2012 University of Rhode Island Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 07/21/2011

I. Plan Overview

1. Brief Summary about Plan Of Work

In this plan we describe the activities, and expected outputs and impacts of programs associated with the Rhode Island Agricultural Experiment Station (RI AES or Station) and Rhode Island Cooperative Extension System (RICES or Extension); collectively referred to as the Land Grant programs. RIAES and RICES are collaborative elements within the College of the Environment and Life Sciences (CELS) at the University of Rhode Island (URI). Day to day administrative oversight of RIAES and RICES is provided by the Associate Director of the Land Grant Programs. Fiscal management of the Land Grant programs is provided by the Director of the Finance and Administration, College of the Environment and Life Sciences, URI. Both the Associate Director of the Land Grant Programs and the Director of the Finance and Administration report directly to the Dean of the College of the Environment and Life Sciences, URI and the Director of RIAES and RICES.

The programs and projects supported within our Land Grant portfolio span a wide range of disciplines, from the natural sciences to the social sciences. Equally important, the solutions that we share with stakeholders are based upon solid university research; research that depends on appropriate, modern infrastructure; the cutting edge tools of science; and multidisciplinary, multistate, problem-based approaches. Programs in the 2012-2106 Combined Research and Extension Plan of Work (Plan of Work) include:

1) Food Safety; 2) Nutrition, Health and Obesity Prevention; 3) Global Food Security and Hunger (includes programming formerly in Food Insecurity and Nutrition in Vulnerable Populations); 4) Children, 4-H and Families, 5) Sustainable Communities, 6) Vector Borne Diseases and Human Health; 7) Aquaculture and Fisheries (formerly called Aquaculture Biotechnology); 8) Climate Change (includes programming formerly in Water Quality); 9) The Environment and Adaptive Agro-ecosystems (includes programming formerly in Forestry and Wildlife); 10) Community Gardening and Outreach; 11) Health and Well-being of Livestock, 12) Horticulture and the Reduction of Pests and Disease Outbreaks in Plants; 13) Natural and Environmental Economics, Markets and Policy; 14) Sustainable Energy (new program); 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, NIFA, 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.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2012	30.1	0.0	28.6	0.0

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2013	30.1	0.0	28.6	0.0
2014	30.1	0.0	28.6	0.0
2015	30.0	0.0	28.0	0.0
2016	30.0	0.0	28.0	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

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

2. Brief Explanation

Local stakeholder input, URI expertise, and regional and national needs help lead to the establishment of AES and CE priority planned programs, as outlined herein. The following processes are used to select the proposed projects to be supported by the Station or Extension.

The Director uses the AES/CE Program Leader Team to establish annual funding priorities for projects. The Station and Extension issue an annual request for proposals, stating funding limits and current program priorities. Station projects (and, where relevant, Extension projects) are subject to screening to establish relevancy to current program objectives.

Projects are also assessed for merit. Project merit depends on goodness of fit to program priorities, and on peer review. General criteria for project merit include:

- Is the project an appropriate match to strengths of our faculty, staff, and facilities?
- Is the project's level of sophistication worthy of a major university?
- Is the project best conducted by the University (i.e., AES or CE), or is another agent of the government or the private sector more suitable?

Projects judged to merit support are also weighed against the record of the project author in previous efforts ("what were the outcomes?") and in efforts to secure additional external funds through established granting agencies (e.g., government or private foundations.)Were the AES/CE funds used effectively to leverage new funds to support the project? Priority is given to proposals that enhance research or outreach capacity or to proposals that provide continuity for Station or Extension projects largely supported by competitive funding.

Projects that are multi-state (where the reasons for multi-state collaboration are sound), integrated (research-based with clear relation to public good outcomes appropriate for outreach), and team oriented (multi-disciplinary, as appropriate) are also given priority.
All projects that are approved under the above merit review are informed that they have passed the merit review. Those that are rejected on the basis of a lack of merit are given a written explanation from the Director, with (when appropriate) suggestions for modification for resubmission.

Last, the Director has the option of providing support for capacity-building projects (i.e., preliminary research studies of limited duration) intended to explore potential new program directions.

