

**V(A). Planned Program (Summary)**

**Program # 13**

**1. Name of the Planned Program**

Wildlife and Fisheries

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
135	Aquatic and Terrestrial Wildlife	30%		50%	
136	Conservation of Biological Diversity	15%		0%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%		0%	
304	Animal Genome	0%		26%	
305	Animal Physiological Processes	0%		1%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	5%		0%	
605	Natural Resource and Environmental Economics	30%		20%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%		2%	
723	Hazards to Human Health and Safety	0%		1%	
903	Communication, Education, and Information Delivery	10%		0%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	7.0	0.0	0.5	0.0
Actual Paid Professional	7.1	0.0	3.4	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
192116	0	455434	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
192116	0	44554	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	864820	0

### V(D). Planned Program (Activity)

#### 1. Brief description of the Activity

In Mississippi, fishing, hunting, and wildlife -associated recreation represent an industry with a \$2.7 billion total output, supporting 66,171 jobs with \$1.1 billion in wages. Conservation of these wildlife populations and the wetland, grassland, and forest ecosystems that support them is central to sound environmental stewardship of our agricultural and forested landscapes. In-state and multistate research and extension activities will be conducted related to wildlife and fisheries habitat management, wildlife enterprise development, human-wildlife conflicts, and youth (K-12) education.

#### 2. Brief description of the target audience

The target audience for this project consists of most Mississippians, including those who hunt, fish, and watch wildlife, those who interact with wildlife at work and home, those who work in related industries and professions, those who educate our youth (K-12), and non-industrial private forest and agricultural landowners.

#### 3. How was eXtension used?

The resources provided through eXtension were used to supplement and enhance our public learning experiences provided by MSU Extension agents and specialists. eXtension was also used as a resource in state-based planning processes. Overall, 212 MSU employees are eXtension users, with 15 new registrations during this reporting period. Further, MSU Extension has 64 employees that serve on one or more of the 72 Communities of Practice (COPs); MSU Extension employees are member of 33 COPs. Twelve MSU Extension employees serve as a leader for a COP, leading 9 COPs. MSU Extension personnel are members of the Feral Hogs COP (one is a leader of the COP) and the Wildlife Damage Management COP.

### V(E). Planned Program (Outputs)

#### 1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	28778	16543	0	0

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

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	4	56	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of clientele attending seminars, workshops, short courses, and demonstrations.

Year	Actual
2012	7554

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of clientele adopting recommended wildlife habitat improvement practices.
2	Number of wildlife professionals improving their skills in handling wildlife damage issues.
3	Number of non-industrialized, private landowners initiating wildlife-related enterprises.
4	Number of landowners reporting improved wildlife conservation due to management practices.
5	Number of clientele reporting increased income levels due to wildlife enterprises.
6	Number of youth trained in summer camps and workshops on natural resources management.
7	Number of K-12 educators trained in workshops on fundamentals of natural resources management in accordance with the National Council for the Accrediting of Teacher Education.

## **Outcome #1**

### **1. Outcome Measures**

Number of clientele adopting recommended wildlife habitat improvement practices.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	1511

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

The Mississippi Choctaw FRTEP office has changed the attitude of using a non-Indian educational resource by remaining on tribal land for 13 years and gaining trust of the tribal department directors, elected officials, community members, and Choctaw schools.

#### **What has been done**

Due to this attitude change by the tribe as a whole, more than 30 educational programs are implemented annually specifically for the Choctaw people and many impacts are the result.

