V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Climate Change: Forestry and Wildlife

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	70%		60%	
124	Urban Forestry	20%		30%	
135	Aquatic and Terrestrial Wildlife	10%		10%	
	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	3.0	0.0	2.0	0.0
Actual	1.5	0.0	1.6	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
67977	0	210999	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
67977	0	210999	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
60857	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct workshops
Create/update webpages

Organize conferences
Provide training for local officials

2. Brief description of the target audience

Municipal officials
Community volunteers
Citizens
State officials and policy makers

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3000	6000	0	0
Actual	2800	5000	0	0

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	1	1	
Actual	2	3	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Fact sheets, bulletins and newsletters

Year	Target	Actual

2010	5	12

Output #2

Output Measure

- Short courses

  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Websites developed

Year	Target	Actual
2010	1	3

Output #4

Output Measure

- Books and monographs

Year	Target	Actual
2010	0	8

Output #5

Output Measure

- Conference abstracts

  Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Workshops and conferences hosted

Year	Target	Actual
2010	2	35

Output #7

Output Measure

- Presentations and short courses

Year	Target	Actual
2010	45	40

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of governmental and/or private sector entitties utilizing GIS approaches resulting - in part - from research and/or Extension programming
2	Number of qualified tree wardens appointed/reappointed by municipalities
3	Municipal Shade Tree Ordinances developed and/or revised
4	Stewardship Plans Developed
5	Increased understanding of fish and wildlife population patterns and/or behavior (# of patterns and/or behaviors)

Outcome #1

1. Outcome Measures

Number of governmental and/or private sector entitties utilizing GIS approaches resulting - in part - from research and/or Extension programming

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Geospatial technologies geographic information systems, (GIS) remote sensing, global positioning systems (GPS), and internet technologies are immensely powerful tools for individuals, communities, and Land and Sea Grant researchers and outreach professions. The use of these technologies for local land use planning, university outreach and research will provide a wide variety of benefits to these endeavors.

What has been done
The Geospatial Training Program (GTP), a program of CANR's Center for Land Use Education and Research (CLEAR), conducted regular training on GIS, GPS and related technologies for CT residents that included community officials, agency staff, fellow academicians, and professionals in the land use planning and environmental sectors. In addition, GTP faculty, supported by a competitive grant from the USDA/NIFA Water Program, conduct selected workshops across the nation for Land and Sea Grant water resource faculty interested in learning new GIS-internet fusion ?mashup? technology that can help them conduct their research and/or outreach programs.

Results
Over 300 officials and others learned about GIS technologies and how it can be used in decision-making. With help from the Connecticut Sea Grant Program and the Connecticut Department of Agriculture, Bureau of Aquaculture, the University of Connecticut Center for Land Use Education and Research (CLEAR) has developed an interactive online map viewer to provide municipal shellfish commissions with the tools, such as GIS, and information necessary to make informed decision regarding the siting of shellfisheries in their town.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
124	Urban Forestry
135	Aquatic and Terrestrial Wildlife

Outcome #2

1. Outcome Measures

Number of qualified tree wardens appointed/reappointed by municipalities

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	110

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Every municipality (169) in Connecticut is required by law to appoint a tree warden. The tree warden then has care and control over all municipal trees in their community. Tree wardens must have knowledge and skills in urban forestry, arboriculture, public policy, and the human dimensions of their work. The Connecticut Tree Warden School provides new knowledge to tree wardens to improve their ability to perform their work.

What has been done
: Tree Wardens Association of Connecticut, Inc.; Connecticut Urban In collaboration with the Forest Council, Inc.; Connecticut Department of Environmental Protection, Division of Forestry; Connecticut Agricultural Experiment Station; and the private company, Bartlett Tree Experts, 21 tree wardens, deputy tree wardens, municipal engineers participated in the 12th (2010) annual Tree Warden School.

Results
Over 65% of municipalities in Connecticut appointed a tree warden. One of the non-tangible aspects of many Connecticut towns is the 'New England' look - old homes, wide streets, and beautiful trees that contributes to tourism, and thus the local economy. Severe winters in Connecticut over the past several years have impacted trees - those towns with tree wardens are

more likely to have programs to replace damaged trees with those better adapted to the 21st century environment. Those passing the final course exam and continue to obtain required continuation education credits to maintain certification.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry

Outcome #3

1. Outcome Measures

Municipal Shade Tree Ordinances developed and/or revised

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As noted previously, beautiful trees are essential to the expected "New England" look which contributes to tourism. Maintaining and replacing trees in cities and towns under constant development pressure requires appropriate local ordinances.

What has been done
Model ordinances, local official training through the tree warden schools, and consultations provide muncipalities with information on which to make policy.

Results
Two towns developed or revised their municipal Shade Tree Ordinances.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry

Outcome #4

1. Outcome Measures

Stewardship Plans Developed

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The forest resource in Connecticut is increasingly parcelized and fragmented, compromizing the myriad public benefits forests provide for all citizens. Forests serve many functions, including carbon sequestration, value-added products such as wood, as well as intangibles such as recreation, wildlife habitat, and tourism value.

What has been done
Through partnerships with the state Dept. of Environmental Protection (Forstery Division), the USDA forstest Service, USDA Natural Resources Conservation Service and the CT Agricultural Experiement Station, presentations were made on the value, issues and strategics to maintain and improve Connecticut private woodlands. Audiences included the woodland owners, local officials, and state and federal partners. Students were involved through service-learning projects.

Results
Stewardship plans were developed by private landowners. Management plans were also developed for and by individuals enrolled in farmland protection programs. Results show enhanced water quality, carbon sequestration; improved biodiversity, increased rural economic activity, and enhanced woodland owner satisfaction. An estimated 900 acres of woodland were addressed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife

Outcome #5

1. Outcome Measures

Increased understanding of fish and wildlife population patterns and/or behavior (# of patterns and/or behaviors)

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

The economy and staffing changes were external factors.

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

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)

Evaluation Results

Key Items of Evaluation