

Otter Creek, Photograph Courtesy of H.J. Schuster, Kansas Photo Tour.

# Annual Report

**Kansas Nonpoint Source  
Control Program FFY  
2006 Annual Report  
July 1, 2005—September 30, 2006**

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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 to achieve these goals during the end of federal fiscal year 2005 and all of 2006.

## 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

#### 2006 Update:

1. Developing TMDLs - Status of Kansas TMDL Program as of December 2006
  - A. All Twelve River Basins Complete; Requirements of Court Decree Fulfilled
  - B. Chloride TMDLs for Arkansas River approved by EPA in Summer 2006
  - C. 2006 303(d) Impaired Waters List Submitted to EPA
  - D. Second Round TMDLs: Six Kansas Lower Republican Basin new and revised TMDLs: Lower Kansas River *E. coli* Bacteria TMDLs revised; Lake Olathe Eutrophication, Shunganunga Creek Dissolved Oxygen, Cedar Creek Nitrate; Mill Creek (Johnson Co.) Biology and Soldier Creek Biology TMDLs developed, underwent public comment submitted to EPA in December, 2006.
  - E. Second Round TMDLs: Six Lower Arkansas Basin new and revised TMDLs:
  - F. Lake Anthony eutrophication and siltation; Cowskin Creek Biology, Arkansas River below Hutchinson Biology, Little Cow Creek Nitrogen, Sand Creek Dissolved Oxygen and Nitrate TMDLs developed, underwent public comment and submitted to EPA in December, 2006.
  - G. A Category 4B Watershed Plan for atrazine impairments in the Little Arkansas River Watershed was prepared and submitted with the 2006 303(d) List; the Plan acts in lieu of a TMDL and has a similar High Priority designation for implementation in the State Water Plan.
  - H. Development of second round Upper Arkansas Basin Selenium TMDLs underway, completed by Summer 2007
  - I. 2006 303(d) Impaired Waters List developed in Summer 2006 and submitted in December, 2006, emphasizing impairments in the Missouri, Marais des Cygnes, Neosho, Verdigris, and Walnut Basins.
  - J. Second round TMDLs underway in Marais des Cygnes and Missouri Basins, completed in Summer 2007

## 2. 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 2010 a review and reevaluation of implementing those TMDLs by the Basin Advisory Committees during the respective Third Round of TMDL Development. 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 List:

KDHE submitted the 2006 303d list to EPA in December 2006 and the list is under review. It is anticipated to be approved in early 2007. KDHE identified 273 waterbody pollutant combinations of impairment, 110 in the five basins were second round TMDLs and will be developed in 2006-2008. Twenty-nine of these 110 impairments were designated as a high priority for TMDL development over the next two years. Fifteen TMDLs will be developed in 2007 from the 2006 303d list, and another 14 will be developed in 2008.

The Kansas 303d list identifies combinations of waterbodies and pollutants as the listed water; watersheds are emphasized rather than individual stream reaches. Multiple pollutants impairing a common waterbody count each count as a listing even though one TMDL may eventually address all the pollutants. Hence, Kansas numbers tend to be lower than those generated by EPA because of this aggregation approach. Sixtythree waterbody pollutant combinations were placed in Category 2, indicating that their past impairments were no longer present. This occurred through an improvement in water quality, additional data indicating a much less severity in impairment than previously thought or changes in water quality standards. Another 75 waterbody pollutant combinations were placed in Category 3, indicating that there was insufficient data to make a determination on whether the waterbody was impaired or not. This occurred because the only data available were collected before 1996, bacteria data was not collected in the manner prescribed in the water quality standards or too few data exist to make an appropriate statistical analysis.

Sixteen watersheds suspected of being impaired by bacteria in 2004 and placed in Category 3 to await gathering more data, were assessed in 2006 during four separate 30-day periods. Five samples were taken to determine if the geometric mean of bacteria counts from those five samples exceeded the applicable *E. coli* bacteria criteria. Five of those watersheds were found to be impaired by bacteria under the protocol of the water quality standards and therefore placed on the 2006 303(d) list. The other watersheds were placed in Category 2.

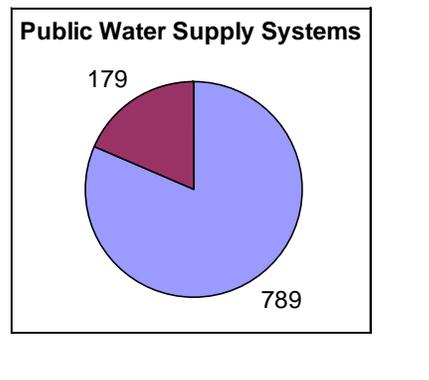
### 3. Completing Source Water Asssmenets:

Communities with adopted Source Water Protection Plan's 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 WRAPS process was changed slightly last year in order to better identify the phase of each project. The phases are; Development, Assessment, Planning, and Implementation. A project is not considered as having a substantially implemented plan until they reach the Implementation phase. Additionally, public water supply systems utilizing groundwater are becoming more active in the WRAPS process. The tracking spreadsheet is in the process to reflect these changes. Therefore, the numbers submitted last year may vary considerably from this year.

	Wellhead Protection Plans		Nonpoint Source Watershed Projects	
	Number	Population	Number	Population
Registered	12	10,626	179	923,664
Approved	10	9,076		
Adopted	9	14,826		

Four systems have an approved wellhead protection plan and are participating in a nonpoint source watershed project.

The number of water supplies benefiting from NPS watershed projects:



A total of 789 public water supply systems are in the State of Kansas; 179 of these benefit from nonpoint source watershed projects.

Sheryl Ervin joined the Watershed Management Section October 2004 to assist communities with the source water protection planning process. Activities for the time period July 2005-September 2006 include:

1. Member of the Marais des Cygnes, Marmaton and Little Osage Rivers Watershed Management Plan Committee to complete a watershed management plan for the Missouri portions of these watersheds. This group used the Kansas Marais des Cygnes Basin Watershed Restoration and Protection Strategy document as a guide to complete the watershed management plan for the Missouri watersheds.
2. Completed and submitted an application for EPA's 2006/2007 Request for TWG Project Implementation Proposals for the Marais des Cygnes Basin in conjunction with Hillsdale Water Quality Project, county extension and NRCS offices in Kansas and Missouri, Kansas State University, and the University of Missouri-Columbia.
3. Presented the source water protection planning process to representatives of four communities and five public water supply systems in Seward and Meade Counties. 24 were in attendance.
4. Presented the source water protection planning process and Clean Water Neighbor information to representatives from one homeowner's association. 14 were in attendance.
5. Assisted KRWA with source water protection plans for nine public water supply systems.
6. Attended meetings with three communities, 11 people total, to explain KDHE's role in KRWA's source water protection planning and present information regarding the Class V well inventory program.
7. Contacted and met with city officials from one community, 8 in attendance, to present an overview of the source water protection planning process and the importance of public awareness throughout the process.
8. Assisted two communities with the process of updating their previously approved wellhead protection plans.

## 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.

### 2006 Update

As previously reported in the 2005 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.

## 2006 Update

Goal 1. Reviewing federal development and permitting programs for consistency with the Kansas NPS Management Plan:

Clean Water Act Section 404 & Kansas Environmental Coordination Act addresses activities that in some way modify stream channel cross section. Section 404 authorizes the U.S. Army Corps of Engineers to administer a program of permitting the discharge of dredge and fill material to the nation's waterways. Permits may not be issued until the State has issued, pursuant to Clean Water Act Section 401, a statement certifying the activity is not likely to violate State Water Quality Standards.

The Watershed Management Section reviews Section 404 permits and prepares conditional Section 401 water quality certifications intended to assure that the permitted activity will not result in a violation of Kansas surface water quality standards. A similar water quality certification is prepared pursuant to the Kansas water quality standards to K.A.R. 28-16-28 etc. seq., for KDA-DWR permitted stream channel modification and floodplain fill activities. [Pursuant to KSA 82a-326(a) (4) and (b) of the Kansas Environmental Coordination Act requires the Kansas Department of Agriculture – Division of Water Resources seek Activities considered by the USACE either by definition or at the discretion of the regulatory project manager, are generally a threshold of one tenth to one half acre may only require a Nation Wide Permit (NWP). Meeting this threshold and other criteria may result in the project to a minimum impact to the waters of the U.S. The NWPs are issued with regional conditions established by a state/federal agency work group. They do not require mitigation for loss of resources. These projects do not go on public notice; however, some have an agency pre-construction notification (i.e. stream bank stabilization and others) requirement. Nation Wide Permit projects were issued a blanket Section 401 water quality certification March 15, 2002 and are scheduled for re-evaluation as the USACE NWPs go on public comment period for reauthorization. Approximately 49 different nationwide permits are issued for different activities. In the reporting period there were 1,495 NWPs issued by the USCACE, and forty

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(94) water quality certifications for individual permits resulting in a total of 1,589 water quality certifications issued by KDHE for the reporting period. See: [http://www.nwk.usace.army.mil/regulatory/nwp\\_information/ks\\_nwp\\_401.pdf](http://www.nwk.usace.army.mil/regulatory/nwp_information/ks_nwp_401.pdf) for more information on Section 404 Nationwide Permits.

A major effort was initiated to review watershed district general plans for flood control and retention. Most of these were certified between 1995 and 2000; however, the U.S. Army Corps of Engineers offers agencies an opportunity to comment on permit re-issuance every five years. Due to several significant revisions in Kansas Surface Water Quality Standards, KDHE determined it was necessary to reevaluate the application information including the watershed districts' 5 year construction plan required to be submitted to the State Conservation Commission. Of the 40 water quality certifications, twelve (12) were issued for these types of projects.

Goal 2 - 7:

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.

Multiple 319 projects accomplish the above goals, including:

Project Title	Project Sponsor	NPS Project #
Abatement of Fecal Coliform Bacteria in Kansas Part 4 Tour held – 340 attendee's Presentation – 1,027 attendee's Exhibit/Poster – 4,359 reached Meeting – 49 attendee's	KSU	2002-0004
Abatement of Fecal Coliform Bacteria, Part 5A No data to report	KSU	2003-0038
Abatement of Fecal Coliform Bacteria, Part 5B Tour held – 342 attendee's Presentation – 1,521 attendee's One-on-One Contacts – 112 Press Release – 4 Newsletters – 200 readers Exhibit/Poster – 7,058 reached Meeting – 853 attendee's Radio Talk Show / Ads – 22 reached	KSU	2004-0014



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Project Title	Project Sponsor	NPS Project #
<b>Agricultural Industry Water Quality Awareness, Part 2</b> Publication – 30 delivered One-on-One Contacts – 15 Press Release – 300 reached Newsletters – 600 readers Exhibit/Poster – 80 reached Meeting – 60 attendee's	KFRM Radio	2000-0001
<b>Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency</b> Streambank and Shoreline Protection – 91,842 linear feet Grazing Planned Systems – 13,371 acres	Kansas Rural Center	2003-0020
<b>Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency</b> Exhibit/Poster – 174 reached Grazing Planned Systems – 3,435 acres	Kansas Rural Center	2004-0009
<b>Banner Creek WRAPS Implementation</b> Soil samples collected – 1 sample Atrazine Management Practices – 111 acres Runoff Mgmt System – 174 acres Tour held – 287 attendee's Conservation Tillage – 340 acres Grazing Planned Systems – 692 acres Exhibit/Poster – 698 reached Composted manure – 4,200 tons	Jackson Co. Conservation District	2003-0001
<b>Banner Creek WRAPS Implementation Part 2</b> Prescribed Burning – 1 acre Contour Buffer Strips – 1 acre Riparian Forest Improvement – 1 acre Wildlife – Watering – 1 Sign on site – 2 signs Fire Break – 5 feet Livestock Exclusion – 7 acres Conservation Tillage – 24,993 acres Conservation Crop Rotation – 1626 acres	Jackson Co. Conservation District	2004-0002
<b>Big Hill Creek/Lake WRAPS Development</b> Water samples collected – 36 Soil samples collected – 176	KSU	2006-0053
<b>BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3</b> Workshop Held – 35 attendee's Publication – 375 delivered One-on-One Contacts – 74 Exhibit/Poster – 188 reached	KSU	K2-076

