

V(A). Planned Program (Summary)

Program # 7

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
111	Conservation and Efficient Use of Water	5%		0%	
131	Alternative Uses of Land	10%		0%	
132	Weather and Climate	5%		0%	
135	Aquatic and Terrestrial Wildlife	15%		100%	
136	Conservation of Biological Diversity	5%		0%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	15%		0%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	5%		0%	
604	Marketing and Distribution Practices	10%		0%	
605	Natural Resource and Environmental Economics	15%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%		0%	
903	Communication, Education, and Information Delivery	10%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	9.4	0.0	2.0	0.0
Actual Paid	11.9	0.0	1.9	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
302774	0	209102	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
302774	0	31654	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	395042	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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, and those who educate our youth (K-12).

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, 230 MSU employees are eXtension users. Further, MSU Extension has 71 employees that serve on one or more of the 66 Communities of Practice (COPs); MSU Extension employees are members of 39 COPs. 10 MSU Extension employees serve as a leader for a COP, leading 7 COPs. 4 MSU Extension personnel are members of the Feral Hogs COP with 2 being leaders.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	95936	138548	0	0

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

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	1	21	22

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2014	24436

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers adopting new practices based on research/extension recommendations.
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 producers reporting increased income/decreased expenses based on practice changes.

Outcome #1

1. Outcome Measures

Number of producers adopting new practices based on research/extension recommendations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	4887

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A majority of imperiled lands and natural resources in MS, including wetlands, coastal marshes, and river basins are in private ownership. For conservation to be successfully implemented on these private lands, landowners and producers usually must realize incentives to their lands and incomes before they undertake conservation practices. Research conducted at MSU has shown that private landowners, forest landowners, and agricultural producers can diversify incomes and increase conservation on their lands by developing fee-access outdoor recreational enterprises.

What has been done

To this end, the Natural Resource Enterprises Program (NRE) at MSU along with state, federal, and private-sector collaborators have designed educational workshops and demonstrations to train landowners and producers in developing outdoor recreational businesses on working lands that increase conservation and income diversification. Specifically, NRE staff devised curricula and selected rural properties as host sites for workshops in 2014. Ten workshops that included general and advanced seminars were conducted with 400 paid participants.

Results

To measure impacts from our programming efforts, we have developed a comprehensive mail survey that has been periodically sent to past workshop participants. There was a 45% response rate from landowner participants. Findings revealed that conservation practices were implemented by respondents on nearly 2,250 farms and landholdings nationwide, representing 1.2 million acres in conservation; 1,200 new NRE businesses were developed on an estimated 500,000 acres since 2010 due to NRE programming; annual revenues collected from these outdoor recreational businesses nationwide averaged \$13,768 per farm (\$17 per acre),

accounting for \$8.3 million in new income to family farms and landowners; and landowners reported incomes from newly started NRE operations met or exceeded their expectations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
605	Natural Resource and Environmental Economics
722	Zoonotic Diseases and Parasites Affecting Humans

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

Year	Actual
2014	1542

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Human-wildlife conflicts are a common encounter for landowners. One of the greatest issues that Mississippi has had in this area is the increase of the wild pig population. It is estimated that nearly every MS county has a population of wild pigs and that wild pigs have resulted in billions of dollars of damage throughout the Southeast U.S. Many residents rely on hunting and small traps to remove wild pigs. There is a need for more information for landowners on reliable methods for removing wild pigs.

What has been done

MSU Extension has approached this problem by giving educational presentations to landowners

and land-caretakers across MS. The focus is on information on reliable processes for the removal of wild pigs. Contact information for Extension specialists is also given, so landowners can get further instruction on methods or a site visit can be conducted. As of September 2014, 15 presentations on wild pig removal methods were given to 421 individuals. Furthermore, 2 large booth presentations were conducted, reaching approximately 1100 individuals.

Results

An evaluation form has been developed to formatively evaluate this program, but official results have not been gathered, yet. Extension agents have conducted follow-up calls with participants to assess degree of implementation of techniques and resulting impact on the removal process. Follow-up calls are conducted six months to a year after the presentations. As a result of this program, Extension agents have provided further technical assistance in 10 cases, aiding 15 known landowners and land-caretakers.

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
2014	782

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Mobile Bay estuarine system is experiencing habitat degradation as a result of anthropogenic and natural impacts. Pollution emanating from the constructed environment degrades water

quality. Tropical storms have a direct physical impact on many of the region's natural resources. Natural oyster reefs in particular have diminished due to siltation and changes in salinity brought about by weather events resulting in an influx of predatory oyster drills. Many areas previously available for oyster harvest are now closed due to changes in water quality classifications.

