V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Enhancing the Sustainable Management of Missouri's Natural Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	40%			
125	Agroforestry	5%			
135	Aquatic and Terrestrial Wildlife	40%			
136	Conservation of Biological Diversity	5%			
605	Natural Resource and Environmental Economics	5%			
610	Domestic Policy Analysis	5%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	0.0	0.0
Actual Paid Professional	2.0	0.0	0.0	0.0
Actual Volunteer	0.0	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	**1890 Extension**	**Hatch**	**Evans-Allen**
102899	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
93479	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

- Develop curriculum-based natural resource ecology and management programs, including assessment and evaluation tools, marketing strategies and promotional materials.
- Conduct training workshops for local natural resource teams (MU Extension, Missouri Department of Conservation, and USDA NRCS) and potential local partners (e.g. Missouri Tree Farm, Conservation Federation of Missouri, Quail Unlimited, Wild Turkey Federation, Ducks Unlimited, Isaac Walton League, and Walnut Council).
- Collaborate with these "conservation partners" in the delivery of the curriculum-based programs.
- Participate in agricultural education events and field days at MU Agricultural Experiment Station Farms and Research Centers throughout the state.
- Produce up-to-date, science-based information and deliver through guide sheets, newsletters, and websites.

2. Brief description of the target audience

There are two target audiences:

1. Landowners (both resident and absentee) interested in improving the natural resource base of their property.

2. Individuals who may or may not own land, but are interested in natural resource ecology and management issues.

3. How was eXtension used?

MU Extension faculty are active and contributing members of the appropriate Communities of Practices for this program. They have contributed research-based educational materials, served on committees to develop learning lessons, served on issue committees, served as reviewers, answered frequently asked questions, etc.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2500	4600	5000	8000

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	19	0	19

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Provide training sessions for Extension specialists and/or state/federal natural resource professionals.

Year	Actual
2011	10

Output #2

Output Measure

- Coordinate delivery of natural resource ecology and management information via 'live' short courses, field days, and workshops to private landowners across Missouri.

Year	Actual
2011	78

Output #3

Output Measure

- Coordinate delivery of natural resource ecology and management information via distant-learning satellite seminars, webinars, and online short courses.

Year	Actual
2011	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	50% of Extension specialists and natural resource professionals participating in training sessions exhibit a knowledge gain in natural resource ecology and management.
2	50% of farmers and family forest landowners participating in either 'live' or distant-learning education events exhibit a knowledge gain in natural resource ecology and management.
3	30% of farmers and family forest landowners participating in either 'live' or distant-learning education events have a natural resource management plan in-place after six months.
4	75% of farmers and family forest landowners completing a natural resource management plan will have engaged in at least one natural resource management practice within six months of the plan's completion.
5	50% of farmers and family forest landowners implementing a natural resource management practice will see a positive response within 12 months of completion.

Outcome #1

1. Outcome Measures

50% of Extension specialists and natural resource professionals participating in training sessions exhibit a knowledge gain in natural resource ecology and management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Natural resource managers need to know the latest science-based information to assist landowners in meeting their land management goals and objectives.

What has been done
During this reporting period, 60 foresters, private land conservationists, and wildlife managers attended either a Woodland Steward or Missouri Master Wildlifer workshop; quail management field day; or quality deer management workshop.

Results
Collectively, 55 pre- and post-Likert self-evaluations (1-5 scale) were returned following a training session. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing a 2.0-point knowledge increase in those foresters turning in both evaluations. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing a 2.2-point knowledge gain in the 40 wildlife managers turning in both evaluations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #2

1. Outcome Measures

50% of farmers and family forest landowners participating in either 'live' or distant-learning education events exhibit a knowledge gain in natural resource ecology and management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	297

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Farmers and family forest landowners need to know the latest science-based information to assist them in meeting their land management goals and objectives. Missouri citizens at large also need to gain knowledge in natural resource ecology to support the efforts of these famers and forest landowners.

