

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Sustainable Energy and Integrated Natural Resources

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
104	Protect Soil from Harmful Effects of Natural Elements		10%		
111	Conservation and Efficient Use of Water		10%		
112	Watershed Protection and Management		10%		
123	Management and Sustainability of Forest Resources		15%		
125	Agroforestry		10%		
131	Alternative Uses of Land		10%		
132	Weather and Climate		15%		
133	Pollution Prevention and Mitigation		10%		
141	Air Resource Protection and Management		10%		
	Total		100%		

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	2.0	0.0	0.0
Actual Paid Professional	0.0	2.6	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
0	232802	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	141685	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	13200	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Integrated Natural Resources and Environmental Education program activities include youth programs such as the Annual Forestry Camps, Kids-N-Creek camps, Kids Day on the Farm camps and an Annual Water Festival. Other activities will involve private well testing/wellhead protection, small acreage water resource management, community awareness educational programs, household septic systems management workshops, and home air quality assessments and energy audits.

Tuskegee University operates a Water Quality Educational Program (WQEP) to address the educational need of citizens to improve water quality and enhance the quality of the environment. This program served about 500 people through workshops, field days and classroom instructions. The activities included, Kids 4 Trees, Water Festival, Agritrek Training and Water Quality workshops and educational sessions.

TUCEP County Agents along with ACES, Alabama Forest Commission, Sumter and Marengo Counties Public School System, and Private landowners conduct a course curriculum designed to educate fifth grade students and their teachers about multiple use management of forest, water, soil and wildlife. Volunteer resource development teams are recruited and then participate in three two-hour development sessions. The program reached fewer than 500 students from the Sumter-Marengo county area of West Alabama. Similarly, 21 high school students from Lowndes County public and private schools participated in a forestry educational program that included a Tree Identification activity where students placed ID tags on trees along walking trails and the Holyground Park.

Funding from the renewable energy grant was used to assist agriculture producers, rural small businesses and rural communities to become more energy efficient and use renewable technologies by implementing the first process of getting energy audits and renewable energy development assistance throughout the state of Alabama. A number of energy audits, site evaluations, and renewable energy workshops have been conducted throughout the state of Alabama including 15 workshops on the economic benefit of bio-energy, and 16 energy audits, site evaluations and feasibility studies.

One-on-one visits to ten property owners were conducted to provide assistance on managing and controlling nuisance wildlife such as Wild Hogs, Beavers, and Coyotes for landowners/hunters and the general public. Landowners and hunting groups also received timely information and recommendations on soil testing, location of wildlife and plots, soil preparation and seed selection for food plots.

2. Brief description of the target audience

The target audience consists of youths and adults, rural and urban agriculture clientele with needs in the areas of natural resources, water quality and environmental management, including environmental

health and justice issues, as well as issues in climate change and sustainable energy.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1428	4300	500	1500

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	2	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Underserved Black Belt area grade school students will be exposed to specific age appropriate educational activities designed to reinforce current classroom instructional curriculums. While targeting the youth, parents, volunteers and community leaders will also be provided necessary instructions in responsible environmental stewardship practices and principles, including information on climate change and sustainable energy.

Year	Actual
2012	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation,as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

Outcome #1

1. Outcome Measures

Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation, as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To sustain the productivity of natural resources for future generations, there is a need to expose limited resource farmers, landowners, youth, and adults, to Natural Resource Education. Currently, many are unaware of the importance of managing forests, water and other natural resources.

What has been done

Program efforts address a variety of critical educational needs in the areas of natural resources management, water quality and environmental education. Program activities have focused on water quality education, environmental and natural resource management education, and energy audits and renewable energy education.

Results

About 500 youth who participated in the Forest in the Classroom program have gained increased knowledge and awareness on forestry thinning, tree and disease identification, the forest as a source of food, water, and shelter, different forms of life in the forest, and the importance of healthy soil to all living things. Follow up interviews with Water Quality Education Program participants also revealed that the knowledge gained led to increased well water samples collected and sent for testing as well as the adoption of strategies to minimize consumption of contaminated water such as the use of water filters. Also, 15 workshops on the economic benefit of bio-energy, and 16 energy audits, site evaluations and feasibility studies have been conducted through the energy audit and renewable energy education program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
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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 Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Activities scheduled for this program area were affected by extreme weather conditions causing some field activities to be cancelled and competing programmatic challenges which led to lower participation rates for some workshops.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Follow up interviews with Water Quality Education Program participants revealed that the knowledge gained led to increased well water samples collected and sent for testing. Some participants adopted strategies to minimize consumption of contaminated water. One strategy adopted was use of water filters. A notable long-term impact of this program is a gradual decrease in nitrate and coliforms as participants have over the years adopted best management practices for water quality protection.

Teachers and group leaders of students who attended the youth education workshop indicated that 86% of students increased their knowledge on the discussed topics. More than 73% of students increased knowledge of forestry information through participation in

the outdoor class learning activity. Ten property owners were also assisted with one-on-one visits to provide assistance on managing and controlling nuisance wildlife such as Wild Hogs, Beavers, and Coyotes for landowners, hunters, and the general public.

A number of energy audits, site evaluations, and renewable energy workshops have been conducted throughout the state of Alabama including 15 workshops on the economic benefit of bio-energy, and 16 energy audits, site evaluations and feasibility studies.

Key Items of Evaluation

As much as efforts in forestry and other natural resources management education continues, more emphasis is being laid on renewable energy and energy audit education, water quality education and environmental protection for youth and adults.