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Project Title	Project Sponsor	NPS Project #
Cedar Bluff WRAPS Development Publication – 15 delivered One-on-One Contacts – 84	Smoky Hill RC&D	2006-0056
Cheney WRAPS Implementation Fencing – 17,397 Wetlands Restored – 15 acres Critical Area Planting – 2 acres Watering Facility – 6 Terraces – 21,442 linear feet Pasture / Hay Planting – 32 acres Onsite WWTS – 4 systems Workshop Held – 218 attendee's Tour held – 388 attendee's Water Festival – 700 students One-on-One Contacts – 376 Press Release – 3 Meeting – 212 attendee's Grade Stabilization Structure – 1 Pipeline – 1,077 linear feet Diversion – 1 Waste Management System – 1	Reno Co. Conservation District	2003-0031
Cheney KS-WRAPS Implementation Fencing – 1800 linear feet Critical Area Planting – 3 acres Terraces – 16,911 linear feet Onsite WWTS – 5 Workshop Held – 60 attendee's Tour held – 150 attendee's Presentation – 40 attendee's Publication – 85 delivered One-on-One Contacts – 358 Exhibit/Poster – 35 reached Grassed Waterway – 9 acres Pipeline – 3,191 linear feet Diversion – 1 Survey – 27 participants Sign on site / Interpretive Sign – 1	Reno Co. Conservation District	2005-0069
Clark's Creek WRAPS Development Publication – 120 delivered	Flint Hills RC&D	2005-0076
Cowskin Creek Watershed WRAPS Meeting – 16 attendee's Survey- 50 participants	Andale Area Chamber of Commerce	2004-0023
Darbyshire Farms Livestock Relocation Sign on site / Interpretive Sign – 1	Lyon Co Conservation District	2004-0018
Delaware River WRAPS Meeting – 182 attendee's	Glacial Hills RC&D	2004-0003



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Project Title	Project Sponsor	NPS Project #
<b>Delaware River WRAPS Support</b> Publication – 667 delivered Press Release – 7 releases Meeting – 119 attendee's Radio Talk Show / Ads – 35,000 citizens reached	Glacial Hills RC&D	2004-0025
<b>Dickinson Co. Water Education Project</b> Workshop Held – 60 attendee's Presentation – 100 attendee's Publication – 5,500 delivered One-on-One Contacts – 150 Press Release – 2 Newsletter Article – 8,200 readers Exhibit/Poster – 5,500 reached Meeting – 523 attendee's	Dickinson Co. Dept. of Environmental Services	2001-0006
<b>Douglas Co. Rain Garden Demonstration Project</b> Workshop Held – 225 attendee's	Douglas Co. Extension Master Gardeners	2003-0022
<b>E.A.R.T.H. Program</b> Workshop Held – 96 attendee's Publication – 1,521 delivered One-on-One Contacts – 71 Press Release – 250 reached Meeting – 417 attendee's Educational Water Samples – 98	KSU	2003-0025
<b>E.A.R.T.H. Program, Part 2</b> Workshop Held – 30 attendee's Presentation – 120 attendee's Publication – 201 delivered Water Festival – 2,917 attendee's Newsletters -2,455 reached Exhibit/Poster – 457 reached Meeting – 29 attendee's CD Rom – 47 Volunteer Training – 11 Television Talk Show – 91,000	KSU	2004-0026
<b>Edmund Theis Livestock Waste Control Project</b> Controlled Drainage – 1	Leavenworth Co. Conservation District	2003-0002
<b>Elk River Lake WRAPS Development</b> Terraces – 50 linear feet Livestock Poll. Control Plan – 2,190 acres Workshop Held – 10 attendee's Presentation – 145 attendee's Publication – 200 delivered Storm Drain Stenciling – 200 stenciled One-on-One Contacts – 62 Newsletters – 3,363 reached Exhibit/Poster – 15 reached	KSU	2006-0054
<b>Fall River WRAPS</b> Critical Area Planting – 5 acres	KSU	2003-0029

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Project Title	Project Sponsor	NPS Project #
Fall River/Verdigris River Basin WRAPS Support No data to report	KSU	2004-0028
Fecal Coliform Abatement in Southwest Kansas No data to report	KSU	K2-050
Fecal Coliform Abatement in Southwest Kansas, Part 2 No data to report	KSU	2003-0019
Golf Course Water Quality Protection Implementation & Demonstration Project Water samples collected – 36 Soil samples collected – 176	Wichita State University	1999-0001
Hillsdale WRAPS Support Publication – 75 delivered Water Festival – 610 attendee's Press Release – 1,045 reached Newsletters – 14,150 reached Exhibit/Poster – 295 reached Meeting – 98 attendee's	Hillsdale Water Quality Project	2003-0003
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed Filter Strips – 58 acres Riparian Forest Buffer – 140 acres Nutrient Management – 2,201 acres Workshop Held – 101 attendee's Tour held – 250 attendee's Publication – 1,133 delivered Water Festival – 483 attendee's One-on-One Contacts – 7,604 Press Release – 142,684 reached Newsletters – 2,981 readers Exhibit/Poster – 254 reached Meeting – 286 attendee's Educational Water Samples – 106 Conservation Tillage – 198,865 acres Livestock Exclusion – 37,684 acres Grassed Waterway – 9,335 acres	KSU	2002-0005
Implementing Riparian Forestry for Abatement of Fecal Coliform Riparian Forest Buffer – 56 acres Publication – 1,155 delivered Water Festival – 705 attendee's Newsletter – 40-,500 readers Exhibit/Poster – 564 reached Tree Shrub Planting – 4 Timber Stand Improvement – 442 acres	KSU	2004-0015
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03 Exhibit/Poster – 3,336 reached	KSU	2003-0023



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Project Title	Project Sponsor	NPS Project #
John Redmond Lake- Neosho River WRAPS Development Eagle Creek- Implementation No data to report	Coffey County Conservation District	2005-0068
Judd Ranch Riparian Protection Project Fencing – 5,851 linear feet Watering Facility – 5 Publication – 1,000 delivered Pipeline – 18,632 linear feet Sign on site / Interpretive Sign – 1	Fanklin Co. Conservation District	2002-0013
K2-011C Statewide Water Celebrations Part 3 Water Festival – 12,050 Press Release – 400 reached Newsletter 530 readers Exhibit/Poster – 2,400 Meeting – 107 attendee's Survey – 30 participants	KACEE	2003-0026
Kanopolis Lake Watershed WRAPS Information & Education Project Filter Strips – 32 acres Ponds –construction – 2 Critical Area Planting – 205 acres Watering Facility – 7 Terraces – 276,213 linear feet Nutrient Management – 4,887 acres Pesticide Mgmt Plan – 19, 155 acres Workshop Held – 127 attendee's Tour held – 310 attendee's Water samples collected – 97 One-on-One Contacts – 7,616 contacts Press Release – 48,000 reached Exhibit/Poster – 3,078 reached Meeting – 707 attendee's Radio Talk Show / Ads – 84,200 reached Conservation Tillage – 8,744 acres Livestock Exclusion – 18,817 acres Conservation Crop Rotation – 10,246 acres Grassed Waterway – 59 acres Newspaper Article – 36,400 readers Brush Management – 633 acres Fact Sheet – 150 distributed Range Planting – 14,972 acres Field Border – 41,297 acres Wildlife - Upland Area Mgmt – 9,868 acres Pipeline – 12,511 linear feet TV News Story/Commercial – 10,000 reached Prescribed Burning – 93 acres Fence – 9,470 acres News Story – 127,580 readers Contour Farming – 3,136 acres	Post Rock Rural Water District #1	2002-0009

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Project Title	Project Sponsor	NPS Project #
Cover/Green Manure Crop – 12,962 acres Crop Residue Use – 724 Contour Buffer Strips – 27 Farm & Feedlot Windbreak – 10,673 Fire Break – 2,275 Forage Harvest Management – 90 acres Grazing—Prescribed – 5,432 Well-General – 2 Habitat Restoration – 19,092 acres Wildlife – Watering – 13 acres		
Kanopolis Lake WRAPS Implementation--I&E, BMP Technical Assistance, Water Quality Monitoring Filter Strips – 32 acres Ponds – 2 constructed Critical Area Planting – 205 acres Watering Facility – 7 Terraces – 276,213 acres Nutrient Management – 4, 887 acres Pesticide Mgmt Plan – 19, 155 acres Workshop Held – 127 attendee's Tour held – 310 attendee's Publication – 7 delivered Water Festival – 529 attendee's Water samples collected – 97 One-on-One Contacts – 7,616 Press Release – 48,000 reached Newsletters – 1,118 reached Exhibit/Poster – 3,078 reached Meeting – 707 attendee's Radio Talk Show / Ads – 84,200 reached Conservation Tillage – 8,744 acres Livestock Exclusion – 18,817 acres Conservation Crop Rotation – 10,284 acres Grassed Waterway – 59 acres Newspaper Article – 36,400 readers Brush Management – 633 acres Fact Sheet – 150 distributed Range Planting – 14,972 acres Field Border – 41,297 acres Wildlife - Upland Area Mgmt – 9,868 acres Pipeline – 12,511 linear feet Spring Development – 2 TV News Story/Commercial – 10,000 reached Conference – 95 attendee's Survey – 141 participants Prescribed Burning – 93 acres Fence – 9,470 acres News Story – 127,580 readers Clean Water Pledges – 67	KSU	2004-0020



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Project Title	Project Sponsor	NPS Project #
Contour Farming – 3,136 Cover/Green Manure Crop – 12,962 Crop Residue Use – 724 Contour Buffer Strips – 27 Farm & Feedlot Windbreak – 10,673 Fire Break – 2,275 Forage Harvest Management – 90 Grazing—Prescribed – 5,432 Well-General – 2 Habitat Restoration – 19,095 Wildlife – Watering – 13		
Kanopolis Watershed Assessment, Part 3 Presentation – 60 attendee's Modeling – 1	KSU	2001-0003
Kansas Agricultural Network Radio Programming Coordination for Water Quality Publication – 107 delivered Exhibit/Poster – 22,980 reached Radio Talk Show / Ads – 400,000 reached	Kansas Ag Network	2002-0011
Kansas Alliance for Wetlands and Streams (KAWS) Part 4 Streambank and Shoreline Protection – 8,930 linear feet Filter Strips – 20 acres Fencing – 45,760 linear feet Wetlands Restored – 335 acres Riparian Forest Buffer – 297 acres Watering Facility – 10 Workshop Held – 887 attendee's Tour held – 183 attendee's Publication – 6,943 delivered One-on-One Contacts – 1,491 Newsletters – 1,252 readers Exhibit/Poster – 310 reached Meeting – 807 attendee's	KAWS	2003-0012
Kansas Alliance for Wetlands and Streams (KAWS) Part 5 Streambank and Shoreline Protection – 8,930 linear feet Filter Strips – 20 acres Fencing – 45,760 linear feet Wetlands Restored – 335 acres Riparian Forest Buffer – 297 acres Watering Facility – 10 Workshop Held – 887 attendee's Tour held – 183 attendee's Publication – 6,943 delivered One-on-One Contacts – 1,491 Meeting – 807 attendee's	KAWS	2005-0071

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Project Title	Project Sponsor	NPS Project #
Kansas Buffer Partnership for Clean Water - Part 2 Filter Strips – 1,406 acres Wetlands Restored – 45 acres Publication – 895 delivered Soil samples collected – 442 Press Release – 79 Newsletters – 57 Livestock Exclusion – 8,256 acres Conservation Crop Rotation – 3,810 acres	State Conservation Commission	2003-0032
Kansas River Valley Information and Education Tour held – 221 attendee's Presentation – 303 attendee's Publication – 565 delivered One-on-One Contacts – 70 Press Release – 20 Newsletters – 2,250 readers Exhibit/Poster – 4,000 reached Meeting – 333 attendee's	Friends of the Kaw	2004-0022
Kansas Rural Center: River Friendly Farms--State WRAPS Focus Filter Strips – 2 acres Fencing – 817 linear feet	Kansas Rural Center	2003-0018
Kansas Rural Center: River Friendly Farms--State WRAPS Focus Exhibit/Poster – 185 reached News Story – 4,200 readers	Kansas Rural Center	2004-0010
Kansas StreamLink Watershed Stewards Workshop Held – 105 attendee's Publication – 50 delivered Water Festival – 1,600 attendee's Water samples collected – 262 One-on-One Contacts – 6 Stream Clean Up – 1 event Press Release – 60 Newsletters – 978 readers Meeting – 15 attendee's Conference – 120 attendee's	KVHA	2003-0027
Kansas Water Quality Initiative-Environmental Assessment & Critical Areas Identification, Part 4 No data to report	KSU	2005-0061
KERP (04 Funding) Workshop Held – 432 attendee's Publication – 2,063 delivered Press Release – 500 reached Newsletters – 580 readers Exhibit/Poster – 5,335 reached Radio Talk Show / Ads – 1500 reached CD Rom – 300 delivered Volunteer Training – 19 Television Talk Show – 500 reached	KSU	2004-0016