RIAES has in place a process that employs "Peer and Merit Reviews." That is, we employ both internal and external reviewers (assigned by the Director) to evaluate the scientific and technical soundness of proposed research. Specifically, we ask a minimum of three reviewers to assess each proposed project and to respond to six questions:

- Does the proposal hold promise of making a significant contribution to science, technology, or human well-being sufficient to warrant the proposed investment of time and effort?
- Does the proposal demonstrate adequate familiarity with the work of previous and contemporary investigators working in closely related areas?
- Are the objectives clear?
- Is the approach to the investigation, outlined in methods, clear and appropriate to meet the objectives?
- Is (are) the principal investigator(s) and specified members of the research team qualified to conduct the research?
- Are the facilities and equipment (existing or proposed, as described in the proposal) of the Rhode Island Agricultural Experiment Station adequate for the PI to perform the proposed research?

Reviewer's comments are made available to the proposal principal investigator except in unusual circumstances. Reviewers are also asked for any additional comments that they deem relevant.

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

All multistate and joint activities will address critical issues of strategic importance including those identified by the stakeholders.This supposition is also supported by the rigors of our merit review process and the rigors of the merit review process associated with prior approval of ongoing multi-state projects that are part of this Plan of Work.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

When appropriate, multi and joint projects will focus on under-served, vulnerable and minority populations.These groups are identified in the audiences described by the Planned Programs herein.

3. How will the planned programs describe the expected outcomes and impacts?

The long-term impact of these multi-state projects are to address salient and emerging issues of direct relevance to the quality of life of all Rhode Islanders.The priority programs in this plan are expected to improve personal health, improve the quality of fresh and marine waters, improve food access, promote sustainable communities, promote leadership and healthful lifestyles for youth, improve the health and well-being of agricultural important livestock, reduce the incidence of vector borne diseases, promote economic vitality, preserve the land and adopt sustainable agricultural practices.

4. How will the planned programs result in improved program effectiveness and/or

All of the multi and joint programs are fundamentally collaborative both within and outside of the University of Rhode Island.Rather than competing for resources, the programs embrace a philosophy of shared abundance and exploit the synergies of the intellectual and physical resources of all research and outreach partners.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages 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.

The Multi-state and joint projects use a variety of participatory research techniques to assess, prioritize and connect target audiences with our initiatives, programs, research and outreach.

2(A). A brief statement of the process that will be 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.

The different program areas use different methods to secure stakeholder input.Collectively, the list above represents the range of methods used to secure suggestions from external audiences.

2(B). A brief statement of the process that will be 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.

As noted above, a variety of different methods are used to collect input from stakeholder groups.

3. A statement of how the input will be considered

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

Brief explanation.

Input is collected from external audiences and assessed.Emerging issues as well as continuing needs serves to drive priority setting, action plans, budgeting and resource allocation.

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Food Safety
2	Nutrition, Health and Obesity Prevention
3	Global Food Security and Hunger
4	Children, 4-H and Families
5	Sustainable Communities
6	Vector Borne Diseases and Human Health
7	Aquaculture and Fisheries
8	Climate Change
9	The Environment and Adaptive Agro-Ecosystems
10	Community Gardening and Outreach
11	Health and Well-being of Livestock
12	Horticulture and the Reduction of Pests and Disease Outbreaks in Plants
13	Natural and Environmental Resource Economics, Markets and Policy
14	Sustainable Energy
15	CELS CARES

