

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Natural Resources and the 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
102	Soil, Plant, Water, Nutrient Relationships	30%		0%	
111	Conservation and Efficient Use of Water	20%		0%	
112	Watershed Protection and Management	20%		0%	
124	Urban Forestry	10%		0%	
141	Air Resource Protection and Management	10%		0%	
402	Engineering Systems and Equipment	0%		100%	
806	Youth Development	10%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	7.2	0.0	3.0	0.0
Actual	7.0	0.0	1.0	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
258693	0	116048	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
258693	0	142216	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
94693	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Workshops, demonstrations and technical assistance on the effect of environmental degradation on quality of life to the District residents; safe drinking water and invasive species.
- Development and distribution of informational materials such as fact sheets and brochures regarding changes in natural resources and environmental issues in the District.
- Establishment of partnership projects DC government and private organizations in and around the District of Columbia
- Research efforts in this reporting period for the project,"The Design and Development of an Experimental Anaerobic Digester for Organic Waste," concentrated on analyzing and comparing the energy content and anticipated Gas yield of Bio-gas from various animals (livestock waste).

2. Brief description of the target audience

- * District of Columbia residents
- *DC Public School Teachers
- *Youth - Grades K-12
- *Urban Gardeners and foresters
- *Storm and waste water operators
- *Landscapers
- *Nursery Owners

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	20000	25000	10000	25000
Actual	18785	360669	19000	26000

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	2	2	
Actual	0	3	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of articles published

Year	Target	Actual
2010	4	1

Output #2

Output Measure

- Number of fact sheets published

Year	Target	Actual
2010	10	14

Output #3

Output Measure

- Number of newsletter published

Year	Target	Actual
2010	2	0

Output #4

Output Measure

- Number of workshops, demonstrations and technical assistance implemented.

Year	Target	Actual
2010	100	174

Output #5

Output Measure

- Number of research projects completed

Year	Target	Actual
2010	2	0

Output #6

Output Measure

- Number of soil, air and water samples test results
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Number of informational materials distributed

Year	Target	Actual
2010	25000	21238

Output #8

Output Measure

- Number of conference presentations

Year	Target	Actual
2010	5	6

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent of program participants that will become more environmentally aware due to new knowledge from informational materials provided and workshop presentations
2	Percent of program participants that will implement new environmental skills to improve natural resources and the environment
3	Percent of soil, air, and water samples meeting EPA standards after implementation of research project.

Outcome #1

1. Outcome Measures

Percent of program participants that will become more environmentally aware due to new knowledge from informational materials provided and workshop presentations

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In the absence of a rural environment, urban dwellers may not be as acquainted with the natural resources that surround them. Without proper knowledge and understanding, residents may bring harm to themselves and/or the environment. Thus, there is a need to provide basic environmental education as it pertains to water quality issues, urban forestry and/or gardening, and general stewardship.

What has been done

In conjunction with the city's Rock Creek Park, a class on "Invasive Species" was conducted for 25 residents. Thirteen (13) Invasive Species Fact Sheets were compiled into booklets and distributed throughout the District. The concept of an invasive species was introduced to four (4) elementary/middle school classes, approximately 60 students. Workshops and demonstrations were provided for 800 youth and 446 adults on issues related to water quality and water testing. Pre and posts tests were given to participants to determine knowledge.

Results

The participants learned what qualifies a species as invasive, the harm that invasive species cause, the ways in which they are spread, the different abatement techniques, as well as specific information for 19 invasive plants, pests and pathogens. All 25 trainees used their knowledge and participated in an invasive species removal project in parks in the District of Columbia. Along with 50 other volunteers, it is estimated that the project resulted in the removal of invasive species from an estimated 32 acres of District parkland. The results of the pre and posts test given to program participants in water quality workshops indicate that at least 50% of attendees increased their knowledge of drinking water issues. Scores on the post test were raised by 65%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
124	Urban Forestry

Outcome #2

1. Outcome Measures

Percent of program participants that will implement new environmental skills to improve natural resources and the environment

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	25	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Living in a totally urban environment oftentimes results in residents not being readily connected to the natural resources that surround them. As a means to familiarize DC residents with their urban ecosystem, the Environment and Natural Resources unit within the Cooperative Extension Service offers workshops and demonstrations that help to acquaint or reacquaint urbanites with natural resources through workshops, demonstrations, and literature dissemination.

What has been done

The Cooperative Extension Service co-taught an invasive species class of 25 with the Natural Resource Manager of the District's Rock Creek Park. Participants learned what qualifies a species as invasive, the harm that invasive species cause, the ways in which they are spread, the different abatement techniques, as well as specific information for 19 invasive plants, pests and pathogens.

Results

The 25 participants trained, along with 50 other city residents, participated in six (6) invasive species removal days in Rock Creek Park, Pope Branch Park, and a DC Parks and Recreation site in the District of Columbia, removing invasive species from an estimated 32 acres of District of Columbia parkland. Using the rate at which volunteer hours are valued in the District, the 75 volunteers donated the equivalent of \$4,911. This was leveraged by the in-kind contribution of

the assigned Extension Agent's hours; a conservative figure of the salary match is \$12,800.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
124	Urban Forestry
141	Air Resource Protection and Management

Outcome #3

1. Outcome Measures

Percent of soil, air, and water samples meeting EPA standards after implementation of research project.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Other (personnel changes)

Brief Explanation

The new Environmental Testing lab is still under renovation and should be completed by June 2011. This lab will serve the research and training needs of our faculty and students by integrating statistically analyzed quantitative data, generated from monitoring, and with mathematical models, interfaced with GIS, justify science based policies that impact the residents of the District of Columbia. The lack of external funding to conduct random testing of environmental parameters has unfortunately prevented us from meeting the set goal to test 1000 soil water plant and air sample. When completed, the lab will allow to implement this target goal.

In October of 2010, the Specialist and Supervisor for the Environment and Natural Resources Unit resigned. Due to the organizational changes and transition to the new College of Agriculture Urban Sustainability and Environmental Sciences, that position has not been filled. This has affected our outcomes related to pesticide training and safety as well as publication development. We anticipate filling the position by October, 2011.

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

1. Evaluation Studies Planned

- Before-After (before and after program)

Evaluation Results

Pre and Post tests were given to water quality workshop participants. On the average, post test scores were raised by 65% for at least 50% of the participants.

Key Items of Evaluation

CES has acquired clickers that will be used as another method of completing surveys. Using clickers will enable the agents to assess the participants' knowledge, provide immediate feedback and within seconds the agents can display a chart of the results. The clickers were used to assess change in behavior and conditions in focus group settings. Initially, training for CES agents who were new users of clickers was conducted by TurningPoint Technologies via a webinar. CES, has since, conducted follow-up training that consisted of one-on-one, hands-on with simulated situations for clicker usage. Most recently, the clickers were used at the Ward 8 Listening Session. Residents were asked various questions in reference to how CES could help them to enhance their quality of life through the activities that CES provides. The immediate results from the clickers (activities the residents thought would be most beneficial to members of their community) were displayed for the residents as well as AES and CES management staff to review.