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Project Title	Project Sponsor	NPS Project #
KS WRAPS (06) Spring River Watershed Development Meeting – 10 attendee's	See-Kan RC&D	2006-0060
KS WRAPS (06)-Oologah Lake/Lower Verdigris Channel & Riparian Area Assessment One-on-One Contacts – 6 Meeting – 45 attendee's	KSU	2005-0077
KS WRAPS--Oologah Lake Watershed Stakeholder Leadership Team Development and Assessment Support Meeting – 20 attendee's Fact Sheet – 20 distributed	KSU	2006-0059
KS WRAPS Pomona Reservoir Watershed Assessment Filter Strips – 31 acres Workshop Held – 200 attendee's	Lake Region RC&D	2006-0058
Little Arkansas Watershed WRAPS Pesticide Mgmt Plan – 3,847 acres Workshop Held – 356 attendee's Tour held – 350 attendee's Publication – 50 delivered One-on-One Contacts – 141 Newsletters – 4,235 readers Meeting – 54 attendee's Sign – 256 contacted Atrazine Management Practices – 9,675 acres	KSU	2003-0036
KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks) Well Decommissioning – 1 Nutrient Management – 572 acres Onsite WWTS – 3 systems Workshop Held – 79 attendee's One-on-One Contacts – 99 Newsletters – 4,627 readers	Shawnee Co. Conservation District	2005-0070
Lake Olathe WRAPS Implementation Press Release – 100 Newsletter Article – 100,000 reached Meeting – 60 attendee's	City of Olathe	2005-0075
Lin-Lea Farms Livestock Project. No project data to report	Linn County Conservation District	2004-0024
KS WRAPS: Little Arkansas River WRAPS Implementation No Data to report	KSU	2005-0086
Livestock Waste Management Rainfall Simulator Tour held – 6,133 attendee's Exhibit/Poster – 725 reached Meeting – 19 attendee's	KSU	2003-0028
Locally Led Core Conservation Watershed Project, Part 3 No project data to report	No-Till on the Plains, Inc.	KS-001

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Project Title	Project Sponsor	NPS Project #
<p>Manchester Park Stream Restoration Streambank and Shoreline Protection – 180 linear feet Press Release- 1 Grade Stabilization Structure – 2</p>	City of Lenexa	2003-0024
<p>Marais des Cygnes Basin WRAPS Implementation I&amp;E Tour held – 73 attendee's Presentation – 20 attendee's Publication – 1,692 delivered One-on-One Contacts – 34 Press Release – 4,011 reached Newsletters – 14,000 readers Exhibit/Poster – 2,335 reached Meeting – 378 attendee's Radio Talk Show / Ads – 300 reached</p>	Lake Region RC&D	2003-0007
<p>Marais des Cygnes Basin WRAPS Implementation I&amp;E, Part 2 Storm Drain Stenciling – 21 Stream Clean Up – 130 events Press Release – 1,000 Trash and Litter Control – 150 acres News Story – 30 readers</p>	Lake Region RC&D	2005-0072
<p>Marais des Cygnes Basin WRAPs Implementation Riparian Forestry Part 2 Streambank and Shoreline Protection – 10,950 linear feet Riparian Forest Buffer – 129 acres Workshop Held – 105 attendee's Tour held – 252 attendee's Publication – 413 delivered One-on-One Contacts – 25 Press Release – 11,200 reached Exhibit/Poster – 2,160 reached Meeting – 103 attendee's</p>	Lake Region RC&D	2003-0006
<p>Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3 Riparian Forest Buffer – 2 acres Publication – 1500 delivered One-on-One Contacts – 17 Press Release – 5 Exhibit/Poster – 203 reached Meeting – 26 attendee's Riparian Forest Improvement – 16 acres</p>	Lake Region RC&D	2004-0001



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Project Title	Project Sponsor	NPS Project #
<b>Marais des Cygnes Hillsdale WRAPS Implementation</b> Water Festival – 60 attendee's Water samples collected – 37 Stream Clean Up – 1 event Newsletter Article – 2,500 readers Develop Website – 1	Hillsdale Water Quality Project, Inc.	2005-0065
<b>Marais des Cygnes WRAPS-Implementation Livestock</b> No project data to report	Franklin Co. Conservation District	2005-0074
<b>Marion WRAPS Implementation Part 3</b> Ponds – 2 Terraces – 30,266 linear feet Pasture / Hay Planting – 89 acres Onsite WWTS (# Installed/repared) – 2 Tour held – 2 attendee's Publication – 913 delivered Soil samples collected – 26 Press Release – 15,000 reached Exhibit/Poster – 7,200 reached Meeting – 573 attendee's Grazing Planned Systems – 516 acres	Marion Co. Conservation District	2003-0014
<b>Marion WRAPS Implementation, Part 4</b> Stream Clean Ups – 1 event Volunteer Training – 1 Training Grade Stabilization Structure – 1 Structure Diversion – 1 Watershed Management Plan – 1 No-Till Drill – 5 acres Pesticide Mgmt Plan – 8 acres Sign – 22 contacted Newspaper Article – 40 readers News Story – 48 readers Ponds – 71 constructed Runoff Mgmt System – 246 acres Conservation Tillage – 269 acres Atrazine Management Practices – 1,182 acres Conservation Crop Rotation – 7,901 acres Filter Strips – 9,550 acres Television Talk Show – 25,425 citizens reached Newsletter Article – 60,000 readers Livestock Exclusion – 175,000 acres	Marion Co. Conservation District	2004-0005
<b>Melvern WRAPS Implementation Part 5</b> Fencing – 3,366 linear feet Grazing Planned Systems – 960 acres Water Festival – 354 attendee's Tour/Meeting/Workshop/One on One – 372 contacts Streambank and Shoreline Protection – 200 linear feet	Lake Region RC&D	2003-0010

# FFY 2006 Annual Report of Progress

Project Title	Project Sponsor	NPS Project #
Educational Water Samples – 105 participants Runoff Mgmt System – 80 acres Filter Strips – 30 acres Pasture / Hay Planting – 28 acres Livestock Exclusion – 10 acres Brush Management – 10 acres Stream Assessment – 6 miles Watering Facility – 1 installed Ponds – 1 constructed		
Melvern WRAPS Implementation Part 6 Field Border – 11 acres Conservation Crop Rotation – 15 acres Livestock Exclusion – 68 acres Filter Strips – 100 acres TV Advertisement – 198 citizens reached Newsletter Article – 768 readers	Lake Region RC&D	2005-0066
Metropolitan Kansas City Water Quality Initiative Workshop Held – 157 attendee's Publication – 117,588 delivered Water Festival – 1,550 attendee's Newsletters – 480,000 readers Exhibit/Poster – 3,002,750 reached Meeting – 49 attendee's Radio Talk Show / Ads – 423,000 reached	MARC	2004-0006
Mid America Agriculture Network Radio Programming Coordination for Water Quality Exhibit/Poster – 435 reached Radio Talk Show / Ads – 198 reached	Mid-America Ag Network	2002-0012
Middle Kansas River WRAPS Development Publication – 33 delivered One-on-One Contacts – 40 Meeting – 8 attendee's	KAWS	2005-0073
Milford Lake Watershed WRAPS Development Tour held – 80 attendee's One-on-One Contacts – 25 Meeting – 74 attendee's Fact Sheet – 99 distributed	KSU	2004-0021
Milford Lake Watershed WRAPS Assessment No data to report	KSU	2004-0027
Mission Hills Urban Stream WRAPS Project No data to report	City of Mission Hills	
Neosho Basin WRAPS Development Publication – 610 delivered One-on-One Contacts – 40 Meeting – 286 attendee's	KSU	2003-0037
Neosho River Basin WRAPS Assessment No data to report	KSU	2004-0029
No-Till Farming to Protect Ground and Surface Water No project data to report	KSU	2K1-038



# FFY 2006 Annual Report of Progress

Project Title	Project Sponsor	NPS Project #
No-Till Farming to Protect Ground and Surface Water Soil samples collected – 176	KSU	2001-0004
On-site Wastewater Treatment and Household Water Supply Technical Services Workshop Held – 85 attendee's Presentation – 125 attendee's Publication – 2,300 delivered One-on-One Contacts – 53 Newsletters – 159 readers Exhibit/Poster – 89 reached Meeting – 59 attendee's Fact Sheet – 2,350 distributed Conference – 153 attendee's News Story – 555 readers	KSU	2005-0063
Performance Evaluation of Wetland in NE Kansas Part 4 Water samples collected – 19	KSU	2001-0001
Pollution Trading Workshop Held – 80 attendee's Publication – 80 delivered Water samples collected – 1 Meeting – 24 attendee's Conference – 80 attendee's Survey – 80 participants CD Rom - 240	KSU	2004-0017
Prairie Dog Creek Keith Sebelius Lake WRAPS Development Tour held – 38 attendee's Presentation – 111 attendee's Publication – 693 delivered Press Release – 2 Newsletter – 2,073 readers Exhibit/Poster – 100 Meeting – 98 attendee's Radio Talk Show / Ads – 16,500 reached	Norton Co. Conservation District	2006-0052
PRIDE Initiated Community WQA project Letter – 1,100 sent News Story – 14,500 readers	KSU	2004-0013
Radio Programming for water quality Radio Talk Show / Ads – 6,500 reached	KFRM Radio	2003-0016
Ron Dunbar Riparian Protection Project No data to report	Franklin Co. Conservation District	2002-0014
Rush County Water Quality Project-Livestock Waste Management Fencing – 17,918 linear feet Critical Area Planting – 85 acres Livestock Poll. Control Plan – 900 animals Livestock Exclusion – 53 acres News Story – 1,800 readers	Rush Co. Conservation District	K3-003

# FFY 2006 Annual Report of Progress

Project Title	Project Sponsor	NPS Project #
<p>Russell County Rock Channel Livestock Crossing Demonstration</p> <p>Streambank and Shoreline Protection – 45 linear feet</p> <p>Tour held – 150 attendee's</p> <p>Publication – 7,550 delivered</p> <p>Water samples collected – 12</p> <p>Press Release – 4,416 reached</p> <p>Newsletters – 1300 readers</p> <p>Exhibit/Poster – 100 reached</p> <p>Meeting – 4 attendee's</p> <p>Exhibit/Poster – 100 reached</p> <p>Radio Talk Show / Ads – 73,600 reached</p> <p>Livestock Crossing – 1</p>	Russell Co Extension Office	2003-0039
<p>Seward Co Source Water Protection</p> <p>Workshop Held – 16 attendee's</p> <p>Presentation – 62 attendee's</p>	Seward Co Planning & Zoning	2003-0009
<p>Shawnee Mission Park Lake Protection</p> <p>No data to report</p>	Johnson Co. Park and Recreation	2003-0005
<p>Spring Creek-Lake Anthony/Smoots Creek TMDL Implementation</p> <p>No project data to report</p>	Harper Co. Health Department	K3-019
<p>Spring Hill Stormwater Management WRAPS</p> <p>No data to report</p>	City of Spring Hill	2003-0015
<p>State Conservation Commission WRAPS Support</p> <p>Onsite WWTS – 1</p> <p>Pesticide Mgmt Plan – 1,508 acres</p> <p>Workshop Held – 400 attendee's</p> <p>Tour held – 343 attendee's</p> <p>Presentation – 60 attendee's</p> <p>Water Festival – 3,739 attendee's</p> <p>One-on-One Contacts – 50</p> <p>Develop Website – 15,000 reached</p> <p>Conference – 400 attendee's</p> <p>No-Till Drill – 40 acres</p> <p>Atrazine Management Practices – 3,576 acres</p>	State Conservation Commission	2003-0004
<p>Stewart Creek Riparian Stabilization</p> <p>Ponds – construction – 1</p>	Sunflower Land Trust	K3-038
<p>Subsurface Drip Irrigation to Protect Shallow Groundwater Quality</p> <p>No project data to report</p>	KSU	2K1-037
<p>Subsurface Drip Irrigation to Protect Shallow Groundwater Quality</p> <p>Soil samples collected – 176</p>	KSU	2001-0005
<p>TMDL Implementation Technical Assistance</p> <p>No Data to report</p>	KSU	2005-0083
<p>Tuttle Creek Lake Watershed WRAPS Development</p> <p>One-on-One Contacts – 25</p> <p>Exhibit/Poster – 100 reached</p> <p>Meeting – 256 attendee's</p>	KSU	2004-0019