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

A secure food system is one that prevents contamination of food by any source, as well as facilitates a predictable and steady supply of high quality and safe foods. There is a need for food safety information throughout the diverse Rhode Island community of educators, consumers, food service workers, food industry personnel and processors, and commercial fruit and vegetable growers. Federal and state regulations mandate specific training that promotes compliance in the RI food industry. Program expertise will continue to provide regional support for a variety of educational activities. Significant funding has been secured to continue to support food safety initiates across the state. This includes research, training and outreach relevant to the public and industry.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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 Residues from Agricultural and Other Sources	50%		50%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Food Safety priorities for the State of Rhode Island will be to continue to implement HACCP training for Rhode Island School Food Service operations and residential childcare facilities, to provide HACCP and sanitation education to seafood, juice/cider and meat/poultry processors , to present an annual food safety conference for public and private stakeholders, maintain a Good Agricultural Practices Program for commercial growers of fruits and vegetables, to provide GAP for homeowners using the Master Gardener Program as a method of delivery, and to maintain the RI Food Safety Certification and Recertification courses targeting food service establishments. Additionally, food safety education will be on-going for K-12 teachers, healthcare professionals and consumers.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The State of Rhode Island Department of Health will continue to partner with the College of the Environment and Life Sciences at the University on these efforts. Food safety specialists will serve as catalysts for systems changes in schools, on farms and in industry around standards for food safety.

2. Ultimate goal(s) of this Program

To reduce food borne illness and control food hazards within public and private sectors.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	1.8	0.0	0.0	0.0
2013	1.8	0.0	0.0	0.0
2014	1.8	0.0	0.0	0.0
2015	1.8	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Continue to implement HACCP training for RI school food service operations
- Provide HACCP and sanitation education programs to a variety of food 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
- Maintain RI Food Safety Manager courses
- Develop internet-based training on Food Safety issues
- Develop Food Safety Curriculum materials for Special Needs students (ages 16-21)
- Further development of time-temperature barcodes to continuously monitor the temperature of food products.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Demonstrations • Other 1 (Volunteer Training)	• Newsletters • Web sites

3. Description of targeted 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.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	350	1000	0	1500
2013	350	1000	0	1500
2014	350	1000	0	1500
2015	350	1000	0	1500
2016	350	1000	0	1500

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	1	1	0

Year	Research Target	Extension Target	Total
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

2012:0 **2013:**0 **2014:**1 **2015:**1 **2016:**0

- Abstracts

2012:1 **2013:**1 **2014:**2 **2015:**2 **2016:**2

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

2012:15 **2013:**15 **2014:**12 **2015:**15 **2016:**15

- Volunteer Training

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**5

- Conferences Hosted

2012:1 **2013:**1 **2014:**0 **2015:**1 **2016:**1

- School Based Training Sessions (teachers and children)

2012:0 **2013:**0 **2014:**2 **2015:**2 **2016:**2

- Website Development and Refinement

2012:1 **2013:**1 **2014:**0 **2015:**1 **2016:**0

- Student training

2012:1 **2013:**1 **2014:**1 **2015:**10 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Develop, implement and evaluate new health and food safety training and resource materials for targeted audiences such as consumers, educators, food industry personnel and health care providers (# of new programs).
2	Implement the internet based training for Good Manufacturing Practices (GMP) and personal hygiene for processors and warehouses. As a member of a regional team (# of training sessions)
3	Commercial growers of fruit and vegetables, food industry producers PROCESSORS and school personnel FOODSERVICE will participate in appropriately directed food safety (# people trained).
4	Formulate new approaches for food safety education for consumers, school educators and the food industry in residential institutions in Rhode Island. (# People)

Outcome # 1

1. Outcome Target

Develop, implement and evaluate new health and food safety training and resource materials for targeted audiences such as consumers, educators, food industry personnel and health care providers (# of new programs).

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Implement the internet based training for Good Manufacturing Practices (GMP) and personal hygiene for processors and warehouses. As a member of a regional team (# of training sessions)

2. Outcome Type : Change in Action Outcome Measure

2012:250	**2013:**250	**2014:**250	**2015:**250	**2016:**250

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Commercial growers of fruit and vegetables, food industry producers PROCESSORS and school personnel FOODSERVICE will participate in appropriately directed food safety (# people trained).

