establishing woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration.

Protection Purpose:

To establish woody plants for forest products, wildlife habitat, long-term erosion control and improvement of water quality, treat waste, increase carbon storage in biomass and soils, renewable energy production, energy conservation, and enhance aesthetics.

Achievements

1,700 Trees and or shrubs were planted by the Kansas StreamLink Watershed Stewards project.



Irrigation System, Sprinkler

An irrigation system (442) in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles operated under pressure.

Protection Purpose:

This practice may be applied as part of a conservation management system to achieve one or more of the following:

- ! Efficiently and uniformly apply irrigation water to maintain adequate soil water for the desired level of plant growth and production without causing excessive water loss, erosion, or water quality impairment.
- ! Climate control and/or modification.
- ! Applying chemicals, nutrients, and/or waste water.
- ! Leaching for control or reclamation of saline or sodic soils.
- ! Reduction in particulate matter emissions to improve air quality.

Achievements

Installed Irrigation Sprinkler Systems on over 509,000 acres. The following 319 projects contributed statistics:

Abatement of Fecal Coliform Bacteria, Part 4
Kansas Environmental Leadership Program, 05/04 to 04/05
Waste Management Water Quality Protection Learning Center, Part 3



Onsite Wastewater Treatment System Projects

Onsite wastewater treatment system (OWWTS) projects are defined as projects that assess the condition of a current system, construct a new OWWTS in a needed area, repair a failing system, or upgrade an under sized system.

Protection Purpose:

Reduce the amount of untreated waste entering a surface water body or groundwater table.

Insure proper treatment of waste.

Educate landowners that these systems need annual maintenance.

Provide information on the systems waste handling capabilities.

Reduce loading of nitrogen, phosphorous, pathogens, total suspended solids and organics to the environment.

Achievements

KDHE sponsored 8 projects that addressed Onsite Wastewater Treatment System issues. 184 septic systems were installed or repaired by these projects. The participating projects are:

El Dorado Lake Water Quality Protection, Phase 3

Melvem Water Quality Project, Part 4

Kansas Rural Center: River Friendly Farms--State WRAPS Focus

Twin Lakes Watershed Restoration & Protection Project, Part 2

Cheney WRAPS Implementation

Cheney Lake Watershed Water Quality Protection, Part 7

TMDL On-site Wastewater Education Project, Year 2 & 3

Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation



Water Quality Protection Plan

A Water Quality Protection Plan documents activities required to protect water quality associated with any given water body, land use, or activity.

Protection Purpose:

A Water Quality Protection Plan includes Livestock Pollution Control Plans, Wellhead Protection Plans, and Commercial/Industrial, Farmstead Water Quality Protection Plans, and Nutrient and Pesticide Management Plans.

Provide documentation of all activities that will lead to water quality protection.

Ensure proper project methods and direction to adequately achieve water quality protection.

Achievements

Completed 10 Farmstead Water Quality Protection Plans.

Completed a Pesticide Management Plans on 60 acres.

Completed Livestock Pollution Control Plans for over 5,377 Head

Complete 25 Commercial/Industrial Water Quality Protection Plans

Projects contributing to above figures:

Kanopolis Lake Watershed WRAPS I&E Project (Part IV)

Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation

Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance

Melvorn Water Quality Protection Project--Part 3

Edmund Theis Livestock Waste Control Project

Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency

Rush County Water Quality Project-Livestock Waste Management

Livestock Pollution Control Web Site (was K3-037)



Melvern Water Quality Project, Part 4
Melvern WRAPS Implementation, Part 5
Volunteer Soil & Water Testing to Meet TMDL Goals
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation

Information & Education Projects

Water Festivals, Information & Education Events, Information & Education Publications, Storm Drain Stenciling Projects, and Household Hazardous Waste Collections.

One key component of a successful Nonpoint source program is education and information. Awareness of water quality and natural resource issues and concerns is essential if we are to change attitudes and behavior. When we provide educational and informational materials to students and adults about these topics, the individual becomes empowered to make the decision to change their behavior, actions or activities to help protect our natural resources.

Information & Education Event

An Information & Education Event is defined as a scheduled meeting or assembly designed to inform the audience about non point source water quality issues.

Purpose:

This type of event may be, but is not limited to, water quality tours, workshops, educational presentations, or conferences. Provide information to the audience on the designated topic.

Answer questions

Inform the audience of additional resources

Achievements

The Watershed Management Section has sponsored several projects hosting or attending Information & Education Events. It is estimated that participating projects informed over 516,552 individuals on various non-point source pollution related topics.



Projects contributing to figures:

Abatement of Fecal Coliform Bacteria, Part 4
Agricultural Industry Water Quality Awareness, Part 2 (was K2-066)
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency
Banner Creek WRAPS Implementation
BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3
Cheney Lake Watershed Water Quality Protection, Part 7
Cheney WRAPS Implementation
Coffey County Regional Watershed Restoration & Protection
Dairy Nutrient Management Technical Assistance
E.A.R.T.H. Program
El Dorado Lake Water Quality Protection, Phase 3
Env. Assessment & Critical Areas Identification & TA - Part 3
Fall River WRAPS
Fecal Coliform Abatement in Southwest Kansas, Part 2
Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance
Hillsdale Water Quality Restoration & Protection Implementation
Hillsdale WRAPS Support
Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03
Kanopolis Lake Watershed WRAPS I&E Project (Part IV)
Kansas Agricultural Network Radio Programming Coordination for Water Quality
Kansas Alliance for Wetlands and Streams, Part 4
Kansas Environmental Leadership Program, 05/04 to 04/05
Kansas Rural Center: River Friendly Farms--State WRAPS Focus
Kansas StreamLink Watershed Stewards
Kansas Urban Water Quality Restoration & Protection Planning Process, Part 3
Livestock Pollution Control Web Site (was K3-037)