# FFY 2006 Annual Report of Progress

Project Title	Project Sponsor	NPS Project #
Radio Talk Show / Ads – 1000 reached Fact Sheet – 354 delivered		
Tuttle Creek Lake Watershed WRAPS Assessment No data to report	KSU	2004-0030
Twin Lakes WRAPS - Part 2 Publication – 2,555 delivered Water Festival – 950 attendee's One-on-One Contacts – 22 Press Release – 10,500 reached Exhibit/Poster – 2,950 reached Meeting – 451 attendee's	Flint Hills RC&D	2003-0021
Twin Lakes Watershed Restoration and Protection Project-Part 3 Composted manure – 1 ton Modeling – 1 model Develop Website – 2 Workshop Held – 9 attendee's Brush Management – 19 acres Timber Stand Improvement – 20 acres Farm & Feedlot Windbreak – 30 acres Exhibit/Poster – 48 reached News Story – 120 readers Conservation Crop Rotation – 148 acres Fencing – 1,000 linear feet Atrazine Management Practices – 6,000 acres	Flint Hills RC&D	2004-0008
Upper Arkansas Basin WRAPS Development No project data to report	KSU	2005-0087
Upper Verdigris/Toronto Lake WRAPS Development Fact Sheet – 3 distributed	KSU	2006-0055
Upper Wakarusa WRAPS Implementation Fencing – 40 linear feet Riparian Forest Buffer – 40 acres Well Decommissioning – 1 Livestock Poll. Control Plan – 40 animal units Workshop Held – 60 attendee's Publication – 4,291 delivered One-on-One Contacts – 83 Press Release – 18 Newsletters – 7,982 readers Meeting – 90 attendee's Focus Group – 26 participants	KVHA	2003-0013
Upper Wakarusa WRAPS Implementation Part 2 Fencing – 5,280 linear feet Well Decommissioning – 45 Watering Facility – 75 Pasture / Hay Planting – 25 acres Onsite WWTS – 1 Workshop Held – 540 attendee's Tour held – 373 attendee's Publication – 1,640 delivered	KVHA	2005-0067

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Project Title	Project Sponsor	NPS Project #
One-on-One Contacts – 57 Stream Clean Up – 120 events Newsletters – 14,373 readers Exhibit/Poster – 14,717 reached Meeting – 364 attendee's Tree Shrub Planting – 30 Radio Talk Show / Ads – 5,000 reached Sign – 15,250 contacted Prescribed Burning – 550 acres Windbreak Renovation - 115 acres Trash and Litter Control – 30 acres News Story – 22,000 reached		
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 2 No data to report	KSU	2003-0008
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 3 No data to report	KSU	2004-0012
Waconda Reservoir WRAPS Development Presentation – 46 Publication – 50 delivered One-on-One Contacts – 106 Newsletter – 180 readers	Solomon Valley RC&D	2006-0057
Waste Management Water Quality Protection Learning Center, Part 3 Tour held – 231 attendee's Meeting – 13 attendee's Composting Facility – 1 Composted manure – 650 tons	KSU	2002-0006
Water Quality Improvement Through Service Learning Workshop Held – 38 attendee's Presentation – 25 attendee's Publication – 100 delivered One-on-One Contacts – 94 Exhibit/Poster – 435 attendee's Meeting – 36 attendee's	KSU	2003-0033
Water Quality Improvement Through Service Learning Part 2 Workshop Held – 22 attendee's Publication – 195 delivered One-on-One Contacts – 35 Exhibit/Poster – 35 reached Meeting – 74 attendee's News Story – 40,000 readers	KSU	2005-0078
Water Quality Protection Model Demonstration Project for Public Educational Entities No project data to report	Fort Scott Community College	K2-042



# FFY 2006 Annual Report of Progress

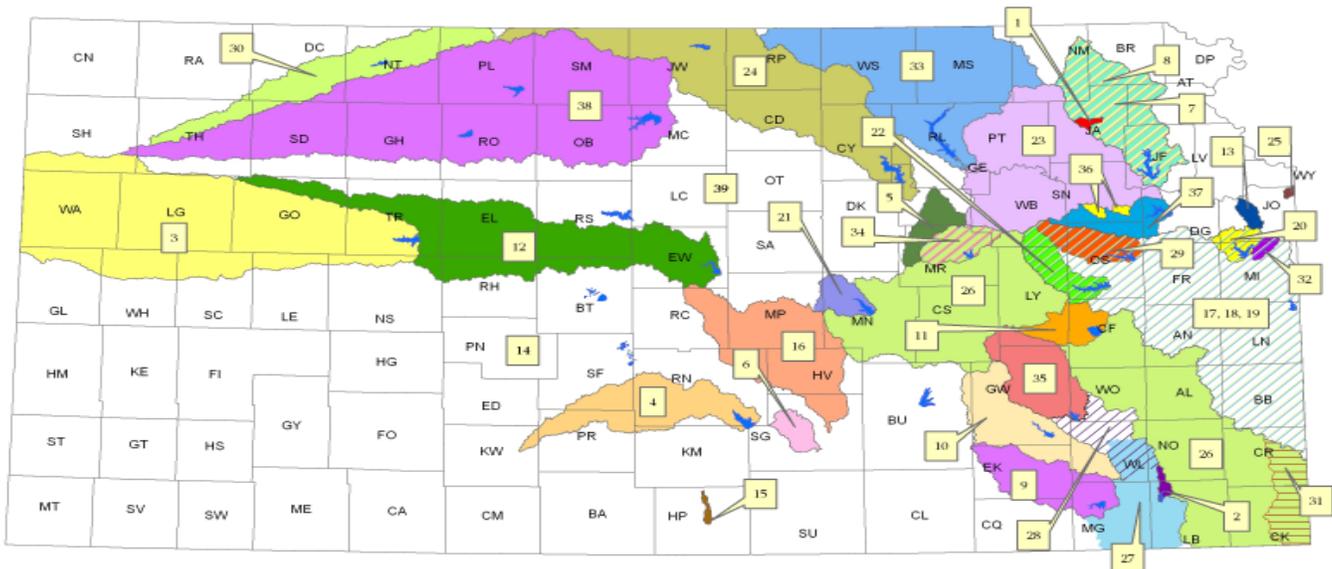
Project Title	Project Sponsor	NPS Project #
<b>Water Quality Protection Model Demonstration Project for Public Educational Entities</b> Filter Strips – 3 acres Critical Area Planting – 5 acres Livestock Poll. Control Plan – 50 animals Composting Facility – 1 Livestock Exclusion – 7 acres News Story – 3,500 readers	Fort Scott Community College	2003-0034
<b>Water Quality Protection Model Demonstration Project for Public Educational Entities Part3</b> No project data to report	Fort Scott Community College	2004-0011
<b>WET in the City</b> Workshop Held – 367 attendee's Presentation – 2,994 attendee's Publication – 1,400 delivered Water Festival – 1,100 attendee's Newsletters – 3,060 readers Exhibit/Poster – 4,460 reached	KACEE	2003-0035
<b>WRAPS Coordinator Support and Training – KACEE</b> Workshop Held – 69 attendee's Survey – 160 participants Focus Group – 26 attendee's	KACEE	2005-0079

## 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 thirty -nine 319 projects working to develop a WRAPS for a total of 40 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.

Kansas WRAPS Projects (as of November 2006)



## Project Key

- 1) Banner Creek WRAPS Implementation, Part 2 (04)  
Contact: Roberta Spencer  
Jackson County Conservation District  
785-364-4638
- 2) Big Hill Creek / Big Hill Lake WRAPS Development  
Contact: Robert Wilson  
Kansas State University  
785-532-7823
- 3) Cedar Bluff Lake WRAPS Development  
Contact: Jim Bennett  
Smoky Hills RC&D  
620-397-5751
- 4) Cheney Lake WRAPS Implementation (05)  
Contact: Lisa French  
Reno County Conservation District  
620-665-0231
- 5) Clark's Creek WRAPS Development (05)  
Contact: Katie Miller  
Flint Hills RC & D  
620-767-3187
- 6) Cowskin Creek Watershed WRAPS (04)  
Contact: James "Monty" Munyon  
Watershed Specialists L.L.C.  
316-945-4045
- 7) Delaware River WRAPS (04)  
Contact: Gary Satter  
Glacial Hills RC&D Inc  
785-945-6292
- 8) Delaware River WRAPS Support (04)  
Contact: Dennis Foster  
Northeast Kansas Environmental Services  
785-985-2778
- 9) Elk City Lake WRAPS Development  
Contact: Robert Wilson  
Kansas State University Extension  
785-532-7823
- 10) Fall River WRAPS (03)  
Contact: Michael Schmidt  
Flint Hills RC&D Council  
620-273-6321
- 11) John Redmond Lake / Neosho River WRAPS Development Eagle Creek WRAPS Implementation (05)  
Contact: Erin Vogts  
Coffey County Conservation District  
620-364-3149
- 12) Kanopolis Lake WRAPS Implementation - I&E, BMP, Technical Assistance, Water Quality Monitoring (04)  
Contact: Dan Devlin  
Kansas State University  
785-532-0393
- 13) Lake Olathe WRAPS Implementation (05)  
Contact: Carly Adams  
City of Olathe  
913-971-9099
- 14) Kansas Rural Center: River Friendly Farms - State WRAPS Focus, Part 2 (04)  
Contact: Mary Fund  
Kansas Rural Center  
785-873-3431
- 15) Lake Anthony WRAPS  
Contact: Roger Masenthin  
Sunflower RC&D  
785-840-0700
- 16) Little Arkansas Watershed WRAPS (03)  
Contact: Dan Devlin  
Kansas State University  
785-532-0393
- 17) Marais Des Cygnes Basin WRAPS Implementation: I&E, Part 2 (05)  
Contact: Timothy Sipe  
Lake Region RC&D  
785-733-2541
- 18) Marais Des Cygnes Basin WRAPS Implementation: Livestock Projects (05)  
Contact: Keri Harris  
Franklin County Conservation District  
785-242-1109
- 19) Marais Des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3 (04)  
Contact: Gale Garber  
Lake Region RC&D  
913-829-9414
- 20) Marais Des Cygnes Hillsdale WRAPS Implementation (05)  
Contact: Gale Garber  
Hillsdale Water Quality Project  
913-829-9414
- 21) Marion WRAPS Implementation, Part 4 (04)  
Contact: Peggy Blackman  
Marion County Conservation District  
620-382-3520
- 22) Melvern WRAPS Implementation, Part 6 (05)  
Contact: Paul Ingle  
Flint Hills RC&D  
785-640-2645
- 23) Middle Kansas River WRAPS Development (05)  
Contact: Tim Christian  
Kansas Alliance for Wetlands and Streams  
620-241-3636
- 24) Milford Lake Watershed WRAPS Development (04)  
Contact: John Leatherman  
Kansas State University  
785-532-4492
- 25) Mission Hills Urban Stream WRAPS Project (04)  
Contact: Courtney Christensen  
City of Mission Hills, Ks  
913-362-9620
- 26) Neosho Basin WRAPS Development (03)  
Contact: John Leatherman  
Kansas State University  
785-532-4492
- 27) Ologah Lake Watershed Stakeholder Leadership Team Development and Assessment Support  
Contact: Kyle Mankin  
Kansas State University  
785-532-2911
- 28) Ologah Lake / Lower Verdigris Channel & Riparian Area Assessment (05)  
Contact: Troy Krenzle  
See-Kan RC&D Project, Inc.  
620-431-6180
- 29) Pomona Reservoir Watershed WRAPS Assessment  
Contact: Lori Griffith  
Lake Region RC&D  
785-828-3458
- 30) Prairie Dog Creek / Keith Sebelius Lake WRAPS Development  
Contact: Twila Dizmang  
Norton County Conservation District  
785-877-2623
- 31) Spring River Watershed Development (06)  
Contact: Charlotte LaRue  
See-Kan RC&D Project, Inc.  
620-431-6180
- 32) Spring Hill Stormwater Management WRAPS (03)  
Contact: Rory Hale  
City of Spring Hill  
913-592-3664
- 33) Tuttle Creek Lake Watershed WRAPS Development (04)  
Contact: John Leatherman  
Kansas State University  
785-532-4492
- 34) Twin Lakes WRAPS, Part 3 (04)  
Contact: Katie Miller  
Flint Hills RC&D  
620-767-5111
- 35) Upper Verdigris / Toronto Lake WRAPS Development  
Contact: Robert Wilson  
Kansas State University  
785-532-7823
- 36) UpperWakarusaWRAPS Implementation (Six Mile and Lynn Creeks) (05)  
Contact: Judy Boltman  
Shawnee Co. Conservation District  
785-267-5721
- 37) Upper Wakarusa WRAPS Implementation, Part 2 (05)  
Contact: Aimee Polson  
Kaw Valley Heritage Alliance  
785-840-0700
- 38) Waconda Reservoir WRAPS Development  
Contact: Darla Juhl  
Solomon Valley RC&D Area, Inc.  
785-425-6647
- 39) WRAPS Coordinator Support and Training (05)  
Contact: Melissa Arthur  
KACEE  
785-597-5452



## 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 KELP
- 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.

### 2006 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 48 new NPS projects for funding this year. This addition brings the total number of active projects to 119. 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 48 new section 319 projects for July 1, 2005 - September 30, 2006.

