2007 University of Rhode Island Combined Research and Extension Annual Report

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I. Report Overview

1. Executive Summary

In this report we describe the activities of the Rhode Island Agricultural Experiment Station (RI AES) and Rhode Island Cooperative Extension (RI CE) collectively referred to as the Land Grant programs.RI AES and RI CE are collaborative elements within the College of the Environment and Life Sciences (CELS) at the University of Rhode Island.Administrative oversight of RIAES and RICE is provided by the Dean of CELS.Day to day management of the Land Grant programs is provided by the Associate Dean, Research and Outreach.The programs and projects supported within the Land Grant portfolio spans a wide range of disciplines, from the natural sciences to the social sciences and use great breadth in approach.The Land Grant programs are focused around a portfolio of 15 programs that include: 1) Improving the Quality of Life for Rural Rhode Islanders, 2) Food Safety, 3) Nutrition, Health and Obesity Prevention, 4) Food Insecurity and Nutrition in Vulnerable Populations, 5) Children, 4□H and Families, 6) Sustainable Communities, 7) Vector Borne Diseases and Human Health, 8) Aquaculture Biotechnology, 9) Water Quality, 10) Forestry and Wildlife, 11) Community Gardening and Outreach, 12) Health and Well□being of Livestock, 13) Horticulture and the Reduction of Pests and Disease Outbreaks in Plants , 14) Natural and Environmental Economics, Markets and Policy, and 15) College of the Environment and Life Sciences (CELS) Community Access to Research and Extension Services (CARES).

The Station and Extension are integral components of the missions of the College and University.The collaborative relationship with our federal partner, CSREES, has enabled our scientists, staff and students to leverage additional resources that provide cutting edge knowledge, essential services and innovative programming for all Rhode Islanders.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	Extension		Research	
	1862	1890	1862	1890
Plan	25.6	0.0	28.6	0.0
Actual	19.9	0.0	20.7	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External University Panel
- External Non-University Panel
- Expert Peer Review

2. Brief Explanation

Program review, including project merit and peer review, are the responsibility of the Director, Associate Director and five Program Leaders.

Projects are awarded through a competitive, outcome-oriented annual request for proposals.Project proposals are peer reviewed by scientists external to URI, a small panel of external experts and by the program leaders (internal).They are prioritized based on merit and anticipated outcome, as well as goodness of fit to the program areas, quality of science, integration with extension, and multistate collaboration.Projects normally run 3 years, and funding typically includes support for graduate students, a small operating budget, and travel.Station funds also support a limited number of support staff for research and outreach operations as well as partial support for other research associates and assistants.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief Explanation

Program Leaders and their project managers (or principal investigators) employ a variety of methods and actions to seek stakeholder input.Each of the actions above are used however, not by all Program Leaders and/or project managers.One of the great advantages of providing programming and seeking input in a small state like Rhode Island is the access that our program leaders, project managers, principal investigators, scientists, educators and staff have with stakeholder groups and individuals.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief Explanation

Program Leaders and their project managers (or principal investigators) employ a variety of methods and actions to identify stakeholders.Each of the methods above are used however, not by all Program Leaders and/or project managers (or PI's.)

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief Explanation

Program Leaders and their project managers (or principal investigators) employ a variety of methods and actions to identify stakeholders and seek input.Each of the methods above are used however, not by all Program Leaders and/or project managers (or PI's.)

3. A statement of how the input was considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Action Plans
- To Set Priorities

Brief Explanation

Input from stakeholders was used to identify emerging issues, to direct research, extension and integrated projects, to guide budgeting for projects and programs and to guide the Plan of Work.

Brief Explanation of what you learned from your Stakeholders

Stakeholders have many "wants".The key to development and delivery of successful projects and programs is sifting through the "wants" and developing programs that meet the needs.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
1016034	0	2077865	0

2. Totaled Actual dollars from Planned Programs Inputs

	Extension		Research	
	Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
Actual Formula	988254	0	1913158	0
Actual Matching	1017954	0	2098475	0
Actual All Other	0	0	0	0
Total Actual Expended	2006208	0	4011633	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years

Carryover	784481	0	827139	0

V. Planned Program Table of Content

S. NO.	PROGRAM NAME
1	Improving the Quality of Life for Rural Rhode Islanders
2	Food Safety
3	Nutrition, Health and Obesity Prevention
4	Food Insecurity and Nutrition in Vulnerable Populations
5	Children, 4-H and Families
6	Sustainable Communities
7	Vector Borne Diseases and Human Health
8	Aquaculture Biotechnology
9	Water Quality
10	Forestry and Wildlife
11	Community Gardening and Outreach
12	Health and Well-being of Livestock
13	Horticulture and the Reduction of Pests and Disease Outbreaks in Plants
14	Natural and Environmental Resource Economics, Markets and Policy
15	College of the Environment and Life Sciences Community Access to Research and Extension Services (CELS CARES)

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Improving the Quality of Life for Rural Rhode Islanders

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	30%		30%	
704	Nutrition and Hunger in the Population	70%		70%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.2	0.0	1.0	0.0
Actual	0.0	0.0	0.4	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	0	50479	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	61290	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Identify municipal partners. •Convene municipal partners with University staff and faculty. •Develop strategic plan for rural food insecurity investigation. •Provide training to municipal partners, students and volunteers. •Collect, compile and analyze community based food insecurity data (including developing food security assessment instruments). •Publish results of work in peer reviewed journals. •Publish the results of the work in public education publications (flyers, bulletins, newspaper). •Present the results of the work at state, regional or national meetings.

2. Brief description of the target audience

Policy makers (local and state government), social service agency personnel, extension educators, resident volunteers, medical service personnel, students, retail grocery personnel, emergency food providers.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	50	1000	0	0
2007	1000	10000	10	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	1	1

Output #2

Output Measure

- Student Training

Year	Target	Actual
2007	3	45

Output #3

Output Measure

- Professional Training

Year	Target	Actual
2007	10	5

Output #4

Output Measure

- Volunteer Training

Year	Target	Actual
2007	12	17

Output #5

Output Measure

- Conferences Hosted

Year	Target	Actual
2007	1	1

Output #6

Output Measure

- Community Service Efforts

Year	Target	Actual
2007	2	35

Output #7

Output Measure

- Fact Sheets, Bulletins, Assessment Instruments

Year	Target	Actual
2007	2	4

Output #8

Output Measure

- MS Thesis or PhD Dissertation

Year	Target	Actual
2007	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Development and/or refinement of food security and food access survey instruments (# developed per year)
2	Assess the food security and food access status of selected rural communities in Rhode Island and develop a strategic plan to address and improve identified issues (number of communities assessed per year)
3	Develop and sustain a community based coalition of municipal personnel, community volunteers, students, faculty and private industry (including the grocery industry) to link collective resources and intellect to improve food security and food access in rural communities (number of communities with working coalitions)

Outcome #1

1. Outcome Measures

Development and/or refinement of food security and food access survey instruments (# developed per year)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Rural consumers and health care advocates care about ready access to fresh fruit and vegetables at a reasonable cost.

What has been done

Cost and availability comparison between healthy market basket and USDA basket in food outlets where residents shop.

Results

It is possible to eat a healthy diet for only a few cents more.

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #2

1. Outcome Measures

Assess the food security and food access status of selected rural communities in Rhode Island and develop a strategic plan to address and improve identified issues (number of communities assessed per year)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Residents of rural communities and health care advocates want access to healthy food at a price they can afford.

What has been done

Maps, demographic charts and questionnaires created.

Results

Visual depiction of difficulty in accessing food in rural Rhode Island created.

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #3

1. Outcome Measures

Develop and sustain a community based coalition of municipal personnel, community volunteers, students, faculty and private industry (including the grocery industry) to link collective resources and intellect to improve food security and food access in rural communities (number of communities with working coalitions)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Access to food is a basic human right. Government and citizens expect Americans not to go hungry.

What has been done

Mapping, charts depicting food insecurity, surveys of public, public meetings and news articles - all RI-focus.

Results

Basic Needs Network created a food security subcommittee, public using data to try to create change.

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- 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.

Evaluation Results

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
711	Ensure Food Products Free of Harmful Chemicals, Including Residu	50%		50%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	1.8	0.0	0.0	0.0
Actual	2.0	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**
99288	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
128851	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Continue to implement HACCP training for RI school food service operations and residential childcare facilities. •Provide HACCP and sanitation education programs to seafood, meat/poultry, and juice processors. •Host an annual Food Safety Conference for public and private stakeholders. •Maintain a Good Agricultural Practices (GAP) Program for commercial growers of fruit and vegetables and home gardeners. •Maintain RI Food Safety Manager courses. •Develop internet-based training on Food Safety issues. •Develop Food Safety Curriculum materials for Special Needs students (ages 14-21).
•Develop an educational program on the risk/benefit of seafood consumption for healthcare providers.

2. Brief description of the target audience

Food industry and food service workers and managers, food processors, consumers, agricultural producers, home gardeners, school administrators, school-aged children and their caregivers, special needs students, teachers, community volunteers, Master Gardener volunteers and healthcare professionals..

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	350	1000	500	1000
2007	175	550	300	400

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	0	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2007	0	2

Output #2

Output Measure

- Abstracts

Year	Target	Actual
2007	0	5

Output #3

Output Measure

- Professional Training Sessions (educators, farmers, food industry and food service personnel)

Year	Target	Actual
2007	15	15

Output #4

Output Measure

- Volunteer Training

Year	Target	Actual
2007	10	3

Output #5

Output Measure

- Conferences Hosted

Year	Target	Actual
2007	1	1

Output #6

Output Measure

- School Based Training Sessions (teachers and children)

Year	Target	Actual
2007	3	1

Output #7

Output Measure

- Website Development and Refinement

Year	Target	Actual
2007	1	1

Output #8

Output Measure

- Student training

Year	Target	Actual
2007	1	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Provide food safety training to commercial growers of fruit and vegetables, food industry producers and school personnel (# trainings per year)
2	Develop and test internet based training for GMP and personal hygeine for processors and warehouses
3	Formulate new approaches to food safety education for consumers, schools and the food industry in Rhode Island

Outcome #1

1. Outcome Measures

Provide food safety training to commercial growers of fruit and vegetables, food industry producers and school personnel (# trainings per year)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	140

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

State and/or federal regulatory requirements and guidance.

What has been done

Training using standardized curriculum and regulation/guidance.

Results

Maintained or expanded business.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
711	Ensure Food Products Free of Harmful Chemicals, Including Residu

Outcome #2

1. Outcome Measures

Develop and test internet based training for GMP and personal hygeine for processors and warehouses

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All food industries regulated by FDA.

What has been done

Internet course was developed and reviewed.

Results

Internet course is available through Cornell University distance learning.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
711	Ensure Food Products Free of Harmful Chemicals, Including Residu

Outcome #3

1. Outcome Measures

Formulate new approaches to food safety education for consumers, schools and the food industry in Rhode Island

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The public and professionals who share food safety and health information with the public.

What has been done

Performed assessments, developed materials, and trained target audiences.

Results

Needs assessments have resulted in the development of effective training and materials.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
711	Ensure Food Products Free of Harmful Chemicals, Including Residu

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.)
- Other (No funding)

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Nutrition, Health and Obesity Prevention

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.3	0.0	0.5	0.0
Actual	0.7	0.0	0.4	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
11908	0	70488	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
65099	0	67971	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

For KA 703:

•Facilitate partnership with Latino communities •Conduct focus groups with Latinos •Develop health and nutrition assessment tools that are appropriate for the Latino audience •Develop and test interventional modalities for health maintenance and obesity prevention •Conduct surveys •Analyze data •Print materials and develop curriculum •Conduct workshops/interventions •Evaluate outcomes

2. Brief description of the target audience

KA 703: Latino men and women

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	200	0	0	0
2007	200	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Develop and conduct healthy weight focus group research component

Year	Target	Actual
2007	0	40

Output #2

Output Measure

- Develop, conduct and evaluate a pilot healthy weight group study

Year	Target	Actual
2007	1	72

Output #3

Output Measure

- Refine, deliver and evaluate major healthy weight intervention study

Year	Target	Actual
2007	0	72

Output #4

Output Measure

- Develop and refine techniques to investigate metabolic and hormonal mechanisms related to sugar consumption and weight outcomes

Year	Target	Actual
2007	1	0

Output #5

Output Measure

- Conduct metabolic studies

Year	Target	Actual
2007	1	0

Output #6

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	1	1

Output #7

Output Measure

- Abstracts

Year	Target	Actual
2007	1	1

Output #8

Output Measure

- Workshops

Year	Target	Actual
2007	1	1

Output #9

Output Measure

- Student Training

Year	Target	Actual
2007	3	3

Output #10

Output Measure

- Professional Training

Year	Target	Actual
2007	0	0

Output #11

Output Measure

- Scientific and Professional Presentations

Year	Target	Actual
2007	0	0

Output #12

Output Measure

- MS Thesis or PhD Dissertation

Year	Target	Actual
2007	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Create healthy weight assessment tools and intervention programs
2	Raise awareness and knowledge of healthy weight issues in the Latino population in Rhode Island (% change from baseline)
3	Increase maintenance of healthy weight among intervention participants (% achieving and maintaining healthy weight)
4	Increase understanding of metabolic and hormal mechanisms related to sugar consumption and weight outcomes
5	Increase research funding for obesity and weight studies by 10% each year
6	Identify factors contributing to overweight and obesity in the Latino population

Outcome #1

1. Outcome Measures

Create healthy weight assessment tools and intervention programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been deleted.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

Raise awareness and knowledge of healthy weight issues in the Latino population in Rhode Island (% change from baseline)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	40

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Barriers and facilitators to healthy eating and activity need to be identified and incorporated into culturally sensitive interventions for latinos.

What has been done

Focus groups indentified barriers and facilitators to healthful eating and activity.

Results

Cultural issues, economic constraints, and acculturation issues need to be addressed in interventions for latinos.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

Increase maintenance of healthy weight among intervention participants (% achieving and maintaining healthy weight)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	72

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Decrease excessive weight in latino population to reduce disease risk and improve overall health.