Livestock Waste Management Rainfall Simulator
Local Wetland and Riparian Areas Alliances, Part 4
Locally Led Core Conservation Watershed Project, Part 3
Marais Des Cygnes Watershed Riparian Initiative Program
Marion WRAPS Implementation, Part 3
Melvern Water Quality Project, Part 4
Melvern Water Quality Protection Project--Part 3
Melvern WRAPS Implementation, Part 5
Metropolitan Kansas City Water Quality Initiative--Part 3
Mission Lake Restoration
Restoration of Land Damaged by Oil and Gas Production
Rush County Water Quality Project-Livestock Waste Management
Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation
Spring Hill Stormwater Management WRAPS
St. Pauls Stream Restoration
Subsurface Drip Irrigation to Protect Shallow Groundwater Quality
Twin Lakes Watershed Restoration & Protection Project, Part 2
Upper Wakarusa WRAPS Implementation
USD 501 Water Quality Education Support
Volunteer Soil & Water Testing to Meet TMDL Goals
Waste Management Water Quality Protection Learning Center, Part 3
Water Quality Improvement Through Service Learning
Water Quality Protection Model Demonstration Project for Public Educational Entities



Information & Education Publication

Information & Education Publications are defined as products produced by a given organization/agency with the intention of educating the reader about non-point source pollution issues.

Purpose

These publications may include informational brochures, pamphlets, reports, children stories, coloring books, newsletters, news articles, emails and press releases.

Provide information to the audience on the designated topic.
Serve as a reference tool on non point source information.

Achievements

Projects contributing to figures:

Supported projects produced Information & Education Publications and web pages reaching over 386,692 citizens statewide.

Abatement of Fecal Coliform
Bacteria, Part 4

Agricultural Industry Water Quality Awareness, Part 2 (was K2-066)

Banner Creek WRAPS Implementation

BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3

Cheney Lake Watershed Water Quality Protection, Part 7

Cheney WRAPS Implementation

E.A.R.T.H. Program

El Dorado Lake Water Quality Protection, Phase 3

Fecal Coliform Abatement in Southwest Kansas

Fecal Coliform Abatement in Southwest Kansas, Part 2



Golf Course Water Quality Protection Implementation Demonstration & Technical Assistance
Hillsdale Water Quality Restoration & Protection Implementation
Hillsdale WRAPS Support
Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03
Kanopolis Lake Watershed WRAPS I&E Project (Part IV)
Kansas Agricultural Network Radio Programming Coordination for Water Quality
Kansas Alliance for Wetlands and Streams, Part 4
Kansas Buffer Partnership for Clean Water, Part 2
Kansas Environmental Leadership Program, 05/04 to 04/05
Kansas Rural Center: River Friendly Farms--State WRAPS Focus
Kansas StreamLink Watershed Stewards
Kansas Urban Water Quality Restoration & Protection Planning Process, Part 3
Livestock Waste Management Rainfall Simulator
Local Wetland and Riparian Areas Alliances, Part 4
Locally Led Core Conservation Watershed Project, Part 3
Marion WRAPS Implementation, Part 3
Melvern Water Quality Project, Part 4
Melvern Water Quality Protection Project--Part 3
Melvern WRAPS Implementation, Part 5
Metropolitan Kansas City Water Quality Initiative--Part 3
Rush County Water Quality Project-Livestock Waste Management
Twin Lakes Watershed Restoration & Protection Project, Part 2
Upper Wakarusa WRAPS Implementation
USD 501 Water Quality Education Support
Waste Management Water Quality Protection Learning Center, Part 3
Water Quality Improvement Through Service Learning
Water Quality Protection Model Demonstration Project for Public Educational Entities



Water Festival

A Water Festival is defined as an educational activity that is packaged in a fun atmosphere.

Purpose

The idea behind a water festival is to educate students about natural resources and the need to protect them.

Provides students the opportunity to learn and gain hands on experience.

Encourages participation in activities such as classroom sessions, hands on exhibits, skits, water quiz bowl, or other activities dealing with natural resources.

Achievements

Watershed Management Section supported projects either hosting or participating in over 38 Water Festivals statewide, reaching over 22,833 students. Please see the Water Celebrations section for more information.

Projects contributing to figures:

Melvern Water Quality Project, Part 4

Water Quality Protection Model Demonstration Project for Public Educational Entities

Cheney WRAPS Implementation

Coffey County Regional Watershed Restoration & Protection

Kanopolis Lake Watershed WRAPS I&E Project (Part IV)

El Dorado Lake Water Quality Protection, Phase 3

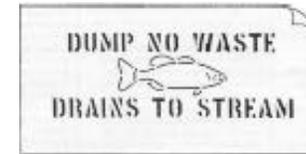
Lenexa Water Festival

Implementing BMP's in the Smoky Hill-Kanopolis Lake Watershed



Storm Drain Stenciling

A Storm Drain Stenciling project is defined as a coordinated event where city storm water drains are marked with a warning label to discourage waste dumping.



Purpose

To inform and educate the public that storm drains are connected directly to surface waters within their community and to prevent them from putting anything down the outlets.

Provides students an opportunity to educate their community

Prevents storm drain dumping

Warns the public that these drains are directly connected to surrounding waters.

Achievements

Marked over 3,866 storm drains.

Projects contributing to figures:

Kansas StreamLink Watershed Stewards

Cheney WRAPS Implementation

E.A.R.T.H. Program



For Questions pertaining to this report, or to obtain a copy please contact:

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