2. Outcome Type : Change in Knowledge Outcome Measure

2012:500	**2013:**500	**2014:**500	**2015:**500	**2016:**500

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Formulate new approaches for food safety education for consumers, school educators and the food industry in residential institutions in Rhode Island. (# People)

2. Outcome Type : Change in Condition Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect 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)

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Structured
- Unstructured
- Observation
- Tests
- Journals

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Nutrition, Health and Obesity Prevention

2. Brief summary about Planned Program

Work under KA 702 will investigate lipoprotein metabolism & metabolic syndrome in young adults.
Work under KA 703 will reach low-income Latinos with nutrition information and effective interventions for weight management that are culturally sensitive.
Work with the City of Providence and the City of Central Falls Public School systems to develop curriculum for students (to be institutionalized within the school system) and provide teacher training related to obesity prevention

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components	25%		25%	
703	Nutrition Education and Behavior	75%		75%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Obesity is an enormous public health issue for Americans of all ages. Like the nation, Rhode Island has experienced substantial increases in overweight and obesity among all groups of residents. Such increases have profound effects on our state's health care system, since obesity is strongly associated with several chronic diseases including type 2 diabetes, cardiovascular disease and asthma. According to NHANES data, 64% of U.S. adults exceed the "normal" range for BMI. In RI, 33% of adults are overweight and 17% of adults are considered obese; 25% of the state's children and adolescents are either overweight of obese, with minorities disproportionately affected. Additionally, adolescents from lower income families have an even greater prevalence of overweight when compared with white adolescents from higher income families. Improved eating habits and food related behaviors would have a significant impact on overweight and obesity. as for example, only about ¼ of the state's adult population consumes the minimum of five daily servings of fruits and vegetables.

Priorities in these knowledge areas will be to clarify the physiological role of lipoproteins in human health and to develop, test and refine culturally sensitive weight management interventions and materials for young adults.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding will be secured throughout the course of the projects.
People are open to learning about developing a healthy lifestyle.
Program participation will help clients maintain body weight.
Participants will change behaviors in order to achieve a healthy body weight and improve related health parameters.
Providence health and physical education teachers will use new curriculum

2. Ultimate goal(s) of this Program

To reduce the risk of overweight/obesity and the incidence of related diseases in Latino and low-income populations.
To clarify the role of lipoprotein metabolism and metabolic syndrome in human health.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.3	0.0	0.5	0.0
2013	0.3	0.0	0.5	0.0
2014	0.3	0.0	0.5	0.0
2015	0.3	0.0	0.5	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For KA 702:
- Data collection

- Fitness testing and body composition analysis
- Survey and questionnaire completion
- Blood analysis and dietary intake calculations

For KA 703:

- Facilitate partnership with Latino communities
- Refine curriculum and teacher training programs
- Test interventional modalities for health maintenance and obesity prevention
- Analyze data and evaluate outcomes

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Newsletters • Web sites • Other 1 (Fact sheets, bulletins) • Other 2 (Social Marketing)

3. Description of targeted audience

KA 702: Lean and obese adults
KA 703: Latino men and women; low-income school age children and families

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	400	0	500	0
2013	400	0	500	0
2014	400	0	500	0
2015	400	0	500	0
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	0	1
2013	1	0	1
2014	1	0	1
2015	1	0	1
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Refine, deliver and evaluate major healthy weight intervention study

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Peer reviewed publications

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Abstracts

  2012:1 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Workshops

  2012:1 **2013:**1 **2014:**3 **2015:**2 **2016:**0

- Student Training

  2012:2 **2013:**3 **2014:**6 **2015:**5 **2016:**0

- Professional Training

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Scientific and Professional Presentations

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- MS Thesis or PhD Dissertation

  2012:1 **2013:**2 **2014:**2 **2015:**2 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase understanding of lipoprotein metabolism and metabolic syndrome on human health in young adults.

Outcome # 1

1. Outcome Target

Increase understanding of lipoprotein metabolism and metabolic syndrome on human health in young adults.

2. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 702 - Requirements and Function of Nutrients and Other Food Components

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). 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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

Vulnerable populations across the state of Rhode Island will be reached through the Expanded Food and Nutrition Education Program and the Rhode Island/URI Food Stamp Nutrition Education Program. This population will be reached through face to face nutrition education in the community (workshops, demonstrations), distance information transfer (newsletters, newspaper, home mailings, radio and other mass media), and through state-wide social marketing campaigns in nutrition.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

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 (Situation and Scope)

1. Situation and priorities

The poverty rate in RI is 12.0% for adults and 16.9% for children and Providence is the 3rd poorest city in the U.S. Six percent of working families had incomes below the federal poverty level, giving RI the second highest rate of poverty in New England. Not surprisingly, the number of food stamp recipients has increased to over 100,000.The need for nutrition education targeting economically disadvantaged families and older adults is greater than ever. It is the priority of the URI-RI Food Stamp Nutrition Education Initiative to assist households with limited resources in enhancing overall health through improved diet quality, resource management practices, shopping/budgeting skills and food safety practices.Intake of fruit and vegetables is markedly lower than Dietary Guideline recommendations and intakes are particularly low in the economically disadvantaged, those who live in urban areas and older adults (65+ years of age). Poor families have many disadvantages that lead to sub-optimal food choices and limited access to physical activity. RI EFNEP data suggest that only 2.8% of targeted populations consume a diet consistent with the Dietary Guidelines. The plan for EFNEP in the new Plan of Work is to reconfigure nutrition education delivery systems by introducing a vertical team model which includes traditional community para-professionals paired withgraduate students from the Department of Nutrition and Food Sciences, and

EFNEP Community Nutrition professionals and faculty.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding for Food Stamp and EFNEP Nutrition Education will continue.
People will be motivated to learn and change.
Staff can be recruited and hired who possess the necessary skills and abilities.
Nutrition information leads to desired behavior change.
Community partnerships will be strengthened and expanded.

2. Ultimate goal(s) of this Program

To improve the diet quality, food security, food resource management and food safety practices of low-income Rhode Islanders and decrease health risk vulnerability.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.0	0.0	2.0	0.0
2013	5.0	0.0	2.0	0.0
2014	5.0	0.0	2.0	0.0
2015	5.0	0.0	2.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Billboards • Newsletters • Web sites • Other 1 (Fact sheets, bulletins)

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	4000	100000	5000	10000
2013	4500	100000	5000	10000
2014	5000	110000	6000	15000
2015	5000	111000	6000	15000
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

Year	Research Target	Extension Target	Total
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:0 **2013:**0 **2014:**1 **2015:**1 **2016:**0

- Abstracts

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Scientific/Professional presentations

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Website Development and Refinement

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Public Service Announcements and Social Marketing Campaigns

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Video Productions

  2012:1 **2013:**0 **2014:**0 **2015:**0 **2016:**0

- Curriculum Development and Delivery

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Fact Sheets, Bulletins and Newsletters

  2012:20 **2013:**20 **2014:**30 **2015:**0 **2016:**0

- Student Training

  2012:4 **2013:**5 **2014:**6 **2015:**6 **2016:**0

- Volunteer Training

2012:20 **2013:**20 **2014:**25 **2015:**25 **2016:**0

- Workshops and Programs

2012:400 **2013:**400 **2014:**400 **2015:**400 **2016:**0

- MS Thesis or PhD Dissertation

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

V(I). State Defined Outcome

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 Target

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. Outcome Type : Change in Condition Outcome Measure

2012:1000	**2013:**1000	**2014:**1500	**2015:**1500	**2016:**1500

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). 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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Observation
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Children, 4-H and Families