What has been done
During this reporting period, 2,500 farmers, forest landowners and members of the general public attended either a Woodland Steward, Missouri Master Wildlifer, or a Missouri Master Naturalist workshop; quail management field day; or quality deer management workshop.

Results
Of the 1,847 individuals attending the above educational events, we were able to only assess the 321 people who attended one of the named programs and returned valid pre- and post-Likert self-evaluations. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing a 2.0-point knowledge increase in the 84 family forest landowners participating in a Woodland Steward workshop. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing a 2.2-point knowledge gain in the 237 individuals participating in either a Missouri Master Wildlifer or Missouri Master Naturalist short course.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife

136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #3

1. Outcome Measures

30% of farmers and family forest landowners participating in either 'live' or distant-learning education events have a natural resource management plan in-place after six months.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	124

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Knowledge gain needs to be captured in a plan to assist the landowner in meeting his or her land management objectives.

What has been done
Three Woodland Steward workshops and three Master Wildlifer workshops were conducted with 124 landowners participating, representing 39,680 acres. Six-month follow-up mail surveys were conducted.

Results
While we did not meet our quantitative target of 285 landowners, six-month follow-up surveys revealed that 124 plans out of a possible 124 were prepared. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing 84 forest stewardship plans were prepared, representing 10,080 acres. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing 40 wildlife management plans were prepared, representing 29,600 acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
125	Agroforestry

135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #4

1. Outcome Measures

75% of farmers and family forest landowners completing a natural resource management plan will have engaged in at least one natural resource management practice within six months of the plan's completion.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	393

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
To be truly effective, the landowner needs to implement his or her plan and not let it rest on a shelf, in a filing cabinet, or in a computer file.

What has been done
Of the 1,847 farmers, forest landowners, or members of the general public who attended an educational event, six-month follow-up mail surveys were sent to 485 individuals who provided us with their contact information.

Results
We received 393 responses (80% return); 100 from those landowners documented in Outcome #3 and 293 from landowners not developing a comprehensive plan yet implementing at least one new management practice. KA 123 (Management and Sustainability of Forest Resources) impact assessment revealed 67 forest landowners who developed a plan implemented at least one forest management practice, representing 16,128 acres. Another 70 forest landowners, who did not have a plan, implemented a new practice that impacted an additional 16,000 acres. KA 135 (Aquatic and Terrestrial Wildlife) impact assessment revealed 33 landowners who developed a plan implemented at least one wildlife management practice, representing 21,000 acres. Another 260 landowners, who did not have a plan, implemented a new practice that impacted an additional 49,450 acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #5

1. Outcome Measures

50% of farmers and family forest landowners implementing a natural resource management practice will see a positive response within 12 months of completion.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
It is important that the landowner is able to see the impact their active management has on improving the health of their forest and/or wildlife habitat and associated animal communities.

What has been done
Twelve-month follow-up mail surveys were not sent out during this reporting year.

Results
As a result of no follow-up surveys being sent to our client base, results for this outcome cannot be reported.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Other (Land Fragmentation)

Brief Explanation

The economy continued to suppress the number of landowners participating in two of our named programs; Missouri Woodland Steward and Missouri Master Wildlifer. We surmise the primary reason for the low numbers to be that many landowners view natural resource educational opportunities as discretionary expense items. The exception to this was the Master Naturalist program; with participation rates increasing slightly. We must look for ways to lower the cost of delivering natural resource management information to these recreational landowners. As a result of limited resources preventing us from mailing 12-month surveys, we were unable to measure Outcome #5. We do not see this fiscal reality changing in the near future and recommend this outcome be dropped.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Our evaluation results show we are making a difference in promoting active land management. In this reporting year, through 78 combined natural resource educational events (both forestry and wildlife named programs, and assorted field days and workshops), we have directly reached over 2,500 adults and 5,000 youths. Of the adult population we have impacted change on 102,578 acres through the implantation of at least one new forest or wildlife management practice.

Key Items of Evaluation

See above section.