

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

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	10%		0%	
112	Watershed Protection and Management	50%		0%	
131	Alternative Uses of Land	0%		10%	
132	Weather and Climate	40%		47%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		2%	
213	Weeds Affecting Plants	0%		41%	
	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	1.2	0.0	1.0	0.0
Actual Paid	0.0	0.0	0.8	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
11644	0	15525	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
122031	0	91455	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	127835	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Basic and Applied Research
- Facilitated Group Meetings and Conferences
- Printed Materials
- Single day workshop, presentation or event
- Websites or Other Computer-based Delivery

2. Brief description of the target audience

General public, land owners, food producers, municipal officials, state agencies and regulators

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1169	390	90	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	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Applied Research Projects
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Facilitated Group Meetings and Conferences

Year	Actual
2014	50

Output #3

Output Measure

- Printed Materials

Year	Actual
2014	2

Output #4

Output Measure

- Single day workshop, presentation or event

Year	Actual
2014	6

Output #5

Output Measure

- Websites or Other Computer-based Delivery

Year	Actual
2014	2

Output #6

Output Measure

- Peer review publications
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Analytic Tools and Techniques

Year	Actual
2014	1

Output #8

Output Measure

- Workshop series or educational course

Year	Actual
2014	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants acquire knowledge and skill to reduce or mitigate the effects or risks associated with future changes in climate or weather
2	Participants implement practices to reduce or mitigate the effects or risks associated with future changes in climate or weather
3	Creation and synthesis of knowledge related to future changes in climate or weather
4	Massachusetts Ecosystems are managed in ways that reduce or mitigate the effects or risks associated with future changes in climate or weather

Outcome #1

1. Outcome Measures

Participants acquire knowledge and skill to reduce or mitigate the effects or risks associated with future changes in climate or weather

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Despite the fact that the anthropogenic causes of climate change are global in nature and require solutions derived from grand scale international cooperative efforts, many of the effects are felt locally. A microcosm of the climate change problem can be found on the watershed scale as well, in the form of upstream causes and downstream effects. Understanding of the issues at hand can help forge good management decisions that help bolster resilience on the local level and alleviate damage to the watershed as a whole.

What has been done

Activities have focused on ecologically restorative flood prevention and remediation. We worked primarily with community agencies, facilitating discussions and developing and disseminating resources related to watershed management and flood resilience. We presented a variety of invited lectures and workshops and represented UMass Extension at meetings and conferences. We are in the process of creating a photo story documentation project for stakeholders who experienced major land changes as a result of Hurricane Irene.

Results

Our programs increased participants knowledge of the connection between water resources and climate change. This was true both for our direct stakeholders as well as the general public. We established the groundwork for assessment of wetland restoration success by providing a needed baseline soil-water metric. We experienced continued success in our efforts to create collaborative linkages between outreach and media focused groups and basic research scientists to maximize both the quality/quantity of data collected as well as its public impact.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #2

1. Outcome Measures

Participants implement practices to reduce or mitigate the effects or risks associated with future changes in climate or weather

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #3

1. Outcome Measures

Creation and synthesis of knowledge related to future changes in climate or weather

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Massachusetts Ecosystems are managed in ways that reduce or mitigate the effects or risks associated with future changes in climate or weather

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
132	Weather and Climate

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Our programs increased participants knowledge of the connection between water resources and climate change. This was true both for our direct stakeholders as well as the general public. We established the groundwork for assessment of wetland restoration success by providing a needed baseline soil-water metric. We experienced continued success in our efforts to create collaborative linkages between outreach and media focused groups and basic research scientists to maximize both the quality/quantity of data collected as well as its public impact.

Key Items of Evaluation