- Banner Creek WRAPS Implementation Part 2
- Delaware River WRAPS
- Manchester Park Stream Restoration Part 2
- Marion WRAPS Implementation, Part 4
- Mission Hills Urban Stream WRAPS Project
- Twin Lakes Watershed Restoration and Protection Project- Part 3
- Water Quality Protection Model Demonstration Project for Public Educational Entities Part 3
- Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 3
- PRIDE Initiated Community Water Quality Action Plans
- Abatement of Fecal Coliform Bacteria, Part 5B
- Implementing Riparian Forestry for Abatement of Fecal Coliform
- KELP (04 Funding)
- Pollution Trading
- Darbyshire Farms Livestock Relocation Project

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Kanopolis Lake WRAPS Implementation - I&E, BMP Technical Assistance, Water Quality Monitoring  
Metropolitan Kansas City Water Quality Initiative  
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency- Part 3  
Kansas Rural Center: River Friendly Farms- State WRAPS Focus-Part 2  
Tuttle Creek Lake Watershed WRAPS Development  
Milford Lake Watershed WRAPS Development  
Kansas River Valley Information and Education  
Cowskin Creek Watershed WRAPS  
Upper Wakarusa WRAPS Implementation Part 2  
Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3  
Lin-Lea Farms Livestock Project  
Delaware River WRAPS Support - NEKES  
Marais des Cygnes Hillsdale WRAPS Implementation  
Dickinson County Water Education Project  
E.A.R.T.H. Program, Part 2  
Melvern WRAPS Implementation Part 6  
John Redmond Lake - Neosho River WRAPS Development - Eagle Creek WRAPS Implementation  
Cheney KS-WRAPS Implementation  
KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)  
Prairie Dog Creek Keith Sebelius Lake WRAPS Development  
Bill Hill Creek/Big Hill Lake WRAPS Development  
Elk City Lake WRAPS Development  
Upper Verdigris/Toronto Lake WRAPS Development  
Russell County Rock Channel Livestock Crossing Demonstration  
Lake Olathe WRAPS Implementation  
Clark's Creek WRAPS Development  
KS WRAPS (06) - Oologah Lake/Lower Verdigris Channel Riparian Area Assessment  
KS WRAPS - Oologah Lake Watershed Stakeholder Leadership Team Development and Assessment Support  
KS WRAPS - Spring River Watershed Development  
Water Quality Improvement Through Service Learning, Part 2  
WRAPS Coordinator Support and Training - KACEE  
Kansas Ag Network Radio Programming Coordination for Water Quality Part 2 (FFY '05)  
Mid America Agriculture Network Radio Programming Coordination for Water Quality Part 2 (Ffy '05)  
Water Quality Buffer Partnership - Part 3

**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



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increase the number of leaders with water quality intelligence from various backgrounds statewide. This year, there were 22 new graduates from KELP (Class 7, 2006). This class brings the total number of graduates up to 155, which exceeds the initial goal of 100 graduates.

### KELP Graduates

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

### 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 August, 2007.

### 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. KDHE Watershed Management Section staff managed approximately 100 active projects. GRTS reports were completed for 23 projects (including semi-annual and final performance

reports). Approximately 60 projects are behind in GRTS reports, many due to overdue project status reports.

In addition, load reduction estimates for nitrogen, phosphorous, and sediment were entered into GRTS for projects initiated in 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.

As part of the continuing process with GRTS, a KDHE 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.

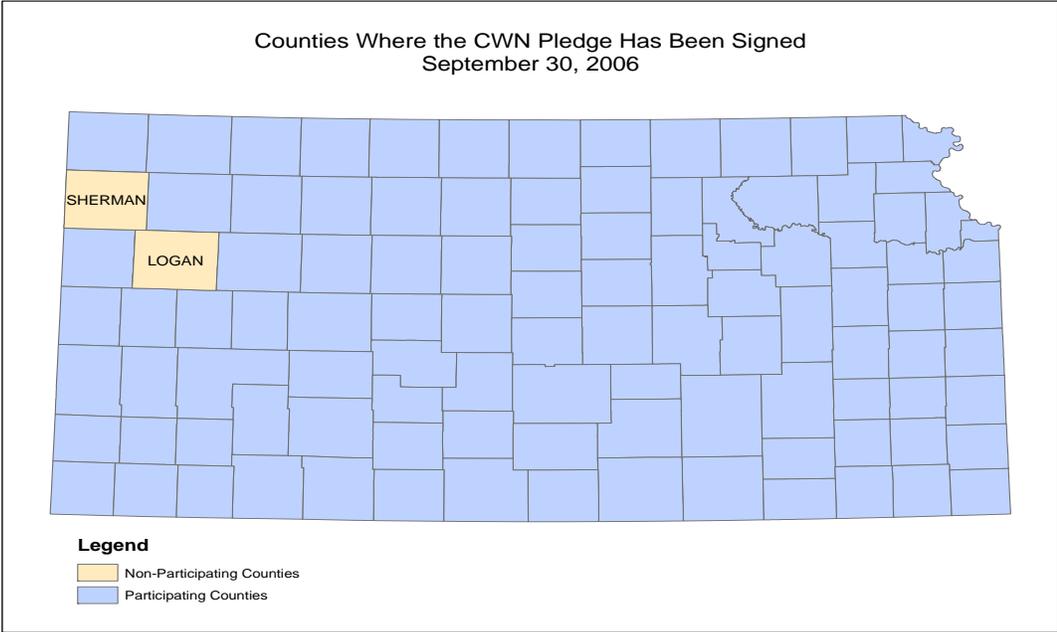
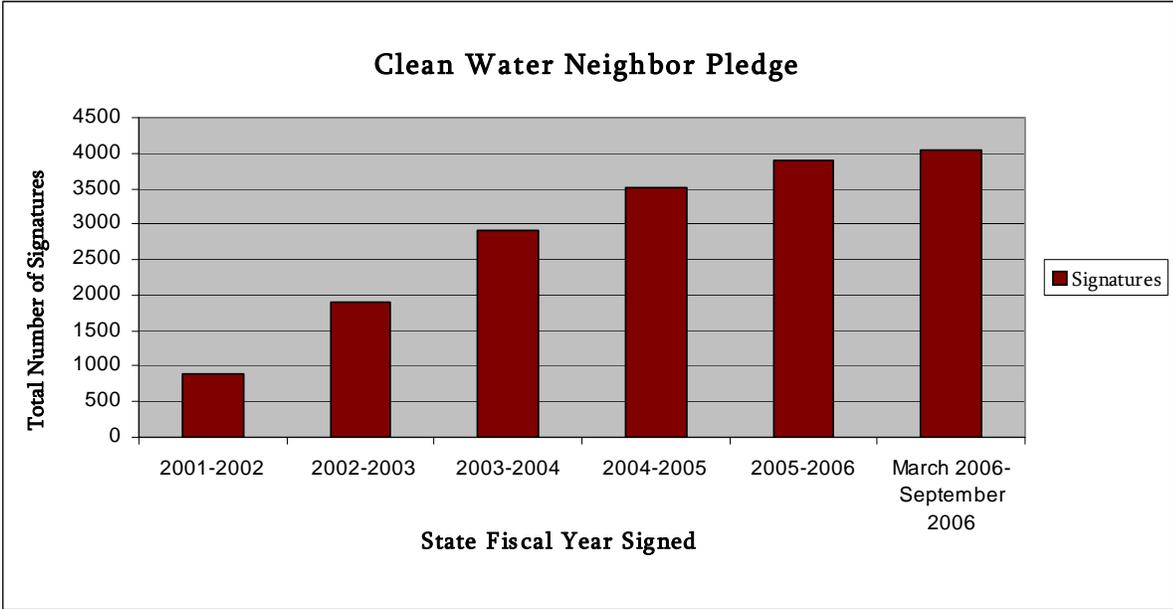
The change is being made to Oracle to place all of the EPA operating database programs on one language. A Kansas representative was selected to be on the steering committee to provide guidance to the EPA during the conversion and to provide testing of the new system as it is developed.

### **Establishing and using an Advisory Committee:**

Meet as needed on a project specific basis in addition to every quarter after the Watershed Management Seminar. Activity Accomplishments: Advisory Committee Members participated in Regional Meetings on October 20, 2005 in Garden City, Kansas, the Annual WRAPS Conference on January 26, 2006 in Salina, May 4, 2006 in Hays, Kansas and September 7, 2006 in Fort Scott, Kansas.

### **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. On page 32 is a chart showing the total number of signatures obtained for the Clean Water Neighbor Pledge from November 2001 to September 2006. By September 2006, the Watershed Management Section had obtained over 4,000 signatures of the CWN pledge. Below the chart is a map showing the counties we have obtained CWN pledges in.



## 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. This project is being extended until the Spring of 2008. Prior to the grant, Kansas hosted water celebrations in 16 counties out of a total of 105. Currently, 60 counties are being served by water celebrations. Over 50% of the state is served by a celebration.

Activity Accomplishments: Not all counties are currently provided access to an annual Water Festival, however, the number of counties is growing every year. The following Kansas counties to date have access to a Water Festival:

Allen	Douglas	Jackson	Montgomery	Sedgwick
Atchison	Elk	Jefferson	Morris	Shawnee
Barton	Ellis	Johnson	Norton	Sheridan
Butler	Ellsworth	Kearny	Osage	Sherman
Chase	Finney	Kingman	Osborne	Smith
Cheyenne	Franklin	Leavenworth	Phillips	Thomas
Clay	Geary	Logan	Rawlins	Trego
Coffey	Gove	Lyon	Reno	Wabaunsee
Cowley	Graham	Marion	Riley	Wallace
Crawford	Gray	Marshall	Rooks	Wilson
Decatur	Greenwood	McPherson	Russell	Woodson
Dickinson	Harvey	Miami	Saline	Wyandotte

## 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.

The KCW is continuously updated and maintained. Below is a list of activities occurring during the reporting period.

Project Officers were allowed to manually set project start and end dates.

Affidavits were programmed to reject equipment expenditures less than \$2,000.

“Other” question fields were modified to allow rich text, which increased format options.

External Reviewers were allowed to view both submitted proposals and PIPs.



# FFY 2006 Annual Report of Progress

We added the ability for Watershed Field Coordinators to be notified when Affidavits are submitted.

Payment page was modified to allow reprocessing of Affidavits.

The BMP reporting format was modified to include locational and funding information.

A new view was created to sort projects by name.

A public water supply information field was added to the Proposal Scope section.

A print preview option was added to Affidavits, Quarterly Reports, Amendments, and Final Reports.

State fiscal year information was added to the Financial Page.

Kalechi Design staff attended the Kansas WRAPS Conference to provide user support and training.

Additional categories were added to the Proposal Estimated Budget.

2/17/2006 Posted Workshop Announcement on Watershed Management Section Home Page

2/28/2006 Added new Watershed Management Section Staff member to home page

3/16/2006 Edited Watershed Management Section Staff member information

3/23/2006 Removed Workshop Announcement

4/18/2006 Updated Local Environmental Protection Program (LEPP) Contacts

5/08/2006 Updated LEPP Contacts

5/09/2006 Updated List of Certified Septic Tank Manufacturers

5/17/2006 Created County Sanitary Code Website

5/18/2006 Updated LEPP Contacts

5/25/2006 Added LEPP SFY 07 Grant Conditions

6/06/2006 Updated LEPP Contacts

7/05/2006 Updated LEPP Contacts

7/07/2006 Added County Sanitary Codes

7/11/2006 Updated 319 Grant Conditions on Watershed Management Section Home Page

7/27/2006 Updated LEPP Contacts

8/18/2006 Edited Watershed Management Section Staff Member Section

8/25/2006 Added WRAPS Conference Announcement Information

8/28/2006 Added County Sanitary Codes

8/28/2006 Added Links to other Organization Websites

8/31/2006 Edited Watershed Management Section Home Page

9/14/2006 Updated LEPP Contacts

9/26/2006 Edited Watershed Management Section Home Page

9/27/2006 Updated LEPP Contacts

## Maintain and enhance the Kansas Local Environmental Protection Program

### Activity Accomplishments:

KDHE reviews and approves local codes adopted under Kansas Local Environmental Protection program to assure consistency with minimum state requirements. Local codes establish administrative procedures and standards for on-site wastewater treatment systems, private drinking water supply protection, etc. During the reporting period, KDHE Topeka Office staff: 1) provided technical assistance on local codes and state minimum standards upon request; 2) reviewed and commented on proposed revisions to eight local codes; and 3) approved revisions to two local code.