What has been done

Eight-week intervention with 18 week follow-up with 72 latinas.

Results

Program was effective in decreasing body weight, waist circumference, and BMI among overweight latinas.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

Increase understanding of metabolic and hormal mechanisms related to sugar consumption and weight outcomes

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been deleted.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures

Increase research funding for obesity and weight studies by 10% each year

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been deleted.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #6

1. Outcome Measures

Identify factors contributing to overweight and obesity in the Latino population

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been deleted.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during 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

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Insecurity and Nutrition in Vulnerable Populations

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%		50%	
704	Nutrition and Hunger in the Population	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	3.5	0.0	2.0	0.0
Actual	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	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Assess the diet quality of targeted low-income, vulnerable populations. •Assess the food security status of targeted low-income, vulnerable populations. •Assess the food resource management and food safety practices of the target audience. •Develop and implement assessment tools, curriculum, print materials and social marketing campaigns. •Evaluate the effectiveness of interventions and materials related to behavior change. •Facilitate and strengthen community partnerships. •Seek external funds to support program goals.

2. Brief description of the target audience

Low-income, Food Stamp eligible and participating families, children and older adults.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	4000	100000	5000	10000
2007	16000	250000	6500	100000

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	0	0

Output #2

Output Measure

- Abstracts

Year	Target	Actual
2007	1	1

Output #3

Output Measure

- Scientific/Professional presentations

Year	Target	Actual
2007	0	4

Output #4

Output Measure

- Website Development and Refinement

Year	Target	Actual
2007	1	1

Output #5

Output Measure

- Public Service Announcements and Social Marketing Campaigns

Year	Target	Actual
2007	1	1

Output #6

Output Measure

- Video Productions

Year	Target	Actual
2007	3	4

Output #7

Output Measure

- Curriculum Development and Delivery

Year	Target	Actual
2007	1	8

Output #8

Output Measure

- Fact Sheets, Bulletins and Newsletters

Year	Target	Actual
2007	20	35

Output #9

Output Measure

- Student Training

Year	Target	Actual
2007	4	10

Output #10

Output Measure

- Volunteer Training

Year	Target	Actual
2007	15	45

Output #11

Output Measure

- Workshops and Programs

Year	Target	Actual
2007	120	634

Output #12

Output Measure

- MS Thesis or PhD Dissertation

Year	Target	Actual
2007	2	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	25% of EFNEP and FSNE Families and Older Adults will improve dietary practices from baseline in one or more domains (diet quality, food security, food resource management, or food safety) thus reducing future risk of disease and improving health and quality of life (# representing 25%).

Outcome #1

1. Outcome Measures

25% of EFNEP and FSNE Families and Older Adults will improve dietary practices from baseline in one or more domains (diet quality, food security, food resource management, or food safety) thus reducing future risk of disease and improving health and quality of life (# representing 25%).

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	3722

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Health risks and subsequent medical costs associated with obesity and poverty continue to increase.

What has been done

Programming has targeted adults and children with limited resources (nutrition education, social marketing, distance information transfer and mass media).

Results

Increase in consumption of fruits and vegetables, increase in physical activity and improved food safety practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

As unemployment and rates of foreclosure increase, the number of people in economic distress and subsequently eligible for EFNEP and FSNE has increased.Social service agencies are competing for fewer state dollars.Population changes include new immigrants from the developing African countries of Eritrea and Burundi.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- 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

Key Items of Evaluation

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

Children, 4-H and Families

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	50%		0%	
806	Youth Development	50%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	5.0	0.0	0.0	0.0
Actual	4.0	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**
281014	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
139561	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Forge academic connections to strengthen CFF curriculums, provide undergraduate experiential learning opportunities, increase program research base and utilizes evaluation expertise to measure impacts and improve programs. •Connect target audience to CFF educational programs though workshops, web-based training and newsletters, 4-H volunteer training and curriculum guides (train the trainer), community-based agency trainings (train the trainer). •Develop resources and information to connect youth and families to community and land-grant resources (CFF to serve as the portal). •Expansion of the 4-H club system into currently underrepresented, urbanized areas of the state and creation of a state-wide network of 4-H science enrichment after school programs that serve as a catalystfor improve the science based knowledge, skills and academic motivation among urban elementary and middle school students.

2. Brief description of the target audience

Youth 5-18 years of age
Parents of targeted youth
Community-based family-serving agencies and organizations

Volunteers

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	1000	2000	1500	2000
2007	2273	1880	1973	1724

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Workshops

Year	Target	Actual
2007	30	52

Output #2

Output Measure

- Volunteer Training (number of new volunteers per year)

Year	Target	Actual
2007	50	49

Output #3

Output Measure

- 4-H Record Book Submissions

Year	Target	Actual
2007	150	123

Output #4

Output Measure

- Youth reached through programs

Year	Target	Actual
2007	1000	2216

Output #5

Output Measure

- Number of community/family serving groups and organizations reached

Year	Target	Actual
2007	25	101

Output #6

Output Measure

- Number of referrals

Year	Target	Actual
2007	100	25

Output #7

Output Measure

- Community Service (# of projects per year)

Year	Target	Actual
2007	50	71

Output #8

Output Measure

- Activities and Programs (# per year)

Year	Target	Actual
2007	25	34

Output #9

Output Measure

- Student Training (# per year)

Year	Target	Actual
2007	20	12

Output #10

Output Measure

- Website development and refinement

Year	Target	Actual
2007	2	3

Output #11

Output Measure

- Curriculum development and delivery

Year	Target	Actual
2007	1	16

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Through project work and science and health enrichment programs, (%) 4-H club members and after school group members will demonstrate increased knowledge and skills that can be incorporated into their academic and personal lives.
2	% of enrolled 4-H youth who will demonstrate a commitment and understanding of their community and a sense of connectivity through increased delivery of community service programs to those in need.
3	Though training programs, club leadership activities and adult mentors, % of 4-H members who will develop leadership skills (e.g., public speaking, project leadership), gain confidence in their ability to lead and make a difference in their schools and communities and to incorporate these life skills into their daily lives.
4	% of parents, volunteers and adults serving youth and their families who will gain knowledge and skills that will foster positive youth development and family health and well-being.
5	% of parents who will learn and adopt more effective methods for parental discipline of children and better use of family time.
6	Through connecting to the vast land-grant system of resources and educational opportunities, % of parents and youth-serving adults who will gain knowledge and skills in risk reduction and adopt practices that promote health and safety within the family and community.
7	Pre-post measurement of educational activities, workshops to measure increases in knowledge and skills, focus groups and surveys to assess practice change and adoption, analysis of contact information and demographics to measure expansion of programs to currently underrepresented groups (urban, cultural-diverse communities, minorities, etc.) (Number of assessments per year)

Outcome #1

1. Outcome Measures

Through project work and science and health enrichment programs, (%) 4-H club members and after school group members will demonstrate increased knowledge and skills that can be incorporated into their academic and personal lives.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	46

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Family structures are stressed by poverty and a decreasing community connection creating weakened environments for child rearing. By connecting families to the educational resources of their land-grant institution and community-based organizations, parents will be empower, through knowledge and improved parenting skills, to directly impact the health and well-being of their family members and community.

What has been done

Home Day Care providers were trained (for college credit) utilizing developmentally appropriate curricula. High school students were trained through a community service child care project utilizing CYF curricula - Pre School to age 5 and then volunteered 220 hours in day care centers in their respective school districts receiving 6 undergraduate credits after submitting portfolios. TrY CAPs youth program gained non-profit status and were referred to the CELS 4-H program and became a 4-H special interest group and utilized 4-H curricula in their summer camps.

Results

68 high school seniors participated in the community service child care project college credit option from 8 RI high schools and worked with 1,355 children in preschool through grade 5. 68 student portfolios were completed for credit. 98% of the high school seniors received a portfolio grade of B+ or above and 70% of the seniors have been referred to college and transferring the 6 credits as either free elective or child development credits. 5 Latino Home Day Care providers received a portfolio grade of 89% or higher.

A total of 162 youth were reached through the Try CAPS youth programs. The TrY CAPS Advisory board (8 people) meet regularly to provide leadership to the program. 38 youth and 20 adults attended a Citizenship field trip to Washington, DC. Youth participants have improved their school performance, increased their community connections and empowered their parents to participate in training and form a support group (documented through portfolios and self-report).

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

% of enrolled 4-H youth who will demonstrate a commitment and understanding of their community and a sense of connectivity through increased delivery of community service programs to those in need.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many youth lack opportunities to engage in positive out-of-school educational programs under the mentorship of a caring adult that will allow them to develop valuable life skills while creating connections to the larger community and aiding them in successfully making the transitions into productive, contributing adults.

What has been done

RI 4-H clubs are encouraged (and supported by the State 4-H Office) to plan and conduct at least one community serve project during the 4-H Year. State 4-H newsletters provide information on potential community service projects and connections to citizens and organizations in need. In addition, 4-Hers who submit record books must document community service activities and hours.

Results

The State 4-H staff documented 30 RI 4-H clubs who completed an average of 3 community service projects in FY07. This represents approximately 50% of the active RI 4-H community and after-school clubs.
One hundred and twenty three 4-H youth submitted record books (14.8% of 4-H youth enrolled) documented 2264 hours of community service. Three hundred and thirty one 4-H club members list Community Service as a project on their enrollment form.

Three 4-H clubs received and completed Cumberland Farms Youth In Action Grants. The community service programs included suppport for military families (Her Pack project), a community clean up day and environmental program and thirdly an animal science education program delivered at the Roger Williams Park Zoo and 4-H Fairs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

Though training programs, club leadership activities and adult mentors, % of 4-H members who will develop leadership skills (e.g., public speaking, project leadership), gain confidence in their ability to lead and make a difference in their schools and communities and to incorporate these life skills into their daily lives.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	18

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many youth are lacking in school and family-centered opportunities and support to increase their communications and leadership skills. Youth need a safe and nurturing environment to test their abilities and receive constructive and supportive feedback. Encouragement by caring adults and positive peer support enable your to develop confidence and incorporate these life skills into their school and community settings.

What has been done

4-H volunteers and staff provide public presentation training through club meetings and workshops for youth and their parents. District and State Public Presentation Contest are held for youth to demonstrate their skills and receive positive feedback. Teen Leaders are provided with numerous opportunities to assume leadership roles within the RI CELS 4-H Program.

Results

One hundred and sixteen 4-H members participated in the district public presentation contests. 82% of the participants received a score of 85% or higher (Danish Blue).

4-H teens assumed major leadership rolls as Teen Leaders in Beef, Dairy, Dairy Goat and Horse at the Eastern States Exposition: In addition, 4-H Teens (including National 4-H Conference delegates) planned and implemented the RI CELS 4-H Junior Conference and the MA/RI Teen Leadership Conferences (planned the event, conducted workshops, organized activities). As a result of increased demand for teen leadership opportunites on the state level, the State 4-H Staff have identified the need to develop and nurture a statewide Teen Leadership Council that will provide guidance to the state staff and assist in the expansion of leadership opportunities for 4-H youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

% of parents, volunteers and adults serving youth and their families who will gain knowledge and skills that will foster positive youth development and family health and well-being.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The number of RI children living in poverty continues to increase. Family structures are stressed by poverty and a decreasing community connection creating a weakened environment for child rearing. There is limited access to social programs for youth and families and links between service providers and families has decreased.

What has been done

A 2007 focus group format was developed and implemented with 6 Parent to Parent Support Groups. The FACE IT Providence Community Advisory Board (CAB) held monthly meetings to share resources and exchange programmatic information. Partner agencies collaborated on a Youth and Family Conference, a Health Information Conference on free medical assistance and sponsored a community art program for neighborhood children at risk.

Results

Parent to Parent Support Groups - 122 useable focus group surveys were collected and analyzed - topics of most importance fell into 2 groups: Education/School & Health and Parenting Strategies and Education. 58% expressed interest contributing to the planning of future parent-to-parent support groups.

Results of the CAB collaborative (providing leadership for service projects benefitting 3 high risk Providence neighborhoods) included 11 agencies received mini grants to implement community beautification projects: 600 families participated in the Holiday program and toy drive; CAB provided speakers on Affordable Housing and Advocating within the school system: a Project Drug Free Night and URI Early Childhood Jump Start information session. Inter-agency questionnaires resulted in 50.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #5

1. Outcome Measures

% of parents who will learn and adopt more effective methods for parental discipline of children and better use of family time.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The number of children in poverty continues to increase in Rhode Island. Family structures are stressed by poverty and a decreasing community connection creating a weakened environment for child rearing. Parents lack skills in teaching their children limits, how to avoid violence, cope with peer pressure and experimentation with destructive behaviors. On going and caring relationships, both within and out side of the family are essential to positive youth development.

What has been done

Neighborhood survey to determine relationship between perception of community, parenting style, levels of instrumental and emotional support, usage of community resources and attendance at workshops. Developed/delivered 30 workshops addressing parenting strategies. Completed FACE IT CYFAR grant, Year 1 of science after-school project for Providence middle school students and submitted new CYFAR grant Pathways for Success in Science and Technology. Developed 6 e-mail correspondence classes.

Results

Nurturing Practices Survey (150 useable) to assess: Parents will learn more effective methods of parental discipline and better use of family time. Workshops reached 1143 adults and parents: Sample topics: Managing the Challenges of Parenthood, Providing Structure and Nurturance, Positive Guidance and Discipline, Helping Children Cope with Stress.

'Pre-post' tests administered to assess the quality of the workshop, presenters and content. 97% of respondents rated the workshop quality as Great or Perfect, 98% rated the presenter quality as Great to Perfect. Compared to parents not attending, parents attending these workshops engage significantly in more nurturing parenting and less harsh parenting styles. Due to the transient nature of this population practices adopted cannot be assessed at this time. Designed and delivered Diversity Training to 10 CELS undergrads with the 4-H Pathways for Success in Science (PSS) grant and taught 30 urban middle school students through PSS project.