What has been done

In 2001, the MASGC Outreach Program launched the Mobile Bay Oyster Gardening Project to improve water quality in the Bay by increasing the number of oyster beds and enhancing environmental literacy. Waterfront residents who volunteer for the program are provided with oyster hatchery seed and grow-out cages and receive training in cage maintenance. After the volunteers grow the seedlings to maturity, oysters are collected by Outreach personnel and used to replenish depleted reefs. The oysters are not grown for future harvest; they are used solely for restoration purposes.

Results

Since 2001, the MBOGP has produced nearly 600,000 oysters; enough to restore 30 acres of reef habitat and generate hundreds of millions of larvae for the overall system during spawning periods following the annual November plantings of that year's gardening. MBOGP has established a 10-acre reserve with 0 harvest for dense aggregates of broodstock on 2,500 m² of clutched bottom habitat for further investigation of stocking techniques and future predation reduction strategies to guide future oyster restoration projects in the bay and northern gulf coast. During 2013, over 100 Oyster Gardening volunteers produced approximately 40,000 oysters -- enough to replenish 1.9 acres of reefs. The oysters were deployed at 47 sites. These oysters serve as broodstock for natural spat production and reef habitat replenishment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
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.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	1173

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Growing global population will increase food and fiber demands and intensify production agriculture industry in Mississippi, putting additional pressure on the state's soil and water resources. Natural resource concerns, particularly water resources, in the State were the motivation for starting REACH. Significant investments in landscape improvements by the Federal government and producers through conservation cost-share programs warrant the need for increased research supporting the efficacy of conservation practices.

What has been done

REACH is a producer-driven program, focused on addressing needs. The goal of REACH was to create a network of cooperative farms in MS, with variable agricultural systems, degrees of conservation initiatives, and ecosystem monitoring to illustrate the success of practicing conservation. REACH and its collaborators collect data on water quality, specifically nutrient and sediment in runoff, which is used to quantify efficiency of conservation practices. REACH additionally collects data on water quantity since problems with MS water resources are related to both quality and quantity.

Results

REACH provided information on the benefits of conservation in agriculture to producers across the MS Delta, garnering support from 41 producers, who either currently practice conservation or were interested in implementing conservation efforts, and encompassing over 126,000 acres of agriculture land. Outreach & Extension efforts increased producer awareness and support for government assistance programs. Research outcomes provided policymakers and producers with environmental and economic costs and benefits of conservation implementation, empowering stakeholders with information as to which conservation practices may fit best with the goals of their operations and which best management practices may result in greater environmental impacts per investment of government resources.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
131	Alternative Uses of Land
132	Weather and Climate
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
903	Communication, Education, and Information Delivery

Outcome #5

1. Outcome Measures

Number of producers reporting increased income/decreased expenses based on practice changes.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	782

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Numerous small lakes and farm ponds are owned by landowners across Mississippi. Many landowners spend numerous dollars each year on fertilizing, killing weeds, stocking, and providing overall quality care to their ponds and small lakes for recreational fishing and aesthetics on their properties.

What has been done

Extension staff in Lowndes County offered a small lake and pond management workshop that covered stocking, water quality, aquatic weeds, fish population balance, and pond/lake construction. Attendees were able to visually see and name various pond weeds, view a pond shocking demonstration to determine population density, and see how water alkalinity works and its effect on fish health.

Results

Evaluations from attendees at the workshop revealed that over 200 surface acres of water was represented at the workshop and that many of these pond owners learned information that they planned on taking back and implementing on their properties. Evaluation results revealed that over \$6,000 in management costs for these landowners (entire attendance) ponds/lakes is expected to be saved yearly in proper maintenance on these bodies of water. Primary pond/lake management goals were reported by pond owners (increase sport fishing opportunities, increase knowledge of weed identification, increase knowledge of fertilization and liming water to increase overall health of fish, increase knowledge on stocking and harvesting).

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics

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 were initiated and utilized for collecting evaluation information to determine program outputs and outcomes (see impact statements for examples). In FY 2014, 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 Planned Program Area. In addition, two narrative Accomplishment Reports are required from each MSU Extension employee each year. Finally, a specific request for impact statements from MSU Extension and MAFES faculty and staff is also made. The evaluation results shared through our impact statements are a combination of this quantitative and qualitative data.

Late in the 2014 program year, we introduced a Standardized Extension Evaluation Survey. The Standardized Extension Evaluation Survey was designed for use in any MSU Extension Service program, workshop, or event with adults. The survey assesses program process, participant satisfaction, knowledge and/or skill change, and behavioral intentions. It provides a ready-made evaluation for agents and specialists to use and will allow us to aggregate data across the state. A small number of agents and specialists have utilized the survey to date, but we hope use will increase over time.

Key Items of Evaluation