## 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**

115,394 linear feet of streambank was protected last year.

These feet of shoreline protection reduced approximately 7,356 tons of sediment, 7,356 lbs of phosphorous, and 14,713 lbs of nitrogen.

### 319 Projects contributing to figures:

Melvorn WRAPS Implementation Part 5  
Manchester Park Stream Restoration  
Kansas Alliance for Wetlands and Streams (KAWS) Part 5  
Russell County Rock Channel Livestock Crossing Demonstration  
Kansas Alliance for Wetlands and Streams (KAWS) Part 4  
Marais des Cygnes Basin WRAPs Implementation Riparian Forestry Part 2  
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**

Last year 1,561 acres of filters strips were installed.



These acres of filter strips reduced approximately 1,292 tons of sediment, 1,869 lbs of phosphorous, and 12,613 lbs of nitrogen.

### 319 Projects contributing to figures:

- Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Manchester Park Stream Restoration Part 2
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- Kansas Buffer Partnership for Clean Water - Part 2
- Kansas Alliance for Wetlands and Streams (KAWS) Part 4
- Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed
- Kansas Rural Center: River Friendly Farms—State WRAPS Focus
- Water Quality Protection Model Demonstration Project for Public Educational Entities

## **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**

There were 102,434 linear feet of fence installed as a result of KDHE funded projects such as:

Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)  
Banner Creek WRAPS Implementation Part 2  
Cheney WRAPS Implementation  
Cheney KS-WRAPS Implementation  
Upper Wakarusa WRAPS Implementation Part 2  
Kansas Alliance for Wetlands and Streams (KAWS) Part 5  
Upper Wakarusa WRAPS Implementation  
Kansas Alliance for Wetlands and Streams (KAWS) Part 4  
Judd Ranch Riparian Protection Project  
Kansas Rural Center: River Friendly Farms—State WRAPS Focus  
Rush County Water Quality Project-Livestock Waste Management



## **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**

7 tons of sediment is removed per year, 9 lbs of phosphorous, and 17 lbs of nitrogen per year. There were a total of 2 basins installed.

319 Project Contributing to figures:

Banner Creek WRAPS Implementation Part 2

## **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.



### **Achievements**

There were 9,827 acres of restored wetlands. 15 acres were restored by the Cheney WRAPS Implementation, 335 acres by the Kansas Alliance for Wetlands and Streams (KAWS) Part 4, 445 acres were restored by the Kansas Buffer Partnership for Clean Water, Part 2, and 9,032 by the Kansas Alliance for Wetlands and Streams (KAWS) Part 5 Project.

## **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 26 ponds constructed during the reporting period.

These ponds help to remove approximately 64 tons of sediment, 91 lbs of phosphorous, and 169 lbs of nitrogen each year.

#### 319 Project Contributing to figures:

- Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)
- Marion WRAPS Implementation, Part 4
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Banner Creek WRAPS Implementation Part 2
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- Marion WRAPS Implementation Part 3
- Stewart Creek Riparian Stabilization

## **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**

305 acres of vegetation were planted in critical areas.

#### 319 Project Contributing to figures:

Cheney WRAPS Implementation

Cheney KS-WRAPS Implementation

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

Fall River WRAPS

Rush County Water Quality Project-Livestock Waste Management

Water Quality Protection Model Demonstration Project for Public Educational Entities



## **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**

677 acres of Riparian Forest Buffers were installed.

These buffers remove approximately 627 tons of sediment per year, 887 lbs of phosphorous per year, and 1,246 lbs of nitrogen per year.

#### 319 Project Contributing to figures:

Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3

Implementing Riparian Forestry for Abatement of Fecal Coliform

Upper Wakarusa WRAPS Implementation

Kansas Alliance for Wetlands and Streams (KAWS) Part 4

Marais des Cygnes Basin WRAPS Implementation Riparian Forestry Part 2

Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed

## **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 79 well pluggings.



#### 319 Project Contributing to figures:

- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Banner Creek WRAPS Implementation Part 2
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Upper Wakarusa WRAPS Implementation Part 2
- KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)
- Upper Wakarusa WRAPS Implementation

## **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 11 projects that installed 119 alternative watering supplies for livestock.

#### 319 Project Contributing to figures:

- Melvern WRAPS Implementation Part 5 (FFY 03 Funding)
- Melvern WRAPS Implementation Part 6
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Banner Creek WRAPS Implementation
- Banner Creek WRAPS Implementation Part 2
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Cheney WRAPS Implementation
- Upper Wakarusa WRAPS Implementation Part 2
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- Kansas Alliance for Wetlands and Streams (KAWS) Part 4
- Judd Ranch Riparian Protection Project
- Marion WRAPS Implementation, Part 4

## 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 395,310 feet of terraces installed.

#### 319 Project Contributing to figures:

Marion WRAPS Implementation, Part 4

Banner Creek WRAPS Implementation Part 2

Cheney WRAPS Implementation

Cheney KS- WRAPS Implementation

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

Marion WRAPS Implementation Part 3

Elk River Lake WRAPS Development

The amount of terraces applied reduce approximately 58 tons of sediment per year, 122 lbs of phosphorous per year and 244 lbs of nitrogen per year.

## 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



### Achievements

174 acres of native or forage specie grasses were planted by four 319 projects.

These projects are:

Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)

Cheney WRAPS Implementation

Upper Wakarusa WRAPS Implementation Part 2

Marion WRAPS Implementation Part 3

The acres of pasture and hay planted reduce approximately 18 tons of sediment per year, 38 lbs of phosphorous per year and 76 lbs of nitrogen per year.



## **Composting Facility**

A composting facility (317) is defined as a facility to process raw manure or other raw organic by-products into biologically stable organic material.

### **Protection Purpose**

To reduce the pollution potential of organic agricultural wastes to surface and ground water.

### **Achievements**

KDHE sponsored the construction of 2 composting facilities.



### 319 Project Contributing to figures:

- Waste Management Water Quality Protection Learning Center, Part 3
- Water Quality Protection Model Demonstration Project for Public Educational Entities

## **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 9 projects that addressed Onsite Wastewater Treatment System issues. 35 septic systems were installed or repaired by these projects. The participating projects are:

- Marion WRAPS Implementation Part 3
- Marion WRAPS Implementation, Part 4
- Banner Creek WRAPS Implementation Part 2
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Cheney WRAPS Implementation
- Cheney KS-WRAPS Implementation
- State Conservation Commission WRAPS Support
- Upper Wakarusa WRAPS Implementation Part 2
- KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)

## **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 Management Plans.

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

### **Achievements**

Completed Livestock Pollution Control Plans for over 3,180 Head

Completed Nutrient Management Plans on 8,148 acres.

### **Projects contributing to figures:**

Banner Creek WRAPS Implementation Part 2  
Kanopolis Lake Watershed WRAPS Information & Education Project  
KS- WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)  
Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
Little Arkansas Watershed WRAPS  
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed  
State Conservation Commission WRAPS Support  
Upper Wakarusa WRAPS Implementation  
Elk River Lake WRAPS Development  
Rush County Water Quality Project-Livestock Waste Management  
Water Quality Protection Model Demonstration Project for Public Educational Entities

### **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**

30 trees and or shrubs were planted by the Upper Wakarusa WRAPS Implementation Part 2 project, and 4 were planted by the Implementing Riparian Forestry for Abatement of Fecal Coliform project.



## **Conservation Crop Rotation**

Conservation Crop Rotation (328) is defined as growing crops in a recurring sequence on the same field.

### **Protection Purpose**

- Reduce sheet and rill erosion, irrigation-induced erosion, and soil erosion.
- Maintain or improve soil organic matter content and soil tilth and reduce soil compaction.
- Manage plant nutrients.
- Improve water use efficiency.
- Manage saline seeps.
- Manage plant pests such as weeds, insects, and diseases.
- Provide food for domestic livestock.
- Provide food and cover for wildlife.

### **Achievements**

14,056 acres conservation crop rotation was practiced within the scope of two 319 projects. These projects are:  
 Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
 Kansas Buffer Partnership for Clean Water - Part 2

The acres in conservation crop rotation reduced approximately 1,352 tons of sediment, 2,916 lbs of phosphorous and 5,817 lbs of nitrogen.

## **Conservation Tillage**

Conservation Tillage (329) is defined as managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round, while limiting soil-disturbing activities to only those necessary to place nutrients, condition residue, and plant crops.

### **Protection Purpose**

- Reduce sheet and rill erosion and wind erosion.
- Improve soil organic matter content.
- Reduce CO<sub>2</sub> losses from the soil.
- Reduce soil particulate emissions.
- Increase plant-available moisture.
- Provide food and escape cover for wildlife.



### **Achievements**

207,644 acres conservation tillage was practiced within the scope of two 319 projects. These projects are:  
 Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
 Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed

Placing these acres in conservation tillage reduced approximately 13,901 tons of sediment, 31,896 lbs of phosphorous and 63,617 lbs of nitrogen.

## **Livestock Exclusion**

Livestock Exclusion (472) is defined as excluding animals from an area.

### **Purpose**

To prevent, restrict, or control access to an area to maintain or improve the quantity and quality of natural resources.

### **Achievements**

Livestock was excluded from 64,927 acres.

These acres of exclusion are estimated to have reduced approximately 5,297 tons of sediment, 11,927 lbs of phosphorus, and 23,789 lbs of nitrogen.



### **Projects contributing to figures:**

Melvern WRAPS Implementation Part 5  
Melvern WRAPS Implementation Part 6  
Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
Kansas Buffer Partnership for Clean Water - Part 2  
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed  
Rush County Water Quality Project-Livestock Waste Management  
Water Quality Protection Model Demonstration Project for Public Educational Entities

## **Grassed Waterway**

Grassed waterway (412) is defined as a natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.

### **Protection Purpose**

To convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding.

To reduce gully erosion.

To protect/improve water quality.

### **Achievements**

Grassed waterways were established on 9,465 acres.

Grassed waterways reduced approximately 982 tons of sediment, 2,108 lbs of phosphorus, and 4,205 lbs of nitrogen.

### **Projects contributing to figures:**

Marion WRAPS Implementation, Part 4  
Twin Lakes Watershed Restoration and Protection Project-Part 3  
Banner Creek WRAPS Implementation Part 2  
Cheney WRAPS Implementation  
Cheney KS-WRAPS Implementation  
Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed

## **Brush Management**

Brush management (314) is defined as the removal, reduction, or manipulation of non-herbaceous plants.

### **Protection Purpose**

- Restore natural plant community balance.
- Create the desired plant community.
- Reduce competition for space, moisture, and sunlight between desired and unwanted plants.
- Manage noxious woody plants.
- Restore desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality, and enhance stream flow.
- Maintain or enhance wildlife habitat including that associated with threatened and endangered species.
- Improve forage accessibility, quality, and quantity for livestock.
- Protect life and property from wildfire hazards.
- Improve visibility and access for handling livestock.



### **Achievements**

673 acres were placed in brush management.

These acres of brush management reduced approximately 56 tons of sediment, 123 lbs of phosphorus, and 246 lbs of nitrogen.

### **Projects contributing to figures:**

- Melvorn WRAPS Implementation Part 5
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

## **Grade Stabilization Structure**

Grade stabilization structures (410) are defined as structures used to control the grade and head cutting in natural or artificial channels.

### **Purpose**

To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advance of gullies, and to enhance environmental quality and reduce pollution hazards.

### **Achievements**

5 grade stabilization structures were put into place by four 319 projects.  
 These projects are:

- Marion WRAPS Implementation, Part 4
- Banner Creek WRAPS Implementation Part 2
- Manchester Park Stream Restoration
- Cheney WRAPS Implementation

## **Range Planting**

Range planting (550) is defined as the establishment of adapted perennial vegetation such as grasses, forbs, legumes, shrubs, and trees.

### **Protection Purpose**

Restore a plant community similar to its historic climax or the desired plant community.