4. Associated Knowledge Areas

KA Code	Knowledge Area

802 Human Development and Family Well-Being

Outcome #6

1. Outcome Measures

Through connecting to the vast land-grant system of resources and educational opportunities, % of parents and youth-serving adults who will gain knowledge and skills in risk reduction and adopt practices that promote health and safety within the family and community.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	15	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Family structures are stressed by poverty and a decreasing community connection creating weakened environments for child rearing. By connecting families to the educational resources of their land-grant institution and community-based organizations, parents will be empowered, through knowledge and improved parenting skills, to directly impact the health and well-being of their family members and community.

What has been done

Home Day Care providers were trained (for college credit) utilizing developmentally appropriate curricula. High school students were trained through a community service child care project utilizing CYF curricula - Pre School to age 5 and then volunteered 220 hours in day care centers in their respective school districts receiving 6 undergraduate credits after submitting portfolios. TrY CAPs youth program gained non-profit status and were referred to the CELS 4-H program and became a 4-H special interest group and utilized 4-H curricula in their summer camps.

Results

68 high school seniors participated in the community service child care project college credit option from 8 RI high schools and worked with 1,355 children in preschool through grade 5. 68 student portfolios were completed for credit. 98% of the high school seniors received a portfolio grade of B+ or above and 70% of the seniors have been referred to college and are transferring the 6 credits as either free elective or child development credits. 5 Latino Home Day Care providers received a portfolio grade of 89% or higher.

A total of 162 youth were reached through the Try CAPS youth programs. The TrY CAPS Advisory board (8 people) meet regularly to provide leadership to the program. 38 youth and 20 adults attended a Citizenship field trip to Washington, DC. Youth participants have improved their school performance, increased their community connections and empowered their parents to participate in training and form a support group (documented through portfolios and self-report).

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

Pre-post measurement of educational activities, workshops to measure increases in knowledge and skills, focus groups and surveys to assess practice change and adoption, analysis of contact information and demographics to measure expansion of programs to currently underrepresented groups (urban, cultural-diverse communities, minorities, etc.) (Number of assessments per year)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The development of 'pre-post' evaluation tools to assess increases in knowledge and skills and practice change within the traditional 4-H educational system has been defined a national need. In addition, significant efforts need to be initiated to expand the demographics of the RI 4-H program to include currently underrepresented groups.

What has been done

FY2007 4-H program data will serve as a baseline for tracking the programmatic efforts to expand the 4-H program into currently underrepresented groups and urban settings through after-school science enrichment programs and new partnerships with agencies and organizations that represent and serve these audiences.

Results

Year one data of a two year grant targeting Providence middle school students are who currently underrepresented in higher education science majors (4-H Pathways for Success in Science) has been collected (low participating numbers made it inappropriate to share preliminary findings at this time). At the conclusion of the two year project (September 2008) evaluation results that measure increases in science-related knowledge and laboratory skills and change in attitude towards studying math and science will be reported.

Evaluation results of workshops, focus groups and surveys targeting parents and youth-serving agencies and organizations in high risk neighborhoods throughout the state have been reported under the appropriate outcome.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

The RI CFF Program area developed the 2007 POW with anticipated outputs and outcomes based on the projected new vision and planning process that continued through FY07 and into FY08.During this period programming by the 4-H staff and Family Life Specialist (includes CYFAR grant) continued based on the previous POW and with a eye to the future of a united (one team one plan).Previously these two program groups had functioned independently of each other.The final plan was submitted to administration and significant changes were made in FY08.Collaboration will still be a priority but the 2 programming units will not continue to function as one unit.A revised POW will be submitted to reflect new directions.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Program evaluation results are included in the Outcomes section - no special evaluation studies were conducted in FY07.

Key Items of Evaluation

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

Sustainable Communities

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	25%		25%	
602	Business Management, Finance, and Taxation	25%		25%	
605	Natural Resource and Environmental Economics	25%		25%	
608	Community Resource Planning and Development	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	1.0	0.0	0.0	0.0
Actual	0.9	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**
93412	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Study and promote commercial farm viability. •Promote responsible stewardship of agricultural lands. •Work with municipalities and community members to manage natural and economic resources wisely. •Teach and promote sustainable development techniques and management to communities. •Promote, enhance and expand sustainable tourism in the state of Rhode Island.

2. Brief description of the target audience

Farmers/ Farm Organizations
RI Department of Environmental Management (RI DEM), Division of Agriculture
RI Center for Agricultural Promotion & Education
Other Agricultural Service Providers
Tourism Councils and Tourism Businesses
Land Trusts
Policy Makers and Municipal Leaders
Grassroots and Community Organizations

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	500	10000	0	500
2007	500	1000	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Identify new muncipal partners

Year	Target	Actual
2007	1	1

Output #2

Output Measure

- Conduct Community based workshops

Year	Target	Actual
2007	8	8

Output #3

Output Measure

- Professional training

Year	Target	Actual
2007	6	6

Output #4

Output Measure

- Public presentations

Year	Target	Actual
2007	5	5

Output #5

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	1

Output #6

Output Measure

- Student Training

Year	Target	Actual
2007	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Provide information and training to municipal leaders and organizations on management of natural resources and community assets.
2	Provide information and training to farmers and rural landowners on estate planning strategies and economic development opportunities.
3	Improve viability of agriculture in the state of Rhode Island through farmer education/information and consulting concerning sustainable agricultural practices, value added products and agritourism.
4	Consult with grassroots and municipal bodies to identify planning processes and strategies that preserve viable farmland, promote sustainability and economic development

Outcome #1

1. Outcome Measures

Provide information and training to municipal leaders and organizations on management of natural resources and community assets.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The impact of residential and commercial development on rural areas has increased costs of municipal services/infrastructure and poorly planned growth is also creating spawl pattern development. This trend has resulted in the loss of farms and open space, placed increased pressure on soil and water resources and negatively impacts valued rural character.

What has been done

URI Extension provided sustainable development and farm viability information, and organizational development support, and technical assistance/consulting services for agricultural and tourism interests including: RI Center for Ag Promotion and Education (RICAPE) regarding ag tourism education; Town of Charlestown RI re scenic roadway mangement; RI tourism interests via Blackstone Valley Tourism Council/RI Geo-tourism Initiative.

Results

Collaborated with RICAPE on its 'FarmWays' program which provided training for 80 farm operators in agricultural tourism and direct marketing. Extension has also worked to build RICAPE's service capacity by advising its board and staff in the areas of strategic planning, program and organizational development. URI Extension worked with 7 Northeast states to create the New England Agricultural Tourism Network. Extension, worked with the Blackstone Valley Tourism Council to plan and facilitate the RI Sustainable Tourism Summit in which eighty-five tourism professionals, and government and business representatives learned principles of sustainable tourism and developed a blueprint for sustainable development and management of tourism assets in RI.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
605	Natural Resource and Environmental Economics
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Provide information and training to farmers and rural landowners on estate planning strategies and economic development opportunities.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A key to keeping family farms operating is the successful transfer of the famr to the next generation. In order to make informed decisions and reduce risk, farmers need information on strategies and skills to navigate the farm transition process, including family communication and goal setting, estate and retirement planning, and tools to transfer farm management and assets.

What has been done

URI Extension partnered four land-grant universities and affiliate organizations throughout New England to establish Farm Tranfer Network of New England (FTNNE)- a regional collaborative to develop and deliver information resources and education programs about farm transition/transfer and related estate planning issues.

Results

In RI, introductory 'Tranferring the Farm' workshops were held 3/16/06 and 3/13/07. A total of 80 farmers and 25 agricultural service professionals attended these workshops. An advanced farm transfer workshop was held March 27, 2007, attended by 35 farmers and 12 agricultural service/land management professionals. This year FTNNE has also created a website on farm transfer/estate planning resources.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures
Improve viability of agriculture in the state of Rhode Island through farmer education/information and consulting concerning sustainable agricultural practices, value added products and agritourism.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Input provided by farmers/producers and agricultural service providers show strong interest among farmers to be more profitable by increasing and diversifying production, introducing value added products and growing to specialty markets. Uniformly, farmers also cite a strong need for agricultural technical support, problem solving assistance, information and consulting services on sustainable agricultural practices, as well as marketing and business planning.

What has been done

Extension implemented a comprehensive system of technical support for small-scale farmers. The initiative consisted of a consulting/problem solving service, including in-depth case management, information/training programs, and on-the-ground production/farm management recommendations. Additionally, an interactive website, listserv and toll-free hotline were created. A representative sustainable agriculture program advisory committee was established and a needs assessment of farmers was conducted.

Results

Over 60 farm visits were conducted in which production/problem solving assistance was provided; two training programs were conducterd in which 75 farmers learned about soil health, new vegetable varieties and perimeter trap cropping; over 200 farmers used new toll free call in to receive planting recommendations and related guidance; staff supported farmer research on over-wintering bees; Other outreach through speaking engagements workshops and exhibits reached nearly 800 agriculturists with agricultural information and resource identification and funding opportunities. Staff conducted crop trails on new ethnically desirable vegetable varieties with results disseminated through feature articles, public talks and workshops the initiative produced 75,000 lbs. of vegetables which were donated to the RI Food Bank.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

Consult with grassroots and municipal bodies to identify planning processes and strategies that preserve viable farmland, promote sustainability and economic development

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

RI rural communities face challenges of balancing the need for economic growth while maintaining their valued rural character and natural resource base. Preserving working farms and planning tourism (a leading RI industry) which is sustainable and preserves rural amenities are community development strategies that address these planning challenges.

What has been done

Extension collaborated with RI's Blackstone Valley Tourism Council (BVTC) to develop a position paper on sustainable tourism development in RI. The paper was circulatd to key legislators and state agencies. Follow up meetings resulted in the formation of the RI Sustainable Tourism Network and Sustainable Tourism Summit. Extension conducted two workshops relating to farm transfer, preservation/acquisition workshops.

Results

Through summit attendance and group meetings, thirty five state legislators, agency heads and minicipal/business leaders learned about the principles and practices of sustainable tourism and economic benefits of sustainable tourism development and management. Twenty eight state and local community leaders, planners and conservation organizations attended farm transfer workshops providing information on how land trusts and municipaltities can work with land owners to maintain working frames and open lands. Extension in association with URI's Landscape Architecture Program, conducted a site assessment of URI's 300 acre Peckham Farm. Approximately 75 faculty, staff, extension clientele, agency partners and community stakeholders were engaged in an in-depth survey, and facilitated community forums (2) designed to elicit opinions and suggestions for the future of the farm and extension sustainable agriculture programs. Extension staff worked with the town of Charlestown, RI to develop a scenic roadway managment plan.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
605	Natural Resource and Environmental Economics
601	Economics of Agricultural Production and Farm Management

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

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- 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

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

Vector Borne Diseases and Human Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
721	Insects and Other Pests Affecting Humans	20%		20%	
722	Zoonotic Diseases and Parasites Affecting Humans	80%		80%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	2.0	0.0
Actual	0.8	0.0	0.9	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
54604	0	40046	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
87771	0	61858	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Use surveillance data accumulated over a dozen years to develop new tools to pinpoint risk, both spatially and seasonally.
- Use computer models to view disease patterns in Rhode Island and to develop models for disease risk.
- Determine landscape patterns that present the greatest risk for encountering a tick bite.
- Formulate landscape plans to reduce the chances of encounters between ticks and people.
- Create a web-based decision support system. Using this system, people will be able to compile a customized risk index and then follow links that will help them devise short- and long-term disease prevention action plans.
- Reduce tick abundance community-wide by using USDA-designed 4-posters, which are devices that attract deer with corn dispensed in small amounts.
- Study the salivary glands of ticks to find compounds from ticks with potential pharmacological value, formulate novel vaccination strategies to prevent tick-transmitted infections, develop biomolecular assays for tick-borne pathogens, elucidate transmission dynamics of pathogens among tick vectors and vertebrate hosts, and discover and evaluate natural enemies of ticks.

2. Brief description of the target audience

The target audience will be diverse and will represent all Rhode Islanders, especially those at greatestrisk of contracting vector borne diseases.This audience will include: Community members, Grassroots agencies,Municipal and State Policy Makers, Home owners, Educational Institutions.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	100	10000	100	5000
2007	500	40000	200	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

2006 U.S. Patent (no. 7,153,947)/European Patent (pending). Ribeiro, J.M.C., J.G. Valenzuela, R. Charlab, T.N.Mather. Ixodes salivary anticomplement protein.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	5	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	3	5

Output #2

Output Measure

- Books and monographs

Year	Target	Actual
2007	0	0

Output #3

Output Measure

- Abstracts

Year	Target	Actual
2007	4	5

Output #4

Output Measure

- Conference proceedings

Year	Target	Actual
2007	1	0

Output #5

Output Measure

- Workshops

Year	Target	Actual
2007	10	16

Output #6

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	1

Output #7

Output Measure

- Public presentations

Year	Target	Actual
2007	3	20

Output #8

Output Measure

- Public service announcements

Year	Target	Actual
2007	2	0

Output #9

Output Measure

- Student training

Year	Target	Actual
2007	2	3

Output #10

Output Measure

- M.S. theses and Ph.D. dissertations

Year	Target	Actual
2007	1	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Identify areas of high risk for vector borne diseases in Rhode Island
2	Create tick surveillance database
3	Create web-based decision suupport system to reduce risk to vector borne diseases.
4	Reduce tick abundance community-wide
5	Characterize the salivary glands of ticks to identify compounds of potential pharmacological value
6	Formulate novel vaccination strategies to prevent tick-transmitted diseases
7	Elucidate transmission dynamics of pathogens among tick vectors
8	Increase research funding

Outcome #1

1. Outcome Measures

Identify areas of high risk for vector borne diseases in Rhode Island

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We have mapped and identified areas of high tick density in Rhode Island. We also have developed strategies to eliminate tick habitats.

Results

We share the high tick density maps with Rhode Islanders through our website: http://www.tickencounter.org/

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #2

1. Outcome Measures

Create tick surveillance database

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We have created a tick surveillance database.

Results

We have used the tick surveillance database to identify areas of risk for vector borne diseases in Rhode Island.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #3

1. Outcome Measures

Create web-based decision suupport system to reduce risk to vector borne diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We have created a web-based decision support system http://www.tickencounter.org/prevention/

Results

Based on the number of hits on the website, we know the Rhode Islanders are using the decision support systme.