#### **Results**

Impacts related to wildlife and fisheries include: 1) Soil testing resulting in an estimated \$3,000 saving for Choctaw Wildlife Department; 2) approximately 1,500 acres managed for wild hog control and 40% increase in animal harvest; 3) approximately 30% more whitetail doe deer harvested; 4) a chronic wasting disease program implemented impacting approximately 30,000 acres; and 5) more than 40 tribal gardeners implementing beneficial herbicides to home gardens and approximately 20 additional soil analyses annually.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals

605	Natural Resource and Environmental Economics
722	Zoonotic Diseases and Parasites Affecting Humans
903	Communication, Education, and Information Delivery

## **Outcome #2**

### **1. Outcome Measures**

Number of wildlife professionals improving their skills in handling wildlife damage issues.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	1209

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

In the U.S., wild pigs (*Sus scrofa*) are non-native, invasive pests that pose a significant threat to agriculture, forestry, ecosystems, watersheds, native plant and animal communities, and human health. Pig rooting and trampling damage agricultural crops, and impact native plant regeneration, soil properties, nutrient cycling, and water infiltration. In Mississippi, approximately 40% of the land area is now occupied by wild pigs. The only long-term solution for many of these problems is reduction of both size and range of pig populations.

#### **What has been done**

MSU Extension Specialists and Associates are conducting hands-on educational workshops throughout Mississippi and the southeastern U.S. to educate landowners, natural resource professionals, and policy makers on the negative impact of wild pigs and how to minimize their effects and control their population expansion.

#### **Results**

MSU Extension personnel developed the following products and organized the following events related to wild pig management: 1) Publication - A Landowner's Guide for Wild Pig Management: Practical Methods of Wild Pig Control; 2) Video - A Pickup Load of Pigs: The Feral Swine Pandemic Website - [www.WildPigInfo.com](http://www.WildPigInfo.com); 3) Directed special sessions at the International Association of Fish and Wildlife Agencies annual conference, The Wildlife Society annual conference, and the National Invasive Species Conference; 4) Conducted 9 workshops in 4 states with 1,015 attendees; 5) Conducted 6 professional trainings in 3 states with 323 attendees;

and 6) Had over 25 presentations at various public events.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
605	Natural Resource and Environmental Economics
903	Communication, Education, and Information Delivery

#### Outcome #3

##### 1. Outcome Measures

Number of non-industrialized, private landowners initiating wildlife-related enterprises.

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	604

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Research conducted at MSU has shown that private landowners and producers can diversify incomes and increase conservation on their lands by developing fee-access outdoor recreational enterprises (i.e., hunting, angling, wildlife watching, and other nature-based activities). The Natural Resource Enterprises Program (NRE) at MSU and collaborators designed educational workshops to train landowners and producers in developing outdoor recreational businesses on working lands leading to an increase in conservation practices on these lands.

###### **What has been done**

NRE staff devised curricula and selected rural properties that demonstrated conservation and enterprise activities for hosting educational workshops in AR, IN, LA, MS, and SC. Six general and three more advanced workshops were offered. General workshops included topics such as business management and marketing, legal and liability concerns, wildlife habitat management, and land conservation. Advanced workshops focused on business plan development including an activity where attendees developed a business plan for a mock property.

### **Results**

Surveys of workshop attendees (both current and past) revealed the following: 1) conservation practices were implemented by farmers and landowners on nearly 2,400 farms and ownerships affecting an estimated 1.6 million acres; 2) 1,000 new NRE businesses were initiated nationwide that affected & conserved an estimated 800,000 acres; 3) annual revenues collected from new NRE businesses averaged \$12,000 per farm (\$15 per acre) accounting for nearly \$4.5 million in aggregate cash flow; 4) landowners reported that NRE incomes met or exceeded their expectations; 5) 3 primary land management goals were reported by farmers and owners (i.e., to increase wildlife on land, to become more knowledgeable about conservation and NRE opportunities on their farms, and to reduce liability concerns in operating NRE businesses).

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
903	Communication, Education, and Information Delivery

### **Outcome #4**

#### **1. Outcome Measures**

Number of landowners reporting improved wildlife conservation due to management practices.

Not Reporting on this Outcome Measure

### **Outcome #5**

#### **1. Outcome Measures**

Number of clientele reporting increased income levels due to wildlife enterprises.

