

Watershed Management and Planning

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Watershed Management and Planning

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%			
111	Conservation and Efficient Use of Water	5%			
112	Watershed Protection and Management	40%			
131	Alternative Uses of Land	10%			
133	Pollution Prevention and Mitigation	5%			
608	Community Resource Planning and Development	30%			
723	Hazards to Human Health and Safety	5%			
Total		100%			

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual	6.3	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 399419	1890 Extension	Hatch	Evans-Allen
	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Invite people from Missouri watershed communities to participate in workshops to develop partnerships for watershed management as part of the Heartland 406 (b) USDA grant. Facilitate deliberative sessions with agency partners and others to discuss strategies for expanding collaborative efforts and roles each agency might fill in assisting communities in watershed management activities. Continue efforts to assist communities in the development of watershed management plans.

2. Brief description of the target audience

Target audience will consist of local watershed community citizens, elected officials, agency leaders and staff members with a concern or a part to play in watershed management activities. Extension state and regional specialists will have opportunities to attend regional workshops designed to keep abreast of the most current and reliable sources of information relating to a process of working with local communities to develop and implement watershed management plans.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1200	7000	1800	3000
2007	1160	1473	650	1468

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Two educational classes will be held to help agency and Extension personnel to understand the process for involving local communities in the development and planning of watershed management plans.

Year	Target	Actual
2007	2	2

Output #2

Output Measure

Four workshops per year will be held at the regional level and at the multistate level on issues surrounding watershed management planning, the social dimension of watershed management and conflict management and deliberation.

Year	Target	Actual
2007	4	6

Output #3

Output Measure

One-on-one consultations will be given with those clients and agency personnel working directly with watershed planning and management and the selection and implementation of best management practices.

Year	Target	Actual
2007	3500	1160

Output #4

Output Measure

Group discussion will be held with 15 watersheds in the developmental stages of watershed planning.

Year	Target	Actual
2007	15	15

Output #5

Output Measure

Two demonstrations per year will be held in watershed areas to demonstrate the effectiveness of best management practices for improving water quality.

Year	Target	Actual
2007	2	3

Output #6

Output Measure

3 studies in MO will be conducted with assistance from Iowa State Univ and with funding through a USDA Water Quality 406 grant to determine the effectiveness of group process in long-term water quality protection by means of local watershed management.

Year	Target	Actual
2007	3	3

V(G). State Defined Outcomes

O No.	Outcome Name
1	Each year, three workshops (Watershed Management and Planning) will empower local people and agency personnel to organize watershed advisory groups to begin a process of evaluating, planning and implementing strategies for protecting water resources.
2	Collaborative partnerships will be expanded and strengthened in the development and delivery of science-based watershed information and resources to local watershed communities.
3	Each year, two watershed planning and management educational programs will be developed and implemented in identified watersheds.
4	Five watershed communities each year will be actively involved in the development of watershed management plans in various geographic regions of the state.
5	Three new watershed management advisory groups will be formed each year.
6	Each year, three watershed groups will implement watershed management plans that focus on improving water quality.
7	Each year, three watershed communities will develop watershed management plans that have been approved by the Missouri Department of Natural Resources.
8	Each year, three communities, with approved plans, are using the plans in the development of watershed management plans for total maximum daily loads (TMDLs), source water protection, and other land use planning decisions affecting their watershed.
9	Fifteen watersheds will be targeted for watershed management planning, development and implementation. An advisory committee will select the watersheds for the programming efforts.

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

Natural Disasters (drought, weather extremes, etc.)

Economy

Appropriations changes

Public Policy changes

Government Regulations

Competing Public priorities

Competing Programmatic Challenges

Brief Explanation

Changes in priority watershed have caused a need to re-evaluate which watersheds need to be worked with for the state. Another key factor is on work responsibilities and work load of agency personnel that work directly with watershed planning efforts. As funding becomes tighter for agency personnel, personnel numbers may become less and cause workload changes and structures. The funding cycle that government sets for these planning events and the timeframe they are willing to work with. For long-term water quality protection, local citizens who own the land must buy-in to the process and voluntarily work with agency to fix the problem. This requires the development of relationships between watershed citizens and agency personnel and local citizen input and buy-in and can take several years just to establish a working group that the citizens feel comfortable with. Priority changes due to flooding and tornados direct personnel and resources to other activities that originally have been identified for watershed planning.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

After Only (post program)

During (during program)

Case Study

Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Post-class evaluations of the Water Quality Short Course showed that 87 percent of participants would use the information when assisting with watershed planning and implementation. Several case studies have shown how watershed groups continue to address water quality concerns over several years. Each case has demonstrated (1) an increase in knowledge about watersheds and the importance of planning, (2) a change in the way best management practices are selected to protect water quality, and (3) a reduction in pollutant loading. Vandalia, Jack's Fork and Shelbina have been included in the case studies.

Agency personnel developed criteria to set priorities among watersheds needing to address water quality concerns. A template was designed by extension personnel for developing a watershed plan. This template was approved by DNR and is currently being used by priority watersheds.

Many of the watershed groups have submitted and received planning grants to develop watershed plans. More than \$75,000 was received for planning by local watersheds.

A webpage was developed by the University of Missouri to assist watershed groups in finding data layers for developing watershed plans. The web link consists of data layers that are necessary to determine critical or priority areas within the watershed.

For those groups that have approved plans, more than \$1.4 million has been received in the past year to implement practices and provide information to watershed residents.

Key Items of Evaluation

Training for agency professionals is important in delivering a consistent message. Nearly 90 percent of class participants said they would use the information in watershed planning.

Watershed management and planning must incorporate the input of citizens in communities most directly affected. Without local involvement in the selection and design of the watershed plan, long-term water quality improvement will not occur. This may be the single most important criterion in implementing a watershed plan. Case studies show that when local groups have input, they are willing to continue to work toward water quality goals.

Developing criteria for identifying priority watersheds is mandatory in giving a consistent message to landowners.

Proper tools and templates to develop a watershed management plan allow local people to become more involved in decision making and to understand the reason for the plan.

Flexibility of agency personnel to work with local groups and accept management practices that are locally identified is important in getting citizens involved in the process.

Science-based management practices are necessary to protect watersheds, but local decisions must be the driving force with agency personnel.