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans
721	Insects and Other Pests Affecting Humans

Outcome #4

1. Outcome Measures

Reduce tick abundance community-wide

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We have developed a web-based system for Rhode Islanders that describes strategies for eliminating tick habitat and controlling ticks.

Results

We expect that a reduction in the incidence of tick bites and vector borne diseases will be indicative of a reduction in tick abundance. Field based surveys show yearly variation in tick abundance.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #5

1. Outcome Measures

Characterize the salivary glands of ticks to identify compounds of potential pharmacological value

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We continue to characterize the salivary glands of deer ticks. Specifically, we continue to investigate the tick's salivary transcriptome.

Results

We have identified a number of salivary antigens using a suite of high-throughput screening tools. These antigens are candidates for anti-tick vaccines.

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans
721	Insects and Other Pests Affecting Humans

Outcome #6

1. Outcome Measures

Formulate novel vaccination strategies to prevent tick-transmitted diseases

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We continue to characterize the salivary glands of deer ticks. Specifically, we continue to investigate the tick's salivary transcriptome.

Results

We have identified a number of salivary antigens using a suite of high-throughput screening tools. These antigens are candidates for anti-tick vaccines.

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans
721	Insects and Other Pests Affecting Humans

Outcome #7

1. Outcome Measures

Elucidate transmission dynamics of pathogens among tick vectors

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

We have determined that several ecological factors are likely to affect tick abundance and, hence, transmission of disease.

Results

We provided Rhode Islanders with access to information to reduce and prevent the incidence of tick borne diseases.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #8

1. Outcome Measures

Increase research funding

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many Rhode Islanders are at risk for tick borne diseases (e.g., Lyme disease, babesiosis, erlichiosis.) These diseases have, and continue, to cause sickness and death.

What has been done

Grant proposals have been submitted to several agencies including: URI AES, USDA-CSREES and the NIH.

Results

New funds were secured to continue these important research and outreach programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans
721	Insects and Other Pests Affecting Humans

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Appropriations changes
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Human behavior)

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #8

V(A). Planned Program (Summary)

1. Name of the Planned Program

Aquaculture Biotechnology

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
302	Nutrient Utilization in Animals	25%		25%	
304	Animal Genome	25%		25%	
307	Animal Management Systems	15%		15%	
311	Animal Diseases	35%		35%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	0.5	0.0	2.0	0.0
Actual	0.8	0.0	1.1	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**
43521	0	50010	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
13060	0	89122	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The projects under this project heading investigated six different topic areas in aquaculture with direct relevance to the state, region and nation.The specific areas were:1) causes of diseases of shellfish and performance of disease resistant strains, 2) utilization of plant proteins as substitutes for fish meal in diets of carnivorous fish, 3) genetic factors controlling muscle growth in rainbow trout, 4) culture of new candidate species for Rhode Island, 5) development and production of commercial products such as feeds, genetic seed and vaccines and 6) promote environmentally sustainable aquaculture production practices.

2. Brief description of the target audience

Aquaculture industry
Terrestrial farmers (interested in integrated aquaculture/agriculture)
Producers
Distributers
Scientists
Rhode Island Department of Environmental Management
Policy Makers
USDA/NRCS

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	200	1000	75	0
2007	150	1500	25	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2007	3	1

Output #2

Output Measure

- Books and Monographs

Year	Target	Actual
2007	0	0

Output #3

Output Measure

- Abstracts

Year	Target	Actual
2007	2	5

Output #4

Output Measure

- Scientific and Professional Presentations

Year	Target	Actual
2007	2	0

Output #5

Output Measure

- Workshops

Year	Target	Actual
2007	2	0

Output #6

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	0

Output #7

Output Measure

- Student training

Year	Target	Actual
2007	3	4

Output #8

Output Measure

- MS theses and PhD dissertations

Year	Target	Actual
2007	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Increased aquaculture production in Rhode Island (both of current species and new species)
2	Increased economic profitability for aquaculture farmers and terrestrial farmers who integrate aquaculture production with their traditional crops
3	Improved sustainable farming practices employed by the aquaculture industry and integrated terrestrial farmers
4	The use of squid hydrolysate in diets for fish.
5	Improved aquaculture through the introduction of new stocks and strains.

Outcome #1

1. Outcome Measures

Increased aquaculture production in Rhode Island (both of current species and new species)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The importance of aquaculture in meeting the increasing onsumer demand for seafood continues to grow in the face of declining stocks of fish harvested by traditional capture fisheries.

What has been done

Through meetings and preparation of reports for the legislature, efforts to increase shellfish culture in Narragansett Bay and associated salt ponds have been recommended. Disease surveys of oysters are being conducted in efforts to enhance production by using strains resistant to the pathogens found in Rhode Island waters.

Results

Recommendations to allow an increase in shellfish culture should increase overall aquaculture in the state of Rhode Island. Increased culture of oysters has the potential to increase employment, particularly of displaced commercial fishermen, and add to the seafood economy of the state.

4. Associated Knowledge Areas

KA Code	Knowledge Area
304	Animal Genome
311	Animal Diseases

Outcome #2

1. Outcome Measures

Increased economic profitability for aquaculture farmers and terrestrial farmers who integrate aquaculture production with their traditional crops

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been deleted.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
302	Nutrient Utilization in Animals

Outcome #3

1. Outcome Measures

Improved sustainable farming practices employed by the aquaculture industry and integrated terrestrial farmers

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How much space in Narragansett Bay and surrounding waters should be allocated to aquaculture.

What has been done

Commission impaneled to examine issue.

Results

It was determined that up to 5% of Narragansett Bay and surrounding waters should be allocated to aquaculture.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #4

1. Outcome Measures

The use of squid hydrolysate in diets for fish.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Fish meal is a major component in the diet of carnivorous fish that are commercially cultured. The availability of fish meal is likely to decrease in the future and the price is increasing. Alternative sources of high quality protein could reduce the need for fish meal in aquaculture of these species.

What has been done

Investigations have been conducted to assess whether squid hydrolysate meets the nutritional requirements of salmon and can be used as a substitute for fish meal. The percentage of squid hydrolysate that can be used is being tested.

Results

Squid hydrolysate appears to be a suitable replacement for a percentage of the fish meal in the diet. Not only does squid hydrolysate reduce the percentage of fish meal required in the diet, but it provides a use for an under utilized product generated by local traditional fisheries.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #5

1. Outcome Measures
Improved aquaculture through the introduction of new stocks and strains.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Enhancing growth rate and other production characteristics of commercially cultured species can increase the efficiency and economic viability of aquaculture.

What has been done

Stocks of transgenic trout producing inhibitors to factors that regulate the rate of growth have been produced.

Results

With these strains in hand, investigations will be conducted to assess whether growth can be enhanced by inhibition of these factors. If so, non-genetic means to alter the levels of these factors (e.g., diet) will be investigated in the near future.

4. Associated Knowledge Areas

KA Code	Knowledge Area
304	Animal Genome

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Government Regulations
- Competing Public priorities

Brief Explanation

There were no significant factors that impacted the outcomes of the work.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Key Items of Evaluation

Program #9

V(A). Planned Program (Summary)

1. Name of the Planned Program

Water Quality

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%	
112	Watershed Protection and Management	50%		50%	
131	Alternative Uses of Land	15%		15%	
133	Pollution Prevention and Mitigation	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	7.0	0.0
Actual	2.4	0.0	3.6	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
211862	0	216157	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
65675	0	231506	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Studies will be conducted to investigate the sources, fate and transport of nonpoint source contaminants in surface and ground water systems. •The efficacy of different management practices will be evaluated at the local and watershed scale. •New approaches to relate soil and landscape features to water quality stressors will be researched. •Outreach efforts to community decision makers, agricultural, residential and engineering/regulatory community will be conducted. •Demonstration sites will be established for use in such research and extension programs. •Publications, fact sheets, web sites will be developed, produced and disseminated.

2. Brief description of the target audience

Public decision makers / Policy makers (local, state and federal agencies)

Municipal planners

Private sector firms engaged in watershed management, landscaping, onsite waste water treatment and private wells

A variety of NGOs (land trusts, environmental organizations, etc).

Agricultural producers

The general public

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	400	3000	0	0
2007	550	3000	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	4	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2007	4	4

Output #2

Output Measure

- Fact sheets, bulletins and newsletters

Year	Target	Actual
2007	10	6

Output #3

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	4

Output #4

Output Measure

- Training manuals and Instructional CDS developed

Year	Target	Actual
2007	1	1

Output #5

Output Measure

- Public service announcements, news releases/articles

Year	Target	Actual
2007	5	8

Output #6

Output Measure

- Books and monographs

Year	Target	Actual
2007	1	0

Output #7

Output Measure

- Abstracts

Year	Target	Actual
2007	5	5

Output #8

Output Measure

- Workshops and Conferences hosted or Co-hosted

Year	Target	Actual
2007	4	2

Output #9

Output Measure

- Presentations and Short Courses

Year	Target	Actual
2007	55	35

Output #10

Output Measure

- Student training

Year	Target	Actual
2007	2	5

Output #11

Output Measure

- MS theses and PhD dissertations

Year	Target	Actual
2007	1	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Increased (%) of BMP approaches adopted by target audience
2	Development of new models
3	Increased (%) adoption of onsite wastewater management plans by local communities
4	Increased use and development (%) of locally based water quality and watershed data by community decision makers
5	Increased adoption (%) of improved landscape management practices by targeted populations
6	Increased testing of well water by targeted homeowner populations

Outcome #1

1. Outcome Measures

Increased (%) of BMP approaches adopted by target audience

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Production agriculture has the potential to degrade potable water supplies and estuaries if excess nutrients are discharged from fields. Nutrient management approaches exist that can provide the farmer with data to tailor to their applications to meet plant requirements while minimizing offsite losses. However, many farmers lack the knowledge and methods to implement nutrient management on their fields without outside assistance

What has been done

A program has been started between the URI Extension Water Quality Program and NRCS to train groups of farmers to develop nutrient management plans through structured courses. Farmers will learn about soil test methods and interpretation and identify areas on their own field that present challenges for nutrient management. The goal is to be able to train farmers to conduct nutrient management plans that address the NRCS 590 standard on their own, rather than through crop consultants or NRCS staff

Results

A group of farmers were identified for the first set of classes. Farms consist of turf farms, livestock farms and nursery farms. Farmers have been trained in soil test methods and soil survey and topographic data was compiled in preparation for the nutrient management class. The first class is scheduled for January, 2008 and the curriculum is being adapted from a similar venture that was piloted by the University of Vermont.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

Development of new models

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Urban runoff, mostly generated by impervious surfaces, is a leading source of degradation to wetlands, estuaries, lakes and streams. The extent of impervious cover has been used as an indicator to assess risks to the health of aquatic ecosystems posed by current and future watershed development plans. However, acquiring such information is often done through surrogate methods, such as land use/land cover data that add error and ambiguity to results and stymie its use for local decision making.

What has been done

We developed and employed a multiple agent segmentation and classification algorithm to extract high spatial resolution spatial impervious surface area data for the entire state of RI. We used the most recent set of true-color digital ortho-rectified airborne remote sensing data with a resolution of one meter. We focused specifically on patterns of impervious cover along shoreline areas and road sides where surface transport present higher risks of delivery to surface waters.

Results

Results indicate that high percentages of impervious surface cover are most extensive along coastal areas rather than in the interior areas, suggesting that source controls and storm water management need to be focused within those communities. The high spatial resolution data has been well received by resource managers. The Department of Environmental Management has indicated strong interest in the data and expects to distribute it widely for use when considering restoration.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
131	Alternative Uses of Land

Outcome #3

1. Outcome Measures

Increased (%) adoption of onsite wastewater management plans by local communities

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Onsite wastewater treatment systems (septic systems) can pose risk to human and environment health. Approximately 25% of all Rhode Islands rely on onsite wastewater treatment systems. Many of those systems use old technologies that were installed before modern regulations. Those systems are now leaking and polluting groundwater and surface waters. In addition, even modern septic systems require maintenance to avoid hydraulic failure. Communities lack information on the extent and location of failing systems.

What has been done

Communities have been provided information that helps them establish and implement wastewater management programs that include a management plan and ordinance. Training materials and fact sheets on approaches to inspection procedures have been developed along with making connections to firms that have developed computer systems that permit towns to track the date and results of each inspection for each residence. Training courses have been developed on convention system inspection to help develop a trained workforce who can provide the necessary information for management plans

Results

Training courses were held on Convention System Inspection and Innovative and Alternative System Maintenance. These were intensive, two day courses with an examination required for successful completion. A website was developed specifically on Inspectors and Service Providers that communities, the public and the private sector can access for information. The site contains the list of individuals who have successfully passed the training courses. A statewide, web-accessed database has been promoted to towns, via websites and training materials, to help them organize local information about onsite systems and cesspools, including their location and condition, inspection results, and maintenance. It is easy to use and virtually free ($100 annual fee) for Rhode Island municipalities

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

Outcome #4

1. Outcome Measures

Increased use and development (%) of locally based water quality and watershed data by community decision makers

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Decision-makers and landowners need accurate, 'place-based' information on current conditions and risks to water quality, quantity and habitat to galvanize action for effective watershed planning and restoration. However, information at scales relevant to local decision-making is often absent, inaccessible or difficult to comprehend by decision-makers and stakeholders.

What has been done

Volunteer monitoring programs and geo-spatial decision support tools are in place to assist local communities in developing information and insights into quality and risks associated with their lakes, streams, estuaries and aquifers. Volunteers are trained and provided with sampling equipment, a rigorous sampling regime is followed and site specific data are provided to local organizations and communities. New approaches to displaying risk indicators via spatial data are being developed. Web based delivery of resource materials has been developed on all aspects of water quality monitoring and assessment for local communities.