2. Brief summary about Planned Program

The Children, 4-H and Families (CFF) Program will target two primary audiences; Rhode Island youth (primarily but not limited to children 8-18 years of age) and their parents. The RI 4-H youth development component will align its educational efforts with the three national mission mandates:science, engineering and technology, healthy lifestyles and citizenship.Programming partnerships will be forged with other CE/AES program areas to insure that a broad spectrum of researched-based information, curriculums and academic-based learning opportunities are utilized in expanding the opportunities for RI youth "to learn how to think, plan and reason"thus empowering them with the knowledge, skills and abilities to achieve their academic and individual potential.The second educational component focuses on the family unit's well being through programs and researched-based information presented at the community level to 1) address family structures stressed by poverty, creating weakened environments for child rearing; 2) improve parenting skills and parent child relationships and 3) connect community-based, organizations serving at risk youth and families with land-grant-based educational resources, training and referrals.By working as a team, this program area will be able to extend its 4-H educational resources and learning opportunities to currently under-represented youth in at risk communities throughout the state while expanding the adult/family training opportunities to include parenting workshops for both volunteers and 4-H parents.In addition, the evaluation skills and measurement tools of the youth and families at risk specialists will provide the 4-H component with the necessary expertise to develop and implement measures for program outcomes.It is anticipated that revisions to this program's plan of work will be made following the completion of a new strategic plan that will result in a new vision, mission and business plan for restructuring the Children, 4-H and Families program area.In addition, the results of a CFF state-wide in-depth study (surveys and focus groups in both Spanish and English) targeting issues facing Rhode Island families (including education, financial, health and nutrition, parenting, etc.) will provide the framework and focus for program priorities in the 2007-2011 action plan.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%		50%	
806	Youth Development	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Programming in Children, 4-H and Families (CFF) addresses a complex array of issues confronting Rhode Island families.The major challenge is in identifying where best to target limited CFF resources that will have a significant impact on key issues facing today's youth and families and result in measurable outcomes for these target audiences.Key issues impacting today's families include: The number of children in poverty is increasing in all RI cities and towns; Family structures are stressed by poverty and a decreasing community connection creating weakened environments for child rearing.There is limited access to social programs for youth and families, and links between service providers and families are weak; Parents lack skills in teaching their children limits, how to avoid violence, cope with peer pressure and experimentation with destructive behaviors; Given the weak academic preparation provided by many of Rhode Island's inner-city schools, most of which are listed by the state as under-performing, there is a significant population of first-generation students at all levels of academic preparation whose skills will not be strong enough to ensure success in higher education and in a scientific workforce; Youth lack opportunities for involvement in positive outside-of-school social and educational programs that provide them with a safe, supportive environment for developing life skills and interacting with peers and positive adult role models.

The CFF program staff through diverse partnerships within and outside of the land grant system can serve as the catalyst and provide the integration of people and resources needed to address these critical issues facing Rhode Island's youth and families.

2. Scope of the Program

- In-State Extension
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Youth will gain valuable life skills and develop self-confidence in their ability to engage in the larger community and successfully make the transition into productive, contributing adults through positive life choices.

On going and caring relationships, both within and out side of the family are essential to positive youth development.

Through out-of-school learning opportunities in science and healthy lifestyles, youth will develop the knowledge, skills and self-directed ability to improve academic performance, set long-term career goals, refine leadership and decision-making skills and demonstrate the ability to make positive choices.

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.

2. Ultimate goal(s) of this Program

Through collaboration and partnership, CFF will serve as the portal for Rhode Island families to connect with the vast research-based resources and educational opportunities of the land-grant institution resulting in improved youth and family health, life skills and emotional and academic well-being.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	7.0	0.0	0.0	0.0
2013	7.0	0.0	0.0	0.0
2014	7.0	0.0	0.0	0.0
2015	7.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations • Other 1 (4H Clubs/Groups)	• Newsletters • Web sites • Other 1 (Factsheets) • Other 2 (Web-based curriculum)

3. Description of targeted audience

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

Volunteers

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	3000	3000	3000	750
2013	3000	3000	3000	750
2014	3000	3000	3000	750
2015	3000	3000	3000	750
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Workshops

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**0

- Volunteer Training (number of new volunteers per year)

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**0

- 4-H Record Book Submissions

  2012:150 **2013:**150 **2014:**150 **2015:**150 **2016:**0

- Youth reached through programs

  2012:1500 **2013:**1500 **2014:**1500 **2015:**1500 **2016:**0

- Number of community/family serving groups and organizations reached

  2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**0

- Community Service (# of projects per year)

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**0

- Activities and Programs (# per year)

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**0

- Student Training (# per year)

  2012:20 **2013:**20 **2014:**20 **2015:**0 **2016:**0

- Website development and refinement

  2012:2 **2013:**2 **2014:**2 **2015:**1 **2016:**0

- Curriculum development and delivery

2012:35 **2013:**35 **2014:**35 **2015:**35 **2016:**0

V(I). State Defined Outcome

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	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 Target

