

# Natural Resources and Environment

Natural Resources and Environment

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

### 1. Name of the Planned Program

Natural Resources and Environment

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

### 1. Program Knowledge Areas and Percentage

| KA Code      | Knowledge Area  | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|--------------|---|-----------------|-----------------|----------------|----------------|
| 101          | Appraisal of Soil Resources                           | 10%             | 10%             | 10%            | 10%            |
| 102          | Soil, Plant, Water, Nutrient Relationships            | 10%             | 10%             | 10%            | 10%            |
| 104          | Protect Soil from Harmful Effects of Natural Elements | 10%             | 10%             | 10%            | 10%            |
| 111          | Conservation and Efficient Use of Water               | 5%              | 5%              | 5%             | 5%             |
| 112          | Watershed Protection and Management                   | 10%             | 10%             | 10%            | 10%            |
| 123          | Management and Sustainability of Forest Resources     | 10%             | 10%             | 10%            | 10%            |
| 124          | Urban Forestry  | 10%             | 10%             | 10%            | 10%            |
| 131          | Alternative Uses of Land                              | 10%             | 10%             | 10%            | 10%            |
| 133          | Pollution Prevention and Mitigation                   | 10%             | 10%             | 10%            | 10%            |
| 135          | Aquatic and Terrestrial Wildlife                      | 10%             | 10%             | 10%            | 10%            |
| 403          | Waste Disposal, Recycling, and Reuse                  | 5%              | 5%              | 5%             | 5%             |
| <b>Total</b> |   | 100%            | 100%            | 100%           | 100%           |

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

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

| Year: 2008    | Extension |      | Research |      |
|---------------|-----------|------|----------|------|
|               | 1862      | 1890 | 1862     | 1890 |
| <b>Plan</b>   | 25.0      | 0.5  | 50.0     | 0.0  |
| <b>Actual</b> | 29.3      | 0.3  | 36.4     | 1.0  |

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

| Extension                        |                                | Research                         |                                |
|----------------------------------|--------------------------------|----------------------------------|--------------------------------|
| Smith-Lever 3b & 3c<br>699868    | 1890 Extension<br>56993        | Hatch<br>503414                  | Evans-Allen<br>177783          |
| <b>1862 Matching</b><br>700386   | <b>1890 Matching</b><br>24543  | <b>1862 Matching</b><br>1525729  | <b>1890 Matching</b><br>404009 |
| <b>1862 All Other</b><br>1694933 | <b>1890 All Other</b><br>55000 | <b>1862 All Other</b><br>5810115 | <b>1890 All Other</b><br>39836 |

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

**1. Brief description of the Activity**

Primary outputs from this program include the following:

- Develop and deliver educational programs such as short courses, workshops, field days and tours, seminars, etc.
- Conduct applied research and link with Extension
- Develop and maintain demonstration areas
- Develop collaborative partnerships with government officials, state agencies, non-governmental organizations, etc.
- Develop and disseminate educational materials such as extension bulletins, journal articles, conference proceedings, trade journal articles, DVD's, etc.
- Develop and maintain web-based educational materials such as short courses, web sites, discussion boards, etc.

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

Farmers, forest owners, loggers, Christmas tree growers, youth, homeowners, mill owners and workers, private consultants and companies, local governmental officials, waste water treatment operators, state and federal agencies, nongovernmental organizations, professional associations and societies, and community groups.

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

**1. Standard output measures**

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

|             | <b>Direct Contacts<br/>Adults</b> | <b>Indirect Contacts<br/>Adults</b> | <b>Direct Contacts<br/>Youth</b> | <b>Indirect Contacts<br/>Youth</b> |
|-------------|-----------------------------------|-------------------------------------|----------------------------------|------------------------------------|
| <b>Year</b> | <b>Target</b>                     | <b>Target</b>                       | <b>Target</b>                    | <b>Target</b>                      |
| <b>Plan</b> | 170000                            | 2000000                             | 5000                             | 5000                               |
| 2008        | 66650                             | 198931                              | 39685                            | 1505                               |

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

**Patent Applications Submitted**

| <b>Year</b>  | <b>Target</b> |
|--------------|---------------|
| <b>Plan:</b> | 0             |
| 2008:        | 0             |