Results

More than 200 water locations received intensive monitoring by volunteers. Data was summarized and provided to these organizations. Data was used by the State for assessing impacted waters and determining priority waters for future Total Maximum Daily Loads programs. Workshops were offered to communities on source water protection plans generated by geo-spatial tools to enable them to refine preliminary review of proposed projects and improve planning and zoning decisions to reduce the risk of potable water contamination.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #5

1. Outcome Measures

Increased adoption (%) of improved landscape management practices by targeted populations

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Not reported here. Work related to this outcome is being carried out by the CE Education Center and is reported through the Environmental Horticulture Programs.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources

Outcome #6

1. Outcome Measures

Increased testing of well water by targeted homeowner populations

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One out of 10 Rhode Islanders get their drinking water from a private well or a private water supply system. Private well owners, are responsible for the maintenance of their drinking water supply and ensuring the quality is safe. The public needs information on where to test their water, what to test for, how to interpret data and how to treat contamination and reduce the risk of contamination to their private wells.

What has been done

Websites, public workshops and fact sheets have been developed to provide information on private well testing to the public. Partners include: the Depart. of Health Conservation Districts, towns and watershed organizations. In addition, pre and post test studies are conducted to assess the value of the training programs. Work ensued on a New England Private Well Summit to be held in December 2007, to enable officials to share their needs and successes with the private sector and extension

Results

Five private well workshops were held, reaching over 200 individuals. Based on post workshop evaluations, many participants are taking actions to improve their wells. Actions included: 58% had their well tested; 65% inspected their wellhead; 22% maintained their water treatment systems; 34% began to maintain their septic systems and 15% had a water treatment system installed

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

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

Brief Explanation

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

Evaluation Results

Key Items of Evaluation

Program #10

V(A). Planned Program (Summary)

1. Name of the Planned Program

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	40%		35%	
131	Alternative Uses of Land	30%		30%	
135	Aquatic and Terrestrial Wildlife	10%		10%	
136	Conservation of Biological Diversity	20%		20%	
302	Nutrient Utilization in Animals	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	0.5	0.0	1.0	0.0
Actual	0.1	0.0	2.1	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**
7000	0	49259	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	57648	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Facilitating access of geospatial data and technology, and training decision makers to use geospatial technology to assess local risks and opportunities for natural resources conservation, particularly forest management. •Economic analyses will be used to explore public preferences for conservation strategies. •Research will be designed to better understand the Ruffed Grouse, vernal pond characteristics, habitat requirements of migrating song birds with results enriching outreach efforts to protect these important species and their habitats.

2. Brief description of the target audience

Public policy makers (federal and state agencies, town conservation, planning and management officials, local non-profit groups involved with land management (conservancies, citizens, private landowners), High School Students (participating in the Rhode Island Environthon)

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	350	1000	100	0
2007	450	3500	20	20

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	4	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	4	4

Output #2

Output Measure

- Fact sheets, Bulletins and newsletters

Year	Target	Actual
2007	5	1

Output #3

Output Measure

- Short courses

Year	Target	Actual
2007	3	3

Output #4

Output Measure

- Website development and refinement

Year	Target	Actual
2007	2	2

Output #5

Output Measure

- Books and monographs

Year	Target	Actual
2007	0	0

Output #6

Output Measure

- Abstracts

Year	Target	Actual
2007	3	1

Output #7

Output Measure

- Workshops and Conferences hosted

Year	Target	Actual
2007	2	4

Output #8

Output Measure

- Public presentations

Year	Target	Actual
2007	10	28

Output #9

Output Measure

- Student training

Year	Target	Actual
2007	2	6

Output #10

Output Measure

- MS Theses and PhD Dissertations

Year	Target	Actual
2007	1	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Increased (%) GIS database usage by towns
2	Stewardship plans developed
3	Increased understanding of fish and wildlife populations (#)

Outcome #1

1. Outcome Measures

Increased (%) GIS database usage by towns

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Citizens, scientists, resource managers, and decision-makers require ready access to accurate and current geospatial data. These data and the technology required to use them are constantly changing. The Rhode Island Geospatial Extension Specialist (GES) is creating an effective and efficient system of web access to geospatial data for Rhode Island. The GES is administering training activities to educate Citizens, scientists, resource managers, and decision-makers on the availability and application of contemporary geospatial data and tools.

What has been done

Organized 2007 RI GIS Conference, a mix of presentations and tutorials. Attended by 180 people representing nonprofit, educational, state & local government, and industry. RI GES organized an Introduction to Remote Sensing seminar attended by 57; hosted an Introduction to LiDAR Technology workshop at URI; attended by 60.

Delivered a geospatial metadata session at the 2007 Northeast Arc Users Group conference. The National Geospatial Technology Extension Network (NGTEN) and the eXtension Map@Syst initiative continue to be part of the GES' ongoing professional initiatives.

Results

By continuing to enhance existing online web services, creating new web-based services, and organizing educational opportunities, the Rhode Island Geospatial Extension Specialist is supporting the use of geospatial technologies in Rhode Island. The activities of the GES support both new and experienced users of Geographic Information Systems (GIS), remote sensing, and the Global Positioning System. The hands-on computer courses focus on uses of GIS for effective forest stewardship practices, as well as open space planning and acquisition. Access to the URI-National Geodetic Survey Cooperative Continuously Operating GPS Reference Station has continued smoothly. Together, these resources continue to be crucial to sustaining the use of geospatial technology to support natural resource management decisions in Rhode Island.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

Outcome #2

1. Outcome Measures

Stewardship plans developed

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Stewardship plans require that communities and landowners have the capacity to value ecosystem services from farm and forest lands and be able to convert those values to potential revenues. Identifying targets for stewardship requires setting priorities for land protection and subsequent to generate an efficient use of private and public resources.

What has been done

This project works in conjunction with NRCS creates stewardship opportunities by creating an experimental market connecting grassland nesting bird habitat values from farm and open space to the residents of a nearby exurban community. A survey of stated preferences was completed that examined willing to pay for invasive plant control and restoration of nesting habitat and stated-preference for funding mechanisms.

Results

The study uncovered results indicating that homeowners are more willing to pay to help restore idled fields to productive hayfields and for removing invasive plants than to pay specifically for the range of bobolinks (a grassland nesting bird) that might be supported. Willingness to pay differences were found under stated choice methods but there appeared to be no statistically significant difference in the relative preference of differetent attributes of farm management for grassland nesting birds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
123	Management and Sustainability of Forest Resources

Outcome #3

1. Outcome Measures
Increased understanding of fish and wildlife populations (#)

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The primary goals of the proposed research are to use changes in body composition and blood metabolites of songbird species to evaluate and manage the quality of habitats for migrating songbirds in coastal southern New England and to assess how habitat quality and forest management practices of early successional forests affect population viability of grouse and associated wildlife species in southern New England.

What has been done

Free-living songbirds were sampled for blood, body condition, and blood metabolites. Captive bird experiments tested the hypothesis that diet quality and body condition of birds affects certain blood metabolites that are indicators of fat and protein metabolism. Grouse were trapped, fitted grouse with radio transmitters, and habitat use and survival assessed. Population viability Analysis was used to evaluate forest management plans designed to benefit grouse and associated forest wildlife.

Results

This research involved the training of three graduate students and one undergraduate. student in both field biology skills and computer-intensive analysis of spatial data. Field experiments that showed: (a) refueling rates of omnivorous migratory birds were related to fruit resource abundance, (b) daytime lipid deposition in migratory songbirds at stopover sites depended on foraging mode, and (c) blood lipids within species foraging at the same stopover site varied predictably with air temperature, body mass, and date. Results also established that home range size of grouse in southern New England changed with forest composition. New insights obtained from this research included the need to develop Population Viability Analysis models that integrate realistic information about how successional changes in forest vegetation affect key wildlife species. Knowledge gained from this research directly influenced forest management plans and the identification of key conservation reserves in Rhode Island

4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
302	Nutrient Utilization in Animals

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

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)
- Time series (multiple points before and after program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #11

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Gardening and Outreach

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	35%		35%	
205	Plant Management Systems	50%		50%	
806	Youth Development	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	0.0	0.0
Actual	3.3	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
113213	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
171833	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Outreach efforts to community decision makers, agricultural, residential and engineering/regulatory community will be conducted. •Outreach to school children and to the urban population center in the state. •Demonstration sites will be established for use in such research and Extension programs. •Development and dissemination of Publications, fact sheets, and web sites .

2. Brief description of the target audience

Community and Public decision makers (local, state and federal agencies)
The general public
Agricultural producers
Residential and enginering/regulatory community members
School aged children
Urban populations
Municipal Planners
Private sector firms engaged in watershed management, landscaping, onsite wastewater treatment and private wells
Various NGOs (land trusts, environmental organizations)

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	100000	2500	0
2007	15000	100000	2500	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	1	0

Output #2

Output Measure

- Fact sheets, bulletins and newsletters

Year	Target	Actual
2007	10	11

Output #3

Output Measure

- Public service announcements, news releases/articles

Year	Target	Actual
2007	10	14

Output #4

Output Measure

- Website development and refinement

Year	Target	Actual
2007	6	13

Output #5

Output Measure

- Books and monographs

Year	Target	Actual
2007	1	0

Output #6

Output Measure

- Abstracts

Year	Target	Actual
2007	2	2

Output #7

Output Measure

- Workshops or Conferences hosted or co-hosted

Year	Target	Actual
2007	2	7

Output #8

Output Measure

- Presentations and short courses

Year	Target	Actual
2007	25	28

Output #9

Output Measure

- Student training

Year	Target	Actual
2007	3	15

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Increased use and development (%) of locally based water quality and watershed data by community decision makers
2	Development of new models
3	Increased (%) of BMP approaches adopted by target audiences
4	Increased adoption (%) of improved landscape management practices by targeted population

Outcome #1

1. Outcome Measures

Increased use and development (%) of locally based water quality and watershed data by community decision makers

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Runoff from residential landscapes contributes to surface and ground water quality issues and irrigation of residential properties is putting an increasing strain on water supply.

What has been done

A working relationship has been established between RI municipalities and the green industries. Both groups partner with University staff and URI Master Gardener volunteers to disseminate a consistent message, based on water quality and watershed data, on the relationship between land use and water quality. Worked with the NE IPM Community Working Group to conduct the 'Green-Blue Summit: Clean Water through Residential Integrated Pest Management.' Conducted local workshop and public presentations.

Results

Landscape companies, regulatory agencies and municipalities are changing their practices based on the most recent data concerning lawn management and water quality. Over 150 landscapers attended trainings.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
205	Plant Management Systems
806	Youth Development

Outcome #2

1. Outcome Measures

Development of new models

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Bacteria or pathogens may contaminate vegetables grown in backyard gardens.

What has been done

URI Master Gardeners have received training from the Food Safety extension staff in good agricultural practices (GAP).

Results

Over 25 URI Master Gardener volunteers have been trained in Good Agricultural Practices (GAP). The 5,000 square foot demonstration vegetable garden at URI's East Farm offically became certified. Publication of the certification and information about GAP reached over 250,000 households through media coverage.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
205	Plant Management Systems

Outcome #3

1. Outcome Measures

Increased (%) of BMP approaches adopted by target audiences

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Low impact development practices (BMPs) can minimize or eliminate pollution from residential landscapes.

What has been done

Over 100 landscapers received training in Low Impact Development techniques.

Results

Landscapers have implemented LID practices including rain gardens and vegetated bioswales on residential landscapes throughout the state. Five landscapes have been highlighted in the statewide media via television.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
205	Plant Management Systems

Outcome #4

1. Outcome Measures

Increased adoption (%) of improved landscape management practices by targeted population

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Landscape management practices can have significant impact on water quality and water supply.

What has been done

Trainings have been conducted for URI Master Gardener volunteers, green industry practitioners, the general public and school children.

Results

URI Master Gardeners were trained to deliver presentations on the Healthy Landscapes Program. Presentations reached 145 people. Over 850 people were reached through our speaker's bureau including presentations to 53 groups on environmental and horticultural topics. URI Master Gardeners 'Gardening with the Masters' tour featured 29 and 3 public gardens. The gardens featured sustainability, water conservation, organic techniques and composting. Over 900 visitors attended the event on July 14-15, 2007.

Over 156 Master Gardener volunteers staffed educational booths at 25 events throughout the year. Over 50,000 RI homeowners increased their awareness of sustainability issues and knowledge of how to implement environmentally sound home and garden practices.

Over 400 individuals attended a one-day vegetable gardening open house at East Farm. Master Gardeners answered questions, tested soil and delivered workshops on composting, organic gardening and water resource protection and conservation.

Over 100 URI 'Plant Pro' segments were produced. The noon segments have an average viewership of 55,000 households and 45,000 households watch the Saturday shows. We estimate 7 million homeowner contacts annually.

The URI Master Gardener Coordinator provided monthly advanced training programs for over 20 volunteers who regularly staff the phone hotline and ask-a-MG booths.

Over 100 members of the green industries attended URI GreenShare WinterSchool training programs.

Over 400 people attended the Spring, Summer and Fall Gardening Schools.

Over 4,000 attended our East Farm Open House and GreenShare Field Day public educational events.

We continued to update our web site including on-line fact sheets giving up-to-date recommendations for managing insects, diseases, and other aspects of the home landscape. Over 250 factsheets are on the web at: www.uri.edu/ce/factsheets/sheets/.

The Learning Landscape Program provided environmental education to at least 1,959 children, parents and educators through 31 field trips from 26 schools across the state. Over 36 Master Gardener volunteers were trained to lead the field trips.

The most notable change to the Learning Landscape program was the addition of a pilot program of field trips to the Roger Williams Park Botanical Center (RWP BC). A pilot program attracted 294 students and over 20 adult chaperones.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
806	Youth Development
112	Watershed Protection and Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

Funding limitations precluded acheivement of goal of publishing results of work.

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

Evaluation Results

Training programs received high marks for quality of presentations and utility of information. Follow-up surveys indicate that 1 or more behavioral changes have been made as a result of attending program.