Provide or improve forages for livestock.

Provide or improve forage, browse, or cover for wildlife.

Reduce erosion by wind and/or water.

Improve water quality and quantity.

Increase carbon sequestration.



### **Achievements**

15,043 acres were subject to range planting by two 319 projects.

These projects are:

Marion WRAPS Implementation, Part 4

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

These acres of range management reduced approximately 845 tons of sediment, 2,019 lbs of phosphorus, and 4,026 lbs of nitrogen.

## **Diversion**

A diversion (362) is defined as a channel constructed across the slope generally with a supporting ridge on the lower side.

### **Protection Purpose**

Break up concentrations of water on long slopes, on undulating land surfaces, and on land that is generally considered too flat or irregular for terracing.

Divert water away from farmsteads, agricultural waste systems, and other improvements.

Collect or direct water for waterspreading or waterharvesting systems.

Increase or decrease the drainage area above ponds.

Protect terrace systems by diverting water from the top terrace where topography, land use, or land ownership prevents terracing the land above.

Intercept surface and shallow subsurface flow.

Reduce runoff damages from upland runoff.

Reduce erosion and runoff on urban or developing areas and at construction or mining sites.

Divert water away from active gullies or critically eroding areas.

Supplement water management on conservation cropping or stripcropping systems.

### **Achievements**

Four diversions were constructed. One each through the following 319 Projects:

Marion WRAPS Implementation, Part 4

Banner Creek WRAPS Implementation Part 2

Cheney WRAPS Implementation

Cheney KS-WRAPS Implementation

## **Field Border**

Field border (386) is defined as a strip of permanent vegetation established at the edge or around the perimeter of a field.

### **Protection Purpose**

- Reduce erosion from wind and water.
- Soil and water quality protection.
- Management of harmful insect populations.
- Provide wildlife food and cover.



### **Achievements**

Field borders were planted in 41,446 acres.

These field borders reduced approximately 1,204 tons of sediment, 3,417 lbs of phosphorus, and 4,294 lbs of nitrogen.

### Projects contributing to figures:

- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

## **Upland Wildlife Habitat Management**

Upland wildlife habitat management (645) is defined as providing and managing upland habitats and connectivity within the landscape for wildlife.

### **Purpose**

Treating upland wildlife habitat concerns identified during the conservation planning process that enable movement, or provide shelter, cover, food in proper amounts, locations and times to sustain wild animals that inhabit uplands during a portion of their life cycle.

### **Achievements**

10,101 acres were placed in upland wildlife habitat management by two 319 Projects.

These projects are:

- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

## **Pipeline**

Pipeline (516) is defined as having an inside diameter of 8 inches or less.

### **Purpose**

To convey water from a source of supply to points of use for livestock, wildlife or recreation areas.



### **Achievements**

38,265 feet of pipeline was placed by seven 319 Projects.

These projects are:

Banner Creek WRAPS Implementation

Banner Creek WRAPS Implementation Part 2

Cheney WRAPS Implementation

Cheney KS-WRAPS Implementation

Kansas Alliance for Wetlands and Streams (KAWS) Part 5

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

Judd Ranch Riparian Protection Project

## **Spring Development**

Spring development (574) is defined as utilizing springs and seeps to provide water for a conservation need.

### **Purpose**

This practice may be applied as part of a resource management system to support one or more of the following purposes:

Improve the distribution of water.

Increase the quantity and quality of water for livestock, wildlife, or other uses.

Obtain water for irrigation if water is available in a suitable quantity and quality.

### **Achievements**

3 instances of spring development occurred within two 319 Projects.

These projects are:

Banner Creek WRAPS Implementation Part 2

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring



## **Prescribed Burning**

Prescribed burning (338) is defined as applying controlled fire to a predetermined area.

### **Protection Purpose**

- To control undesirable vegetation.
- To prepare sites for planting or seeding.
- To control plant disease.
- To reduce wildfire hazards.
- To improve wildlife habitat.
- To improve forage production quantity and/or quality.
- To remove slash and debris.
- To enhance seed and seedling production.
- To facilitate distribution of grazing and browsing animals.
- To restore and maintain ecological sites.



### **Achievements**

643 acres were subject to prescribed burning by two 319 Projects.

These projects are:

Upper Wakarusa WRAPS Implementation Part 2

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

## **Windbreak/Shelterbelt Renovation**

Windbreak or Shelterbelt renovation (650) is defined as replacing, releasing, and/or removing selected trees shrubs or rows within an existing windbreak or shelterbelt, adding rows to the windbreak or shelterbelt, or removing selected tree and shrub branches.

### **Purpose**

Restoring or enhancing the function of existing windbreaks or shelterbelts.

### **Achievements**

115 acres of windbreak/shelterbelt were renovated by the Upper Wakarusa WRAPS Implementation Part 2 project.



## **Contour Farming**

Contour farming (330) is defined as tillage, planting, and other farming operations performed on or near the contour of the field slope.

### **Protection Purpose**

To reduce sheet and rill erosion.

To reduce transport of sediment and other water-borne contaminants.



### **Achievements**

3,136 acres of contour farming were practiced within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

These acres of contour farming reduced approximately 195 tons of sediment, 452 lbs of phosphorus, and 901 lbs of nitrogen.

## **Cover Crop**

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

### **Protection Purpose**

To reduce erosion from wind and water.

To sequester carbon in plant biomass and soils to increase soil organic matter content.

To capture and recycle excess nutrients in the soil profile.

To promote biological nitrogen fixation.

To increase biodiversity.

To promote weed suppression.

To provide supplemental forage.

To promote soil moisture management.

To reduce particulate emissions into the atmosphere.



### **Achievements**

12,962 acres of cover crop was planted within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

These acres of cover crop reduced approximately 2,342 tons of sediment, 3,287 lbs of phosphorus, and 6,568 lbs of nitrogen.

## **Crop Residue Management**

Crop Residue Management (344) is defined as managing the amount, orientation, and distribution of crop and other plant residues on the soil surface during part of the year, while growing crops in a clean tilled seedbed.

### **Protection Purpose**

- To reduce sheet and rill erosion, and reduce erosion from wind.
- To reduce off-site transport of sediment, nutrients or pesticides.
- To manage snow to increase plant available moisture.
- To provide food and escape cover for wildlife.

### **Achievements**

724 acres of cover crop was planted within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

These acres of crop residue management reduced approximately 203 tons of sediment, 265 lbs of phosphorus, and 530 lbs of nitrogen.

## **Contour Buffer Strips**

Contour buffer strips (332) are defined as narrow strips of perennial, herbaceous vegetative cover established across the slope with wider cropped strips.

### **Protection Purpose**

- To reduce sheet and rill erosion.
- To reduce transport of sediment and other water-borne contaminants downslope, on-site or off-site.
- To enhance upland wildlife habitat.

### **Achievements**

27 acres of contour buffer strips were put into place within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

These acres of contour buffer strips reduced approximately 27 tons of sediment, 38 lbs of phosphorus, and 61 lbs of nitrogen.



## **Farm and Feedlot Windbreak**

Farm and Feedlot Windbreak (380) is defined as linear plantings of single or multiple rows of trees or shrubs or sets of linear plantings.

### **Protection Purpose**

- To reduce soil erosion from wind.
- To protect plants from wind related damage.
- To alter the microenvironment for enhancing plant growth.
- To manage snow deposition.
- To provide shelter for structures, livestock, and recreational areas.
- To enhance wildlife habitat by providing travel corridors.
- To provide a tree or shrub product.
- To provide living noise and visual screens.
- To provide living barriers against airborne chemical drift.
- To delineate property and field boundaries.
- To improve irrigation efficiency.
- To increase carbon storage.
- To enhance aesthetics.



### **Achievements**

10,673 feet of farm and feedlot windbreaks were put into place within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

## **Firebreak**

Firebreaks (394) are defined as a strip of bare land or vegetation that retards fire.

### **Protection Purpose**

- To prevent the spread of wildfire.
- To control prescribed burns.
- To protect woody plantings including conservation buffer practices.



### **Achievements**

2,275 feet of fire break lines were put into place within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

## **Forage Harvest Management**

Forage Harvest Management (511) is defined as the timely cutting and removal of forages from the field as hay, green-chop, or ensilage.

### **Protection Purpose**

- To optimize the economic yield of forage at the desired levels.
- To promote vigorous plant regrowth.
- To maintain stand life.
- To manage for the desired species composition.
- To use forage plant biomass as a soil nutrient uptake tool.
- To control insects, diseases, and weeds.
- To maintain and/or improve wildlife habitat.



### **Achievements**

90 acres of forage harvest management were practiced within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

## **Prescribed Grazing**

Prescribed grazing (528) is defined as managing the controlled harvest of vegetation with grazing animals.

### **Protection Purpose**

- To improve or maintain the health and vigor of plant communities.
- To improve or maintain quantity and quality of forage for livestock health and productivity.
- To improve or maintain water quality and quantity.
- To reduce accelerated soil erosion, and maintain or improve soil condition.
- To improve or maintain the quantity and quality of food and/or cover available for wildlife.
- To promote economic stability through grazing land sustainability.

### **Achievements**

6,392 acres of prescribed grazing were put into place within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.

These acres of prescribed grazing reduced approximately 123 tons of sediment, 249 lbs of phosphorus, and 498 lbs of nitrogen.



## **Water Well**

Water well (642) is defined as a hole drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer.

### **Protection Purpose**

To provide water for livestock, wildlife, irrigation, human, and other uses.

To provide for general water needs of farming/ranching operations.

To facilitate proper use of vegetation on rangeland, pastures, and wildlife areas.

### **Achievements**

2 wells were constructed within the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.



## **Restoration and Management of Rare or Declining Habitats**

The restoration and management of rare or declining habitats (643) is defined as restoring and managing rare and declining habitats and their associated wildlife species to conserve biodiversity.

### **Protection Purpose**

To provide habitat for rare and declining species.

### **Achievements**

9,465 acres of habitat restoration were put into place by the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.



## **Wildlife Watering Facility**

Wildlife watering facility (648) is defined as constructing, improving, or modifying watering places for wildlife.

### **Protection Purpose**

To provide drinking water for wildlife.

### **Achievements**

13 wildlife watering facilities were put into place by the Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring project.



## **Runoff Infiltration System**

This Conservation Practice Standard applies to the design and installation of infiltration systems and infiltration system components to provide for the collection and infiltration of snowmelt and storm runoff from roofs and other impervious surfaces.

### **Protection Purpose**

The purpose of an infiltration system is to collect and infiltrate runoff from impervious surfaces such as roofs, driveways and parking areas, while preventing erosion of the soil surface caused by runoff.

### **Achievements**

Runoff Infiltration Systems were installed improving 80 acres.

## **Timber Stand Improvement**

The manipulation of species composition, stand structure and stocking by cutting or killing selected trees and understory vegetation.

### **Purpose**

Increase the quantity and quality of forest products by manipulating stand density and structure.

Harvest forest products.

Initiate forest stand regeneration.

Reduce wildfire hazard.

Improve forest health reducing the potential of damage from pests and moisture stress.

Restore natural plant communities.

Achieve or maintain a desired native understory plant community for special forest producing grazing, and browsing.

Improve aesthetic and recreation, values.

Improve wildlife habitat.

Alter water yield.

Increase carbon storage in selected trees.

### **Achievements**

Timber Stand Improvements were made to 180 acres via the Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3 project.

## **Pest Management**

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

### **PURPOSES**

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

Enhance quantity and quality of commodities.

Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

### **Accomplishments**

37,661 acres had a pesticide management plan created. Projects contributing to these factors include Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring, Little Arkansas Watershed WRAPS, and the State Conservation Commission WRAPS Support project.

## **Information & Education Projects**

Information & Education Events, Information & Education Publications, Water Festivals, Information & Education Advertising, and Storm Drain Stenciling Projects, and One-on-One Contacts.

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.

The Watershed Management Section has sponsored several projects hosting or attending Information & Education Events. It is estimated that participating projects informed over 38,935 individuals on various non-point source pollution related topics.



## **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, clean-up events, educational presentations/training, or conferences.

Provide information to the audience on the designated topic.

Answer questions.

Inform the audience of additional resources.

## **Achievements**

Watershed Management Section has sponsored several projects hosting or attending Information & Education Events. It is estimated that participating projects informed over 38,935 individuals on various non-point source pollution related topics.