**Patents listed**

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

**Number of Peer Reviewed Publications**

|             | <b>Extension</b> | <b>Research</b> | <b>Total</b> |
|-------------|------------------|-----------------|--------------|
| <b>Plan</b> | 5                | 10              |              |
| 2008        | 5                | 48              | 53           |

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

**Output Target**

**Output #1**

**Output Measure**

Number of educational programs offered

| <b>Year</b> | <b>Target</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2008        | 2000          | 1100          |

**Output #2**

**Output Measure**

Number of educational materials and curricula developed

| <b>Year</b> | <b>Target</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2008        | 25            | 82            |

**Output #3**

**Output Measure**

Number of applied research projects

| <b>Year</b> | <b>Target</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2008        | 15            | 200           |

**Output #4**

**Output Measure**

Acres of land exposed to educational programming efforts.

| <b>Year</b> | <b>Target</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2008        | 100000        | 300000        |

**Output #5**

**Output Measure**

Identifiable impacts reported by agents/specialists

| <b>Year</b> | <b>Target</b> | <b>Actual</b> |
|-------------|---------------|---------------|
| 2008        | 40            | 35            |

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

| O No. | Outcome Name   |
|-------|--|
| 1     | Number of individuals with increased knowledge of best management practices in forestry, agriculture, and other potential soil and water-impacting land management industries. |
| 2     | Number of individuals with increased knowledge of sustainable landscape practices  |
| 3     | Number of individuals adopting at least one improved management practice toward achieving sustainability   |
| 4     | Number of individuals adopting one or more sustainable landscape management practices  |
| 5     | Number of mills reporting increased profitability, improved safety indicators, or improved efficiency  |
| 6     | Number of agricultural, forest, or disturbed land acres with improved management practices   |
| 7     | Research projects focused on achieving greater harmony between agriculture and the environment   |
| 8     | Number of individuals add value to woodlands by producing botanical herbs  |

**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 |
|------|---------------------|--------|
|------|---------------------|--------|

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

| KA Code | Knowledge Area |
|---------|----------------|
|---------|----------------|

**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
- Populations changes (immigration,new cultural groupings,etc.)

**Brief Explanation**

Numerous external factors affect both the outcomes and the ability to support educational programs behind the outcomes. Natural disasters can siphon off funds and create new issues related to natural resources and the environment. Virginia forestry has been impacted by drought conditions for the past two years.Hurricane blowdown can flood the market with low cost wood, and create fuel buildup and insect and disease problems. Floods and droughts have unique problems, and both greatly affect natural resources issues. Funding for Extension programs have been reduced for the past two years and have impacted the ability to develop and deliver new programs. Finally, new laws and regulations create new issues and opportunities, and also cause other issues to fade away. In most cases new regulations resulted in a need for more education for those affected by the regulations.

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

### **1. Evaluation Studies Planned**

After Only (post program)

Retrospective (post program)

Before-After (before and after program)

During (during program)

Time series (multiple points before and after program)

Case Study

Comparisons between program participants (individuals, group, organizations) and non-participants

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

Comparison between locales where the program operates and sites without program intervention

### **Evaluation Results**

A study was completed in the spring of 2008 on the impacts of our Virginia Forest Landowner Education Program (VFLEP). The highlights of the findings are:

When comparing groups of forest land owners, our study results indicated significant differences for those who attended the programs. The groups of landowners were segmented into three groups of forest owners: (a) those who have not attended any educational programs, (b) those who have attended our shortcourses through the VFLEP, and (c) those who attended some other type of educational program. The evaluation determined the differences between the groups (if any) in terms of adoption of sustainable forestry practices on the ground. There were eight categories of practices. Here are a few of them:

-Adoption rate for management plan: Group (a) was 12%, Group (b) was 41%, and Group (c) was 22%. Differences were significant.

-Adoption rate for sustainable woodland management practices: Group (a) was 75%, Group (b) was 94%, and Group (c) was 83%. Differences were significant.

-Adoption rate for use of technical assistance: Group (a) was 35%, Group (b) was 73%, and Group (c) was 44%. Differences were significant.

-Group (b), those who attended a VFLEP adopted at a higher rate, a good measure of success.

### **Key Items of Evaluation**