Key Items of Evaluation

Program #12

V(A). Planned Program (Summary)

1. Name of the Planned Program

Health and Well-being of Livestock

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	50%		50%	
302	Nutrient Utilization in Animals	20%		20%	
305	Animal Physiological Processes	10%		10%	
311	Animal Diseases	20%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.3	0.0	1.3	0.0
Actual	0.9	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
3952	0	37638	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
61643	0	29871	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Examination of the role ofvitamin E on immune system function in pregnant sheep and their offspring. •Study nutritional manipulation to enhance nutrient transfer vis colostrum and milk. •Examination of placental nutrient transfer and its impact on the naive immune system. •Study the interaction of nutrition and immunology in animal models. •Cellular and molecular regulation of spermatogenesis and male fertility. •Test new gene targeting techniques. •Investigate sperm cellular functions that contribute to in vivo fertility in livestock.

2. Brief description of the target audience

Livestock farmers in the Northeast
Livestock farmers nationwide
The Livestock Artificial Insemination Industry
4-H Youth

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	100	1000	50	100
2007	100	1000	50	100

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	2	0

Output #2

Output Measure

- Student training

Year	Target	Actual
2007	2	5

Output #3

Output Measure

- Scientific and Professional Presentations

Year	Target	Actual
2007	2	6

Output #4

Output Measure

- Public presentations

Year	Target	Actual
2007	3	0

Output #5

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	1

Output #6

Output Measure

- Abstracts

Year	Target	Actual
2007	2	1

Output #7

Output Measure

- Fact sheets, bulletins and newsletters

Year	Target	Actual
2007	2	0

Output #8

Output Measure

- MS Theses and PhD Dissertations

Year	Target	Actual
2007	1	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Development of fertility assays for use in AI industry
2	Modification of animal feeds which will result in the improvement of immune status and disease resistance
3	The supplementation of vitamin E to pregnant sheep and their offspring.

Outcome #1

1. Outcome Measures

Development of fertility assays for use in AI industry

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Reproductive efficiency is a significant factor in the overall economic potential of the livestock industry. Specifically male subfertility is responsible for an estimated $210 million annual loss to the US livestock industry. By identifying factors that contribute to the variation in sire fertility, conception and pregnancy rates could be improved and increase on-farm profits and lower food prices for consumers.

What has been done

Amplification of specific fertility candidate genes in bull testis and sperm using polymerase chain reaction. Currently, quantitative gene expression and sperm functional assays are being developed to link specific gene expression with sperm function and fertility.

Results

Specific isoforms of two candidate genes have been identified in terminally differentiated bull spermatozoa.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes
302	Nutrient Utilization in Animals

Outcome #2

1. Outcome Measures

Modification of animal feeds which will result in the improvement of immune status and disease resistance

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This outcome measure has been eliminated.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #3

1. Outcome Measures

The supplementation of vitamin E to pregnant sheep and their offspring.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Young animals are more susceptible to disease. Large sheep operations routinely report a 15-51% loss of their pre-weaning lamb crop resulting in enormous financial losses each year. With the neonate reliant on the passive transfer of maternal immunity for protection from disease early in life, it is vital to explore ways in which the maternal transfer of immunity as well as the neonates own innate and adaptive systems could potentially be primed to confer increased resistance to disease

What has been done

This past year assay development has continued. There are no commercially available ELISA assays for the measurement of immunoglobulin concentration or extracellular cytokine production in sheep sera. Commercially available cow and goat ELISA assays are not suitable for use in sheep. Flow cytometry is being explored as an alternative, more sensitive, method of measuring cytokine production in sheep. A commercially available fluorescent assay for the measurement of lysozyme activity, used successfully by this laboratory for equine samples, has been found to be unsuitable for the measurement of lysozyme in sheep samples. Alternative methods of measuring lysozyme activity were explored and will continue.

Results

The development of new diagnostic tools to study immune function in sheep will enable us to more effectively investigate the effect of nutrient modulators on the immune system. This project has also provided ongoing educational opportunities for our graduate and undergraduate students.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
311	Animal Diseases

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #13

V(A). Planned Program (Summary)

1. Name of the Planned Program

Horticulture and the Reduction of Pests and Disease Outbreaks in Plants

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
103	Management of Saline and Sodic Soils and Salinity	10%		10%	
202	Plant Genetic Resources	15%		15%	
204	Plant Product Quality and Utility (Preharvest)	15%		15%	
205	Plant Management Systems	15%		15%	
211	Insects, Mites, and Other Arthropods Affecting Plants	15%		15%	
212	Pathogens and Nematodes Affecting Plants	15%		15%	
215	Biological Control of Pests Affecting Plants	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	9.0	0.0
Actual	4.0	0.0	8.0	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
68480	0	383802	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
284461	0	459211	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Identify and develop species and cultivars of plants which are adapted for use in the landscapes and environment of Rhode Island and the Northeastern US.

•Develop and deliver training for green industry professionals and gardeners, emphasizing the use of plants that require less water, labor, nutrients, and pesticides.

•Expand markets for resource-conserving products.

•Reduce pest-induced damage to horticultural and forest plants, while maintaining environmental quality through reduced use of herbicides and pesticides.

•Balance the costs of developing new or improved products with future benefits expected from these products.

2. Brief description of the target audience

We have active partnerships with agricultural producers of turfgrass and ornamental plants, administered by a joint advisory committee of URI-PLS and the RI Nursery and Landscape Association (RINLA) and the New England Sod Producers Association. We have research and demonstration projects on several nurseries and we work closely with RINLA to determine research needs and to design educational programs. We have similar working relations with the RI Golf Course Superintendents Association. We also target consumers through educational outreach programs designed to promote acceptance of local products.

Producer and commodity groups: Rhode Island farmers and fishermen are historically independent, self-sufficient operators, proud of this "Yankee" tradition. Given relatively low numbers of farmers within any given commodity, there are few formal commodity groups. The RI Farm Bureau acts as an umbrella for RI agriculture with national links. We have close working relationships with the green industry through the Rhode Island Nursery and Landscape Association (RINLA), which has a large annual meeting and biannual meetings of a research and outreach executive committee. Given the size of the industry, there are numerous direct contacts between the Director, Station faculty and professionals (research and outreach) and industry representatives. RINLA has made major contributions to the University, including support for new hires (e.g., start up funds for a new horticulturalist) and the development of a formal garden demonstrating sustainable plantings (see http://riaes.cels.uri.edu/explore for a virtual tour of this garden). The principle commodity groups representing turfgrass production and management in Rhode Island are the Rhode Island Golf Course Superintendents Association (RIGCSA), the New England Sod Producers Association (NESPA), and the New England Regional Turfgrass Foundation (NERTF), although many RINLA members are also involved in turfgrass maintenance. We are working on improving relationships with these groups. We do have strong working relationships with many of the individual golf course superintendents and sod producers in the area around Kingston. Through our Winter School and GreenShare programs, we provide annual educational and re- certification programs for growers, creating an excellent forum for exchange of information from this vital stakeholder group.

V(E). Planned Program (Outputs)

1. Standard output measures

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

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contacts Youth Target
Plan	100	1000	0	0
2007	250	3000	100	500

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	10	12

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	3	9

Output #2

Output Measure

- Books and monographs

Year	Target	Actual
2007	0	1

Output #3

Output Measure

- Abstracts

Year	Target	Actual
2007	5	5

Output #4

Output Measure

- Conference proceedings

Year	Target	Actual
2007	1	3

Output #5

Output Measure

- Technical documents, fact sheets and bulletins

Year	Target	Actual
2007	5	6

Output #6

Output Measure

- Workshops

Year	Target	Actual
2007	3	4

Output #7

Output Measure

- Website development and refinement

Year	Target	Actual
2007	1	3

Output #8

Output Measure

- Public presentations

Year	Target	Actual
2007	4	12

Output #9

Output Measure

- Student training

Year	Target	Actual
2007	5	8

Output #10

Output Measure

- Development of tools and germplasm for use in breeding grasses and ornamental plants with traits important for the development of sustainable landscapes

Year	Target	Actual
2007	2	1

Output #11

Output Measure

- Release of biological control agents benefiting traditional agriculture, landscape horticulture and the environment of southern New England

Year	Target	Actual
2007	1	2

Output #12

Output Measure

- MS Theses and PhD Dissertations

Year	Target	Actual
2007	2	3

Output #13

Output Measure

- Professional training

Year	Target	Actual
2007	2	2

Output #14

Output Measure

- Professional/scientific presentations

Year	Target	Actual
2007	5	7

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Identify and improve sustainable trees, shrubs, and grasses, with an emphasis on native species (#)
2	Increase availability and local production of sustainable ornamental trees and shrubs, and turf and roadside grasses (%)
3	Better understand the biology of plants and their pests, including the identification of gene functions for select traits on select crop species (# genes identified)
4	Develop and select superior and patentable ornamental plants (#)
5	Increase use of sustainable plants and IPM practices by CE-trained green industry professionals and the gardening public (%)
6	Reduce damage caused by pests through our biological control efforts, or through environmentally sensitive pesticide applications influenced by our IPM and pesticide applicator-training programs (% reduction)
7	Reduce needs for water, nutrients, or labor for select ornamental plants and grasses (%)
8	Improve landscape quality in high-stress areas through improved management practices and development of stress-tolerant plants (% adoption of BMP)
9	Increase profit from production, resulting from more efficient marketing and reduced production costs as well as alternative uses for agricultural crops (%)

Outcome #1

1. Outcome Measures

Identify and improve sustainable trees, shrubs, and grasses, with an emphasis on native species (#)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Green industry producers, retailers and consumers depend on new plants to meet both practical environmental needs and to drive sales. Key aspects of this program included working towards a greater understanding of remontant flowering in Hydrangea, developing alternative shade tolerant species for Eastern Hemlock, and developing salt tolerant native grasses for use on roadsides.

What has been done

RI-AES activities significantly increased the availability of new landscape plants in the northeast. In particular, efforts to locate and increase germplasm of cold-hardy and salt-tolerant conifers aided in the struggle to replace existing populations threatened by insect and disease problems.

RI-AES worked closely with local committees to insure that new germplasm accessions did not pose a risk of invasiveness in the northeast region.

More than 15,000 propagules were distributed to cooperating nurseries and arboreta, and to the public on a limited basis.

Lack of genetic variability is a block to plant improvement using traditional breeding methods. Crossing alone will not introduce or enhance a desirable trait if the genetic potential does not exist in a population. Mutation breeding efforts at URI sought the development of plants with novel genotypes not available in wild or cultivated populations. Plants resulting from this program would have benefited the nursery industry by satisfying consumer demand for novel landscape plants.

Work toward understanding the molecular genetic control of remontant flowering in H. macrophylla would have served to enhance efforts to introgress this trait into other germplasm as well as contribute to the scientific community by furthering our understanding of the control of flowering in diverse plant species.

Oriental spruce, if shade tolerant, would have been a good replacement for adelgid-prone Eastern Hemlock.

Results

(1) Since 2003 more than 500 new plant taxa were accessioned. These have been grown in the field and in containers at the East Farm Agricultural Experiment Station for evaluation of landscape value, cold hardiness and specific environmental (eg. salt, humidity) and pest (eg. fire blight, Japanese beetle, Hemlock wooly adelgid) tolerances.
(2) Accessions were studied for facility of propagation by seed, cuttings and grafting.
(3) More than 15,000 woody plant propagules were distributed to cooperating nurseries and arboreta, and to the public on a limited basis from 2003 to 2008.
(4) Over 8,000 mutagenized seedlings were field-planted at the Agronomy Farm at the University of Rhode Island.
(5) More than 15,000 seeds representing 13 different plant species were treated by chemical mutagenesis of open pollinated seeds. Several seedlings were selected as potential new cultivars based on unique characteristics such as leaf variegation, growth habit (dwarfness) and unusual leaf morphology and pigmentation. The future of these plants is under discussion.
(6) Methods for establishing aseptic cultures of Hydrangea macrophylla, Callicarpa dichotoma and Clethra alnifolia were determined. In addition, callus induction and root organogenesis were optimized.
(7) A collaborative relationship was established with USDA-ARS scientists to facilitate research of the remontant flowering trait in Hydrangea macrophylla.
(8) Documentation of accessions and propagation results were maintained in database format which was adapted to WWW access using ASP and server technology.
(9) In collaboration with scientists at UMASS and Harvard, adelgid-resistant germplasm of Tsuga canadensis was collected and propagated by stem cuttings and by grafting.
(10) Thirteen taxa of Pinus were maintained in plots in Rhode Island coastal areas for evaluation of salt tolerance.
(11) A replicated trial of shade tolerance of Picea orientalis, Oriental Spruce, was evaluated.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
103	Management of Saline and Sodic Soils and Salinity

Outcome #2

1. Outcome Measures

Increase availability and local production of sustainable ornamental trees and shrubs, and turf and roadside grasses (%)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nursery crop producers in Rhode Island and the Northeast are challenged to be competitive in the regional and national industry. Prime concerns are the impact of Federal and State regulation, water quality issues, labor issues, and the availability of new plants, particularly natives, to stimulate sales. Growers need access to research information on plant production practices, including plant propagation, growing media formulations and management. Growers and policy makers also need results of surveys on the health and welfare of the industry and its workforce.

What has been done

1) Research on the propagation of native temperate woody plants in the family Lauraceae. Stem and root cuttings of L(indera benzoin, spicebush, and Sassafras albidum, sassafras tree, were collected at strategic times during the year and propagated in different rooting media with a range of hormone concentrations.

(2) Thirty-eight taxa of succulents were accessioned and grown in replicated mesocosms to investigate suitable growing media and cold hardiness. Data analysis and manuscript preparation were completed.

(3) Greenhouse upgrades were expanded to include ebb-and-flood benching and computer-controlled shade.

(4) RI provided data for the evaluation of regional trade flows and marketing practices in the nursery industry by distributing a common questionnaire soliciting information regarding management and marketing practices, production information, and detailed sales information regarding interstate movement of the product and the volume of business with various types of buyers.

(5) RI cooperated in the development of a national-level Landscape Horticulture Labor Survey funded by the Horticulture Research Institution and centered at OSU. RI also collaborated on the National Nursery Survey, collecting data for Rhode Island nurseries and reviewing the revised manuscript of Economic Impacts of the Green Industry in the United States.