Not Reporting on this Outcome Measure

### **Outcome #6**

#### **1. Outcome Measures**

Number of youth trained in summer camps and workshops on natural resources management.

#### **2. Associated Institution Types**

- 1862 Extension

### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2012	1105

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Wildlife and forestry are two of the most valuable and cherished natural resources within the state of MS, yet today's youth spend less time exploring, enjoying, and understanding the importance of these resources. Opportunities for elementary students to engage in science-related activities inside and outside the classroom are often inadequate, particularly among underrepresented populations. As a result, MS students at all academic levels fall behind national and international achievement in science and math related disciplines.

#### What has been done

MSU Extension partnered with the MS University for Women's Science Enrichment Program (SEP) to deliver the Wild Kids program. Wild Kids is a full-day program offered free of charge to 3-8th grade students across MS as a supplement or complement to their classroom science lessons. Wild Kids covers ornithology, entomology, mammals, and endangered species. The program is aligned to the MS state standards for Environmental Science, Biology, and Ecology. In addition, the Wild Kids program offers an annual summer day camp for 3-8th grade students.

#### Results

Over 400 students have participated in the Wild Kids program. Evaluation of students and teachers indicated greater knowledge and appreciation of natural resources following the program. Students participating in the summer portion of Wild Kids express greater interest in pursuing careers in natural resources, greater enthusiasm for science, and a deeper concern for threatened and endangered species.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

### Outcome #7

#### 1. Outcome Measures

Number of K-12 educators trained in workshops on fundamentals of natural resources management in accordance with the National Council for the Accrediting of Teacher Education.

#### 2. Associated Institution Types

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	105

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Mississippi's economic stability is dependent upon stewardship of the state's natural resources, yet future voters and landowners will not appreciate that need if current trends continue. Therefore, it is critical that young people and youth-serving adults are educated about the role of conservation and wise use of the land to ensure the sustainability of agriculture and natural systems in Mississippi.

**What has been done**

MSU's Department of Wildlife, Fisheries and Aquaculture (WFA) Extension Service, in collaboration with other entities such as including Mississippi University for Women, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Mississippi Department of Wildlife, Fisheries, and Parks, Quail Forever, and Wild Turkey Federation offers adult professional development workshops and youth outreach events on conservation topics.

**Results**

In 2012: 1) 24 volunteer leaders/teachers attended a workshop on teaching natural science through natural arts; 2) 19 teachers attended two workshops hosted by NRCS and learned how to use birds or mammals as an integrating context from which to teach multiple disciplinary topics at all grade levels; 3) 25 teachers learned about mammal ecology as part of the Advancing Teachers of Middle School Science (ATOMS2); 4) 8 Boy Scouts of America leaders learned about wildlife and fisheries management in two half-day workshops that provided Scouts with training on select merit badges; and 5) 120 pre-service teachers in the College of Education observed and assisted with environmental science education through the mentoring programs in the Youth Environmental Science Program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
903	Communication, Education, and Information Delivery

### **V(H). Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Government Regulations
- Competing Programmatic Challenges

#### **Brief Explanation**

{No Data Entered}

### **V(I). Planned Program (Evaluation Studies)**

#### **Evaluation Results**

MSU Extension agents and specialists, as well as MAFES faculty, used a variety of recommended methods to gather needed information. Specific strategies will be initiated and utilized for collecting evaluation information to determine program outputs and outcomes (see impact statements for examples).

In FY 2012, MSU Extension agents and specialists were required to submit four quarterly reports (January, April, July, and September). This quarterly report collects information about the number of contacts, types of contacts, and number of programs conducted in each Priority Planning Area. In addition, two narrative Accomplishment Reports are required from each MSU Extension employee each year. Finally, a specific request for impact statements is also made. The evaluation results are a combination of this quantitative and qualitative data.

#### **Key Items of Evaluation**