### Projects contributing to figures:

Abatement of Fecal Coliform Bacteria, Part 5B

Banner Creek WRAPS Implementation

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

Cheney KS- WRAPS Implementation

Cheney WRAPS Implementation

Dickinson Co. Water Education Project

E.A.R.T.H. Program

E.A.R.T.H. Program, Part 2

Elk River Lake WRAPS Development

Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed

Kanopolis Lake Watershed WRAPS Information & Education Project

Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring

Kansas Alliance for Wetlands and Streams (KAWS) Part 4

Kansas Alliance for Wetlands and Streams (KAWS) Part 5

Kansas Organics for Water Quality Protection, Part 2

Kansas StreamLink Watershed Stewards

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KELP (04 Funding)  
KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)  
Little Arkansas Watershed WRAPS  
Marais des Cygnes Basin WRAPS Implementation Riparian Forestry Part 2  
Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3  
Marion WRAPS Implementation, Part 4  
Melvern WRAPS Implementation Part 5 (FFY 03 Funding)  
Melvern WRAPS Implementation Part 6  
Metropolitan Kansas City Water Quality Initiative  
On-site Wastewater Treatment and Household Water Supply Technical Services  
Pollution Trading  
Seward Co Source Water Protection  
State Conservation Commission WRAPS Support  
Upper Wakarusa WRAPS Implementation  
Upper Wakarusa WRAPS Implementation Part 2  
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 2  
Water Quality Improvement Through Service Learning  
Water Quality Improvement Through Service Learning Part 2  
WET in the City  
WRAPS Coordinator Support and Training - KACEE  
Abatement of Fecal Coliform Bacteria in Kansas Part 4  
Kansas River Valley Information and Education  
Livestock Waste Management Rainfall Simulator  
Manchester Park Stream Restoration Part 2  
Marais des Cygnes Basin WRAPS Implementation I&E  
Marion WRAPS Implementation Part 3  
Milford Lake Watershed WRAPS Development  
Neosho Basin WRAPS Development  
Prairie Dog Creek Keith Sebelius Lake WRAPS Development  
Russell County Rock Channel Livestock Crossing Demonstration  
Twin Lakes Watershed Restoration and Protection Project-Part 3  
Waste Management Water Quality Protection Learning Center, Part 3  
Cedar Bluff WRAPS Development  
Kanopolis Watershed Assessment, Part 3  
Waconda Reservoir WRAPS Development  
Marais des Cygnes Basin WRAPS Implementation I&E, Part 2  
Marais des Cygnes Hillsdale WRAPS Implementation  
Agricultural Industry Water Quality Awareness, Part 2 (was K2-066)  
Clark's Creek WRAPS Development  
Cowskin Creek Watershed WRAPS  
Delaware River WRAPS  
Delaware River WRAPS Support  
Hillsdale WRAPS Support  
Judd Ranch Riparian Protection Project  
K2-011C Statewide Water Celebrations Part 3  
KS WRAPS (06) Spring River Watershed Development  
KS WRAPS (06)-Oologah Lake/Lower Verdigris Channel & Riparian Area Assessment  
KS WRAPS Pomona Reservoir Watershed Assessment  
KS WRAPS—Oologah Lake Watershed Stakeholder Leadership Team Development and Assessment Support  
Lake Olathe WRAPS Implementation  
Middle Kansas River WRAPS Development  
Milford Lake Watershed WRAPS Development  
Tuttle Creek Lake Watershed WRAPS Development  
Twin Lakes WRAPS - Part 2



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## **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, newspaper articles, informative signs, exhibits and press releases.

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

### **Achievements**

Supported projects produced Information & Education publications and web pages reaching over 4,387,054 citizens statewide.

#### Projects contributing to figures:

Kansas Agricultural Network Radio Programming Coordination for Water Quality  
Abatement of Fecal Coliform Bacteria in Kansas Part 4  
Abatement of Fecal Coliform Bacteria, Part 5B  
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  
Cedar Bluff WRAPS Development  
Cheney KS-WRAPS Implementation  
Cheney WRAPS Implementation  
Clark's Creek WRAPS Development  
Delaware River WRAPS Support  
Dickinson Co. Water Education Project  
Douglas Co. Rain Garden Demonstration Project  
E.A.R.T.H. Program  
E.A.R.T.H. Program, Part 2  
Elk River Lake WRAPS Development  
Hillsdale WRAPS Support  
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed  
Implementing Riparian Forestry for Abatement of Fecal Coliform  
Judd Ranch Riparian Protection Project  
Kanopolis Lake Watershed WRAPS Information & Education Project  
Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
Kansas Alliance for Wetlands and Streams (KAWS) Part 4  
Kansas Alliance for Wetlands and Streams (KAWS) Part 5  
Kansas Buffer Partnership for Clean Water - Part 2  
Kansas Organics for Water Quality Protection, Part 2  
Kansas River Valley Information and Education  
Kansas StreamLink Watershed Stewards  
KELP (04 Funding)  
Little Arkansas Watershed WRAPS  
Marais des Cygnes Basin WRAPS Implementation I&E  
Marais des Cygnes Basin WRAPS Implementation Riparian Forestry Part 2  
Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3  
Marion WRAPS Implementation Part 3

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Marion WRAPS Implementation, Part 4  
Metropolitan Kansas City Water Quality Initiative  
Middle Kansas River WRAPS Development  
Neosho Basin WRAPS Development  
On-site Wastewater Treatment and Household Water Supply Technical Services  
Pollution Trading  
Prairie Dog Creek Keith Sebelius Lake WRAPS Development  
Twin Lakes WRAPS - Part 2  
Upper Wakarusa WRAPS Implementation  
Upper Wakarusa WRAPS Implementation Part 2  
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 2  
Waconda Reservoir WRAPS Development  
Water Quality Improvement Through Service Learning  
Water Quality Improvement Through Service Learning Part 2  
WET in the City  
K2-011C Statewide Water Celebrations Part 3  
Lake Olathe WRAPS Implementation  
Manchester Park Stream Restoration  
Marais des Cygnes Basin WRAPS Implementation I&E, Part 2  
Russell County Rock Channel Livestock Crossing Demonstration  
KS WRAPS Pomona Reservoir Watershed Assessment  
KS-WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)  
Manchester Park Stream Restoration Part 2  
Marais des Cygnes Hillsdale WRAPS Implementation  
Melvern WRAPS Implementation Part 5 (FFY 03 Funding)  
Melvern WRAPS Implementation Part 6  
State Conservation Commission WRAPS Support  
Twin Lakes Watershed Restoration and Protection Project-Part 3  
Mid America Agriculture Network Radio Programming Coordination for Water Quality  
Assisting Small Diversified Family Farms in Implementing TMDLs Through Forage Use Efficiency  
Implementing TMDL's Using Water Quality Financial Analysis & Resource Evaluation (WQFARE), Part 2 FFY03  
Kansas Rural Center: River Friendly Farms—State WRAPS Focus  
Livestock Waste Management Rainfall Simulator  
Tuttle Creek Lake Watershed WRAPS Development  
PRIDE Initiated Community WQA project  
KS WRAPS—Oologah Lake Watershed Stakeholder Leadership Team Development and Assessment Support  
Milford Lake Watershed WRAPS Development  
Upper Verdigris/Toronto Lake WRAPS Development  
Darbyshire Farms Livestock Relocation  
Cowskin Creek Watershed WRAPS  
WRAPS Coordinator Support and Training - KACEE

## **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 40 Water Festivals statewide, reaching over 30,561 students. Please see the Water Celebrations section for more information.

### Projects contributing to figures:

- K2-011C Statewide Water Celebrations Part 3
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- Kansas StreamLink Watershed Stewards
- Marais des Cygnes Basin WRAPs Implementation Riparian Forestry Part 2
- Marais des Cygnes Hillsdale WRAPS Implementation
- Marion WRAPS Implementation, Part 4
- Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)
- Melvorn WRAPS Implementation Part 6
- Metropolitan Kansas City Water Quality Initiative
- State Conservation Commission WRAPS Support
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Twin Lakes WRAPS - Part 2
- WET in the City

## Information & Education Media Advertising

Information & Education Media Advertising is defined as an educational activity that involves the use of television, radio, or video advertisement tools.

### **Purpose**

The idea behind using television and radio is to inform the public of nonpoint source pollution issues and actions they can take to improve water quality.

Using these information and education tools allows for wide distribution of information exchange over a wide audience.

## Achievements

Supported projects reached 1,344,720citizens statewide through the use of radio, television, and video advertisement.

### Projects contributing to figures:

- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- Melvorn WRAPS Implementation Part 5 (FFY 03 Funding)
- Twin Lakes Watershed Restoration and Protection Project-Part 3
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Kansas Agricultural Network Radio Programming Coordination for Water Quality
- Mid America Agriculture Network Radio Programming Coordination for Water Quality
- Abatement of Fecal Coliform Bacteria, Part 5B
- Delaware River WRAPS Support
- Kanopolis Lake Watershed WRAPS Information & Education Project
- Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring
- KELP (04 Funding)

Marais des Cygnes Basin WRAPS Implementation I&E  
Marion WRAPS Implementation, Part 4  
Metropolitan Kansas City Water Quality Initiative  
Prairie Dog Creek Keith Sebelius Lake WRAPS Development  
Radio Programming for water quality  
Russell County Rock Channel Livestock Crossing Demonstration  
Tuttle Creek Lake Watershed WRAPS Development  
Upper Wakarusa WRAPS Implementation Part 2

## **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.

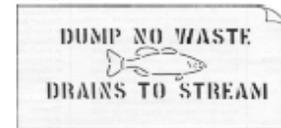
### **Purpose**

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**

Supported projects marked 221 storm drains.

### **Projects contributing to figures:**

Elk River Lake WRAPS Development

Marais des Cygnes Basin WRAPS Implementation I&E, Part 2

## **One-on-One Contacts**

One-on-one contact is defined as a involving contact or communication between only two people.

### **Purpose**

To personally inform and educate the citizens about the 319 program, projects within the program, and to get them involved in 319 projects.

One-on-one contacts are vital to the 319 program because through this type of contact, a sense of personal involvement can be gained by the public regarding their role in local and statewide water quality issues.

### **Achievements**

Supported projects made 20,758 One-on-One contacts.



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### Projects contributing to figures:

Abatement of Fecal Coliform Bacteria, Part 5B  
Agricultural Industry Water Quality Awareness, Part 2 (was K2-066)  
BMP's to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland, Part 3  
Cedar Bluff WRAPS Development  
Cheney KS- WRAPS Implementation  
Cheney WRAPS Implementation  
Delaware River WRAPS Support  
Dickinson Co. Water Education Project  
E.A.R.T.H. Program  
E.A.R.T.H. Program, Part 2  
Elk River Lake WRAPS Development  
Implementing BMPS in the Smoky Hill - Kanopolis Lake Watershed  
Kanopolis Lake WRAPS Implementation—I&E, BMP Technical Assistance, Water Quality Monitoring  
Kansas Alliance for Wetlands and Streams (KAWS) Part 4  
Kansas Alliance for Wetlands and Streams (KAWS) Part 5  
Kansas Organics for Water Quality Protection, Part 2  
Kansas River Valley Information and Education  
Kansas StreamLink Watershed Stewards  
KS WRAPS (06)-Oologah Lake/Lower Verdigris Channel & Riparian Area Assessment  
KS- WRAPS Upper Wakarusa WRAPS Implementation (Six Mile and Lynn Creeks)  
Little Arkansas Watershed WRAPS  
Marais des Cygnes Basin WRAPS Implementation I&E  
Marais des Cygnes Basin WRAPs Implementation Riparian Forestry Part 2  
Marais des Cygnes Basin WRAPS Implementation: Riparian Forestry Part 3  
Marais des Cygnes Hillsdale WRAPS Implementation  
Marion WRAPS Implementation, Part 4  
Melvern WRAPS Implementation Part 5 (FFY 03 Funding)  
Middle Kansas River WRAPS Development  
Milford Lake Watershed WRAPS Development  
Neosho Basin WRAPS Development  
On-site Wastewater Treatment and Household Water Supply Technical Services  
State Conservation Commission WRAPS Support  
Tuttle Creek Lake Watershed WRAPS Development  
Twin Lakes Watershed Restoration and Protection Project-Part 3  
Twin Lakes WRAPS - Part 2  
Upper Wakarusa WRAPS Implementation  
Upper Wakarusa WRAPS Implementation Part 2  
Volunteer Soil & Water Monitoring for Enhanced Natural Resource Stewardship for Meeting Kansas TMDL Goals - Part 2  
Waconda Reservoir WRAPS Development  
Water Quality Improvement Through Service Learning  
Water Quality Improvement Through Service Learning Part 2  
WET in the City

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