Results

The results of research on irrigation practices and modified container media requirements increased production potential and reduced production costs. Our research on plant growth and marketing helped to boost industry sales and increase production potential by identifying plants that would stimulate consumer interest and increase purchasing. At the same time information and practices for optimizing production potential of new crops was generated for growers. Information on the propagation of native temperate woody plants offered new profit venues for RI farmers. Research on sustainable roadside planters impacted public enjoyment of scenic bikeways and associate thoroughfares. Participation in surveys and economic analyses impacted the competitiveness of the green industry in RI and the northeast region, and provided input to national assessments of the ornamental plant industry.

(1) Information on the propagation of Lindera and Sassafras were presented at a regional conference of horticultural scientists.

(2) Our research on plant growth and marketing boosted industry sales and increased production potential by identifying plants that will stimulate consumer interest and increase purchasing.

(3) Information and practices for optimizing production potential of new crops was generated for growers. Specifically information on the propagation of native temperate woody plants will offer new profit venues for RI farmers. Research on sustainable roadside planters has had an impact on public enjoyment of scenic bikeways and associated thoroughfares.

(4) Participation in surveys and economic analyses had a positive impact on the competitiveness of the green industry in RI and the northeast region, and provided input to national assessments of the ornamental plant industry, as reported in Economic Impacts of the Green Industry in the United States, (www.utextension.utk.edu/hbin/greenimpact.html) which has been published as a Southern Cooperative Series Bulletin.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #3

1. Outcome Measures

Better understand the biology of plants and their pests, including the identification of gene functions for select traits on select crop species (# genes identified)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Vegetable growers in the northeastern USA and turfgrass managers in the northern half of the USA are impacted by plant parasitic nematodes in horticultural and field crops. Information developed by this project has additional international audiences.
The selection of salt-tolerant grasses benefits landscape architects and other decision makers responsible for choosing roadside grasses for use in salt-impacted areas.

The secondary target is turfgrass scientists, who benefit from increased understanding of salt-tolerance mechanisms in cool-season turfgrasses.

What has been done

Objective 1. Screening of lettuce germplasm for resistance to Meloidogyne hapla is approximately half complete with 250 accessions tested. Tissue culture techniques for lettuce propagation have also been optimized for shoots, roots and callus tissue and laboratory testing of nematode resistance is in progress. Protoplast fusion experiments are currently being attempted but have yet to yield successful transformants.
Objective 2. An additional project has been initiated to investigate the susceptibility of commerically available bentgrass cultivars to nematode parasitism. Initially, seven different cultivars are being employed under field conditions but the project will be expanded in 2008 if significant differences are observed.
Objective 3. Butyric acid trials were run during the Summer of 2007 to determine the effect of organic acids on free-living nematodes in the soil. Trials will be repeated during the 2008 field season.
We constructed two hydroponics systems in the greenhouses at URI, and refined a digital imaging system for quantifying salt damage in grasses. These systems permitted us to obtain a grant for studying salt tolerance in native grasses from the RI Department of Transportation, and to offer fee-based salt tolerance screening to private turfgrass breeders.

Results

Our research has demonstrated that a low level of Meloidogyne hapla resistance does exist in Lactuca sativa accessions that may be useful in infested fields. The majority of the Meloidogyne hapla resistance in Lactuca is present in wild species which do not cross easily with Lactuca sativa, requiring novel techniques to move the resistance into commercial varieties. Bentgrass trials from the previous year suggest that some varietal sensitivity to nematodes does exist but at least another additional year of testing is required to confirm this observation.
In the first year of salt-screening for grasses we identified six Lolium accessions and four Festuca accessions with superior salt tolerance. Tissue analysis of tolerant and susceptible Lolium accessions grown under moderate salt stress revealed that Lolium sequesters salt in the old leaves, and suggests that the tolerant accessions are able to either exclude or export salt more effectively than the salt sensitive accessions, suce that the overall sodium levels are significantly higher in sensitive accessions than in tolerant accessions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
103	Management of Saline and Sodic Soils and Salinity

Outcome #4

1. Outcome Measures

Develop and select superior and patentable ornamental plants (#)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Green industry producers, retailers and consumers depend on new plants to meet both practical environmental needs and to drive sales.

What has been done

Up until the recent (12/2007) departure of our co-PI, Dr. Jeffrey Adkins, we were developing a tree and shrub breeding program with the goal of developing new landscape plants that provide aesthetic appeal and contribute to the goal of sustainable landscapes. We sought to develop novel cultivars and superior breeding germplasm through chemical mutagenesis of open pollinated seeds and in vitro plants. In vitro regeneration protocols of several ornamental plant species were being developed. Work was also underway to elucidate the molecular genetic underpinnings behind remontant flowering, which it was hoped would enhance breeding efforts and crop production methods.

Results

Over 8,000 mutagenized seedlings were field-planted at the Agronomy Farm at the University of Rhode Island.

More than 15,000 seeds representing 13 different plant species were treated by chemical mutagenesis of open pollinated seeds. Several seedlings were selected as potential new cultivars based on unique characteristics such as leaf variegation, growth habit (dwarfness) and unusual leaf morphology and pigmentation. The future of these plants is under discussion.

Methods for establishing aseptic cultures of Hydrangea macrophylla, Callicarpa dichotoma and Clethra alnifolia were determined. In addition, callus induction and root organogenesis were optimized.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources

Outcome #5

1. Outcome Measures
Increase use of sustainable plants and IPM practices by CE-trained green industry professionals and the gardening public (%)

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The URI Outreach Center is uniquely positioned to reach key target audiences throughout Rhode Island with programs designed to minimize pesticide use and to promote Integrated Pest Management practices. The Center has developed a successful model for influencing the behavior of individuals in their own backyard. The model's success is based on the fact that gardening is the number one hobby in the United States. We are able to use this passion for gardening as an avenue for communicating a wealth of information on environmental issues directly tied to behaviors at home. Our research and outreach programs are integrated and they target the players involved in residential landscape management, including research scientists, educators, landscapers, landscape architects, garden centers, growers, Master Gardeners, decision makers, and the general public. Additionally, our staff is well positioned to leverage state wide media outlets including television (NBC Affiliate Channel 10's Plant Pro), newspapers and monthly magazines.

Through our Master Gardener Program, we train volunteers who work with us to educate the backyard gardener and homeowner. These volunteers provide literally thousands of hours of volunteer time to extend environmental and horticultural information to the residents of southern New England. Simultaneously, through the URI GreenShare program, we educate the professionals in the garden industry. The public often turns to garden center employees, landscapers or arborists for advice on garden management topics. With the support of our partner in the green industry, the Rhode Island Nursery and Landscape Association, we have established the URI Botanical Gardens. The URI Botanical Gardens provide real life examples of sustainable landscaping and are used to train college students, green industry professionals and homeowners. The gardens are also the setting for a hands-on environmental educational program for school children called the Learning Landscape Environmental Education program. Almost 2000 school children visit the gardens each year for a program that engages all their senses to better understand the environment. This year, Finally, we are continuing the Coastal Landscape Program. The program builds on the GreenShare Program and the URI CE Healthy Landscapes program, a grant-funded educational endeavor. We have developed a list of sustainable plants which are non-invasive and will withstand the coastal environment and a certification program for professionals who work in the coastal area. This year a focus of the certification will be invasives management for landscape professionals.

The Center also will continue its partnership with the City of Providence. Through this partnership, an URI Outreach Office has been set up at the Roger Williams Park Botanical Center in Providence. This office attracts a much larger and more diverse audience to Extension programs.

In addition to these targeted programs, the URI Outreach Center also runs events that serve the general public, including GreenShare Field Day, Spring Seminar, URI Summer Gardening School, URI Fall Gardening School and the East Farm Spring Festival. Through these programs, we potentially reach the totality of the Rhode Island citizenry.

What has been done

Participated in the Green-Blue Summit: Clean Water through Residential Integrated Pest Management (IPM) held in July, 2007, trained 130 individuals in the fundamentals of composting and recycling, donated over 400 hours of volunteer time to public service programs, provided 8 undergraduate and 2 graduate students with hands-on experience in community outreach programs.
Educated at least 1,959 children, parents and educators through 31 field trips from 26 schools across the state.
Added a pilot program of field trips to the Roger Williams Park Botanical Center (RWP BC). A pilot program attracted 294 students and over 20 adult chaperones.
Trained 31 URI Master Gardeners to serve as docents and to staff plant and gardening information kiosks at the RWP BC.
Guided educational tours at the RWP BC for 305 individuals.
Established a Food Garden Project at the Church of Good Shepherd, a low-income parish in Pawtucket, Rhode Island. Over 22 families participated in garden installation, educational workshops and harvest celebrations.
Donated over 46,000 pounds of squash and over 29,000 pounds of cabbage to the RI Community Food Bank through a joint project between URI, the Food Bank and the URI Master Gardeners.
Four Master Gardeners worked with a URI Turf Professor to evaluate low maintenance turf varieties.
Trained 12 URI Master Gardeners to deliver presentations on the Healthy Landscapes Program to 145 people.
Distributed over 50,000 seed packets.
Trained 98 new Master Gardeners
Responded to 427 calls/month to the Master Gardener Hotline from March - October.
Answered 117 email questions
Reached over 850 people through our speakers bureau, a URI Master Garden Gardening with the Masters tour featured 29 and 3 public gardens. Over 900 visitors attended the event on July 14-15, 2007.
Over 156 Master Gardener volunteers staffed educational booths at 25 events throughout the year. Over 50,000 RI homeowners increased their awareness of sustainability issues and knowledge of how to implement environmentally sound home and garden practices.
Over 400 individuals attended a one-day vegetable gardening open house at East Farm.
Over 100 URI Plant Pro segments were produced. The noon segments have an average viewership of 55,000 households and 45,000 households watch the Saturday shows.
The URI Master Gardener Coordinator provided monthly advanced training programs for over 20 volunteers who regularly staff the phone hotline and ask-a-MG booths.
Over 100 members of the green industries attended URI GreenShare WinterSchool training programs.
Over 400 people attended the Spring, Summer and Fall Gardening Schools.
Over 4,000 attended our East Farm Open House and GreenShare Field Day public educational events.
Updated our web site including on-line fact sheets giving up-to-date recommendations for managing insects, diseases, and other aspects of the home landscape.

Results

Conducted a training program on Low Impact Development for Coastal Landscapers.

Maintained and updated the Coastal Sustainable Plant List to include a source list. The data base has been incorporated in coastal buffer zone regulations promulgated by the RI CRMC.

Developed a curriculum for an Invasives Management Certification training program.

Refined the turf management protocol for incorporation in CRMC regulations governing landscape management on the coast.

Continued partnership with the NE Regional Water Quality Group on a project entitled 'Changing Homeowner's Lawn Care Behavior to Reduce Nutrient Losses in New England's Urbanizing Watersheds.'

Participated in the Community IPM Working Group, part of the Northeastern IPM Center and funded through the USDA's Cooperative Research, Extension, and Education Service (CSREES).

Joined residential IPM and water quality leaders from across the country to organize a lawn management and water quality conference scheduled for July 2007.

Conducted three Master Composter/Master Recycler Training Programs

Participated in sustainability, waste reduction and management programs at URI.

The Learning Landscape children's environmental education program operated school field trips in the URI Botanical Gardens in the spring and fall of 2007.

Operation Seed Sort, a program uniquely tied to the Learning Landscape program for children and URI Master Gardener Programs, sorted and distributed seeds to schools, youth groups, community farms, and other appropriate recipients.

Led the Children's Garden Network: A Garden at Every School by 2010.

Sold the Rhode Island Master Gardener Training Manual to the Master Gardener Programs in Vermont, Maine and Massachusetts. The manual was written by URI faculty and staff and other RI horticultural professionals and edited and published by a URI Master Gardener volunteer and retired publishing executive.

Conducted a 4 session URI GreenShare WinterSchool training program for green industry professionals.

Conducted a 16 week Master Gardener training program. In partnership with the Center and the State Master Gardener Coordinator, Master Gardeners:
o Staffed a toll-free gardening and environmental telephone and email hotline.
o Grew and harvested fresh food for local food banks through the Master Gardener's 'Plant a Row for the Hungry Program.'
o Along with staff, conducted a speaker's bureau on environmental and horticultural subjects.
o Worked with the Food Safety and Nutrition program on the Garden to Table Good Agricultural Practices (GAP) program. Master Gardeners did follow-up interviews and training for home gardeners about safe food handling for the produce grown in backyards.
o Developed and conducted a horticultural therapy programs at the Hattie Ida Chaffee Home in East Providence, RI
o Participated in the Lilac Phenology Network to determine changes in weather and climate patterns.

Conducted a six week Summer Gardening School in the URI Botanical Gardens.

Conducted eight week Spring and Fall Gardening Schools at the URI Outreach Office in Providence.

Conducted a series of environmental horticulture classes at the URI CELS Outreach Center at the RWP Botanical Center.

Conducted a series of training programs for the green industry as part of the GreenShare Program.

Conducted two public festivals, GreenShare Field Day and the East Farm Open House.

Participated in the Healthy Landscapes Program: Described in detail in (Goal 4, Program 6 of this report).

The Center supports 2 undergraduate internships and 6 undergraduate and 2 graduate Energy Fellows.

URI CELS Outreach 'Plant Pro' segments air every Saturday and every other Wednesday on WJAR, the NBC affiliate station in Rhode Island and the television station with the largest market share in the region.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #6

1. Outcome Measures

Reduce damage caused by pests through our biological control efforts, or through environmentally sensitive pesticide applications influenced by our IPM and pesticide applicator-training programs (% reduction)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This work targets growers, landscape managers, homeowners, and environmental organizations who seek environmentally responsible means of controlling pests in ornamental, food and forest crops.
Golf course superintendents benefit from knowing more about pyrethroid resistance, now that it has been confirmed, and they must take steps to control weevils using other means.

What has been done

We have measured local declines in lily leaf beetle pest populations as a result of our biological control efforts. This has resulted in reduced pesticide use and enhanced survival of native lilies. The successful biological control of birch leaf miner has resulted in substantial reduction (eventual elimination) of birch leafminer pesticide applications throughout the northeast, and has increased aesthetic value and survival of previously infested trees. As a result of our successful biological program against cypress spurge, growers have reduced herbicide applications and increased grazing on previously infested pastures. Successful biological control of purple loosestrife has resulted in increases in diversity and abundance of native plants and animals in wetlands that were previously dominated by purple loosestrife. Native populations of Phragmites australis that we discovered on Block Island and Naushon Island are being preserved. Successful biological control of exotic phragmites would have beneficial environmental and economic impacts throughout North America.

Prior to conducting the research results reported there were no definitive studies on the resistance of annual bluegrass weevils to pyrethroid insecticides. We can now try to overcome the resistance via piperonly butoxide or other synergists. We also have the ability to determine resistance on any population of annual bluegrass weevils.

Results

Lily leaf beetle parasitoids are now established and spreading in four New England states as a result of our biological control program. Populations of the birch leafminer have declined to a point that we have not seen any damage from this pest in Rhode Island since 2003. Pest populations were virtually undetectable throughout the northeast in 2007. Cypress spurge is under good biological control in pastures distributed throughout RI and biological control agents will spread throughout the state.
Purple loosestrife populations are permanently suppressed at Roger Williams Park Zoo and at several other sites in RI and natural enemies are spreading throughout the state. We have identified 6 European insects with potential for biological control of swallow-worts and we are now evaluating them in our quarantine laboratory. Collaborating scientists at Cornell and in Europe have identified 3 promising biological control agents which may provide control of exotic Phragmites australis with little or no direct effect upon native phragmites. We are presently evaluating host specificity of these species in our quarantine laboratory.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #7

1. Outcome Measures

Reduce needs for water, nutrients, or labor for select ornamental plants and grasses (%)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nursery crop producers in Rhode Island and the Northeast are challenged to be competitive in the regional and national industry. Prime concerns are the impact of Federal and State regulation, water quality issues and labor issues.

What has been done

Information on the propagation of Lindera and Sassafras were presented at a regional conference of horticultural scientists.

Results

Research on the propagation of native temperate woody plants in the family Lauraceae. Stem and root cuttings of Lindera benzoin, spicebush, and Sassafras albidum, sassafras tree, were collected at strategic times during the year and propagated in different rooting media with a range of hormone concentrations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #8

1. Outcome Measures

Improve landscape quality in high-stress areas through improved management practices and development of stress-tolerant plants (% adoption of BMP)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nursery crop producers in Rhode Island and the Northeast are challenged to be competitive in the regional and national industry. Growers need access to research information on plant production practices, including plant propagation, growing media formulations and management.

What has been done

Our research on plant growth and marketing boosted industry sales and increased production potential by identifying plants that will stimulate consumer interest and increase purchasing.

Information and practices for optimizing production potential of new crops was generated for growers. Specifically information on the propagation of native temperate woody plants will offer new profit venues for RI farmers. Research on sustainable roadside planters has had an impact on public enjoyment of scenic bikeways and associated thoroughfares.

Results

Thirty-eight taxa of succulents were accessioned and grown in replicated mesocosms to investigate suitable growing media and cold hardiness. Data analysis and manuscript preparation were completed.

Greenhouse upgrades were expanded to include ebb-and-flood benching and computer-controlled shade.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #9

1. Outcome Measures

Increase profit from production, resulting from more efficient marketing and reduced production costs as well as alternative uses for agricultural crops (%)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nursery crop producers in Rhode Island and the Northeast are challenged to be competitive in the regional and national industry. Growers and policy makers also need results of surveys on the health and welfare of the industry and its workforce.

What has been done

Participation in surveys and economic analyses had a positive impact on the competitiveness of the green industry in RI and the northeast region, and provided input to national assessments of the ornamental plant industry, as reported in Economic Impacts of the Green Industry in the United States, (www.utextension.utk.edu/hbin/greenimpact.html) which has been published as a Southern Cooperative Series Bulletin.

Results

RI provided data for the evaluation of regional trade flows and marketing practices in the nursery industry by distributing a common questionnaire soliciting information regarding management and marketing practices, production information, and detailed sales information regarding interstate movement of the product and the volume of business with various types of buyers.

RI cooperated in the development of a national-level Landscape Horticulture Labor Survey funded by the Horticulture Research Institution and centered at OSU. RI also collaborated on the National Nursery Survey, collecting data for Rhode Island nurseries and reviewing the revised manuscript of Economic Impacts of the Green Industry in the United States.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

A sizable Federal Appropriation was not continued in 2007.This resulted in reduction of programs and program staff for nursery and landscape outreach.Poor success in the local competitive Hatch process reduced the number of FTEs in AES.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Key Items of Evaluation

Program #14

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural and Environmental Resource Economics, Markets and Policy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
605	Natural Resource and Environmental Economics	25%		25%	
606	International Trade and Development	25%		25%	
609	Economic Theory and Methods	25%		25%	
610	Domestic Policy Analysis	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	0.0	0.0	2.0	0.0
Actual	0.0	0.0	3.2	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	0	230600	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	355290	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Evaluate the impacts of ecolabeling on consumer demand for frozen seafood. •Determine the impacts of consumer concerns of PCB contamination of farmed salmon on US import demand for farmed salmon. •Evaluate the impact of farmed shrimp on the US market and how shrimp aquaculture is changing prices. •Investigate the impact of homogeneous resource modeling in a heterogeneous fishery by synthesizing a stochastic production frontier model with the estimation classification algorithm. •Model spatial decisions of fishermen in the Northeast Atlantic herring fleet. •Run experiments using the game theoretic model.

2. Brief description of the target audience

The target audience includes fishers, environmental economists, and policy makers.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	25	500	0	0
2007	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	5	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Peer reviewed publications

Year	Target	Actual
2007	4	5

Output #2

Output Measure

- Books and monographs

Year	Target	Actual
2007	0	0

Output #3

Output Measure

- Abstracts

Year	Target	Actual
2007	5	6

Output #4

Output Measure

- Conference proceedings

Year	Target	Actual
2007	2	3

Output #5

Output Measure

- M.S. theses and Ph.D. dissertations

Year	Target	Actual
2007	3	2

Output #6

Output Measure

- Professional/scientific presentations

Year	Target	Actual
2007	5	12

Output #7

Output Measure

- Student training

Year	Target	Actual
2007	5	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	M.S. and Ph. D. degree conferrals (#)
2	Estimate the spatial decision process of fisherman within the herring industry.
3	Expand seafood markets by development of new marketing ideas.
4	Identification of market niches for seafood
5	Development of decision tools to integrate management and marketing of seafood.
6	Development of alternative seafood products.

Outcome #1

1. Outcome Measures

M.S. and Ph. D. degree conferrals (#)

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Graduate degree conferrals generate highly trained individuals for our workforce who contribute to US fisheries and aquaculture management.

What has been done

Recruitment, assistantships, mentoring

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Estimate the spatial decision process of fisherman within the herring industry.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Fisheries managers, environmentalist.

What has been done

Developed a quantitative model on fishing decisions.

Results

The model can be used to evaluate the impact of policy change on fishing location decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #3

1. Outcome Measures

Expand seafood markets by development of new marketing ideas.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Seafood industry, NMFS & USDA economists, consumers, processor, NGOs.

What has been done

Analysis of consumer preferences for seafood products; evaluation of the change in demand for seafood perceived as tainted.

Results

Advance knowledge on the market of and willingness to pay for ecolabeled products - reports & presentations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development

Outcome #4

1. Outcome Measures

Identification of market niches for seafood

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Seafood producers, NMFS & USDA economists, consumers, processors, NGOs.

What has been done

Evaluated the market for ecolabeled/sustainable fishery and aquauculture products.

Results

Farmed salmon has impacted Alaska wild salmon prices; there is a willingness to purchase ecolabeled/sustainable seafood - reports and presentations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development

Outcome #5

1. Outcome Measures

Development of decision tools to integrate management and marketing of seafood.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Seafood industry, NMFS & USDA economists, fisheries managers, NGOs.

What has been done

Evaluated how scallop prices and fisheries management decisions influence the value of the scallop resource.

Results

Rotational management of US scallop fisheries are likely in increase the fishery value compared to current management practices; report and presentations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis
606	International Trade and Development

Outcome #6

1. Outcome Measures

Development of alternative seafood products.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Seafood industry, NMFS & USDA economists, consumers, processor, NGOs.

What has been done

Evaluated a) the market for seafood identified as sustainable and b) changes in the market for farmed shrimp.

Results

{1} There are economic benfits from marketing sustainable seafood - some of these benefits accrue to the primary producers resulting in enviromental improvement. 2) Demand for farmed shrimp is growing in China, US and EU as supply increases have driven down prices. - Reports & presentatons.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #15

V(A). Planned Program (Summary)

1. Name of the Planned Program

College of the Environment and Life Sciences Community Access to Research and Extension Services (CELS CARES)

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		5%	
216	Integrated Pest Management Systems	5%		5%	
301	Reproductive Performance of Animals	5%		5%	
305	Animal Physiological Processes	5%		5%	
311	Animal Diseases	5%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	10%		10%	
404	Instrumentation and Control Systems	5%		5%	
703	Nutrition Education and Behavior	5%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	5%		5%	
721	Insects and Other Pests Affecting Humans	5%		5%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%		5%	
901	Program and Project Design, and Statistics	15%		15%	
902	Administration of Projects and Programs	15%		15%	
903	Communication, Education, and Information Delivery	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan				
Actual	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	0	784679	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	684708	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The College of the Environment and Life Sciences (CELS) Community Access to Research and Extension Services (CARES). The CELS CARES program is an integral component of the mission of the Land Grant operation, the College and the University. This collaborative relationship with our federal partner, CSREES, has enabled our scientists, staff and students to leverage additional resources that provide new results and knowledge, innovative programs, and essential services for all Rhode Islanders.

CELS CARES is the platform from which we release requests for proposals in our competitive programs for the formula grant funds received from CSREES to the University of Rhode Island. (The competitive process that we use is described elsewhere in this report.) The competitions that we have had for our Land Grant funds included programs for: Hatch research, Hatch Multi-state research, innovative Extension and integrated programs. Through a competitive process we have funded projects that included: "Integrated management of Annual Bluegrass Weevils on Golf Course Turf" (Hatch Multistate, reported here in the Horticulture and the Reduction of Pests and Disease Outbreaks in Plants Program); "Analysis of Conservation and Allocation Decisions in Fishery Governance" (Hatch Multistate, reported in the Natural and Environmental Economics, Markets and Policy Program); "Role of Follistatin in Muscle Growth" (Hatch, reported in Aquaculture Biotechnology Program), "Targeting Riparian Management to Enhance In-stream Nitrogen Removal" (Hatch, reported in the Water Quality Program); "Influence of Vitamin E Supplementation on Immune Function in Pregnant Sheep and Their Offspring" (Hatch, reported in the Health and Well-Being of Livestock Program); "Mutagenesis of Seeds for the Development of Novel Woody Ornamental Plants" (Hatch, reported in the Horticulture and the Reduction of Pests and Disease Outbreaks in Plants Program); "The Identification of Grasses with Improved Salt Tolerance for Roadside Use" (Hatch, reported in the Horticulture and the Reduction of Pests and Disease Outbreaks in Plants Program); "Does Hybridization of Exotic Phragmites australis with Native Phragmites Result in Increased Hybrid Vigor?" (Hatch, reported in the Forestry and Wildlife Program); "4-H Pathways for Success in the Food and Agricultural Sciences: Building a Diverse STEM Pipeline for Rhode Island" (Innovative Extension, reported in the Children, 4□H and Families Program); "Healthy Weight Management in the Latino Population" (Integrated, reported in Nutrition, Health and Obesity Prevention Program); and "Internet-based Health Information Delivery and Decision Support System for preventing Tick Bites and Disease" (Integrated, reported in the Vector Borne Diseases and Human Health Program).

CELS CARES is also the platform from which we have built the research and infrastructure to support our scientists, educators, staff and students. To this end, we have supported a Hatch effort (approximately half of which was multistate) called "Developing Facilities to Address Critical Issues in Biotechnology". This initiative supports investment in the research infrastructure of the Center for Biotechnology and Life Sciences and expands the capacity of our integrated research teams to better address contemporary environmental, agricultural and health problems and issues. In doing so, we have sought to enhance workforce development, contribute to the knowledge economy, increase agricultural production, promote community economic vitality and enhance relationships between agriculture and the environment.

2. Brief description of the target audience

URI faculty
URI staff
URI students (graduate and undergraduate)
State stakeholders (project dependent)
Rhode Islanders

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
2007	25	200	0	0

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

Patent Applications Submitted

Year	Target
Plan:	

2007 : 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Develop infrastructure to support ongoing and new Hatch research projects

Year	Target	Actual
2007	{No Data Entered}	1

Output #2

Output Measure

- Support research projects

Year	Target	Actual
2007	{No Data Entered}	5

Output #3

Output Measure

- Support integrated projects

Year	Target	Actual
2007	{No Data Entered}	2

Output #4

Output Measure

- Support extension projects

Year	Target	Actual
2007	{No Data Entered}	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Enhance research and outreach capabilities at the University of Rhode Island

Outcome #1

1. Outcome Measures

Enhance research and outreach capabilities at the University of Rhode Island

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Meeting stakeholder needs is dependent upon our capacity to generate new knowledge, techniques, technologies, ideas, and strategies.

What has been done

We have supported a variety of new projects that cross cut the needs of a variety of stakeholder groups in Rhode Island. Additionally, a mix of state (91%), federal (4%) and private funds (5%) have been used to construct a new Center for Biotechnology and Life Sciences.

Results

We have implemented new programs and are currently completing construction of a laboratory building that will bring new capacity to the University of Rhode Island and to our state stakeholders.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
216	Integrated Pest Management Systems
901	Program and Project Design, and Statistics
401	Structures, Facilities, and General Purpose Farm Supplies
301	Reproductive Performance of Animals
703	Nutrition Education and Behavior
404	Instrumentation and Control Systems
722	Zoonotic Diseases and Parasites Affecting Humans
305	Animal Physiological Processes
902	Administration of Projects and Programs
903	Communication, Education, and Information Delivery
721	Insects and Other Pests Affecting Humans
311	Animal Diseases
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities

Brief Explanation

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

1. Evaluation Studies Planned

-

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}