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. Outcome Type : Change in Condition Outcome Measure

2012:200	**2013:**200	**2014:**200	**2015:**200	**2016:**200

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

% 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. Outcome Type : Change in Knowledge Outcome Measure

2012:50	**2013:**50	**2014:**50	**2015:**50	**2016:**50

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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. Outcome Type : Change in Condition Outcome Measure

2012:25	**2013:**25	**2014:**25	**2015:**25	**2016:**25

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

# 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. Outcome Type : Change in Action Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:10	**2013:**10	**2014:**10	**2015:**10	**2016:**10

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). 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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Tests
- Journals

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Sustainable Communities

2. Brief summary about Planned Program

Between 1964 and 1997, USDA estimates that Rhode Island lost approximately half of its farmland. Loss of farms and rural lands often heralds new residential development, traffic, and associated negative impacts of human activity on the environment. High land values can also stifle expansion of existing farms and make purchasing farmland prohibitive for aspiring farmers. Pressures such as zoning and regulatory issues, conflicts between farmers and homeowners, water supply, and estate settlement, have prompted the RI Division of Agriculture to designate "sustaining and providing for viable agriculture" as its foremost priority.This program will work closely with the RI Division of Agriculture to improve local and grassroots decision making related to economic and environmental sustainability, creating a model that will be available to benefit all of Rhode Island's communities, and in addition, will enhance tourism venues within the state.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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 (Situation and Scope)

1. Situation and priorities

Rhode Island's rural and urban fringe communities are undergoing rapid change and face increasingly complex planning and development issues.The impact of residential and commercial development on rural areas has increased costs of municipal services and driven property tax rates higher. Poorly planned growth is also creating sprawl pattern development in rural areas.This trend has resulted in the loss of farm and open space and has placed increased pressure on soil and water resources. Loss of

rural character and diminishing quality of place are concerns voiced by rural residents and municipal leaders with increasing frequency and urgency.Loss of farmland is particularly troubling. Between 1964 and 1997 USDA estimates that Rhode Island lost approximately half of its farmland. Loss of farms and rural lands often heralds new residential development, traffic, and associated negative impacts of human activity on the environment. High land values can also stifle expansion of existing farms and make purchasing farmland prohibitive for aspiring farmers.In its current Plan of Work, Rhode Island's state Division to Division of Agriculture states, " &hellipurban sprawl, and related pressures and problems, continue to threaten the long-term existence of agriculture in Rhode Island. Prime agricultural land continues to be lost to development; farmland values in Rhode Island are the highest in the nation and consequently farmland real estate taxes are higher than in any other state". These and other pressures cited in the plan, such as, zoning and regulatory issues, conflicts between farmers and homeowners, water supply, and estate settlement, have prompted the RI Division of Agriculture to designate "sustaining and providing for viable agriculture" as its foremost priority.

2. Scope of the Program

- In-State Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Through the addition of new and reassigned staff and the formation of resource partnerships, URI Extension has been building its capacity to conduct programs in sustainable communities and farm viability.Noteworthy assets that will be applied to this program area include assignment of a Senior Extension Educator/Sustainable Communities and a Sustainable Agriculture Specialist and other agricultural technical support personnel. Our program will be leveraged by staff and operating resources of our strategic partners - the RI Center for Agricultural Promotion and Education (RICAPE), and the RI Division of Agriculture as well as other state agencies and key collaborators including USDA/NRCS, and regional Extension systems. Multi-year USDA/SARE grant funds have also been secured to support staff and operating costs. We have also established a representative Small-Farms advisory committee.Our ability to develop and deliver sustainable tourism programming will be enhanced through collaboration with the Blackstone Valley Tourism Council, RICAPE, the Division of Agriculture and RI's extensive tourism industry network, as well as NIFA/national and regional sustainable tourism research and education resources.

2. Ultimate goal(s) of this Program

Our long term goal to strengthen the capacity of state and local organizations, municipalities, citizens and farmers/agriculturalists to make informed decisions and plan economically and environmentally sustainable communities and farms, and to manage natural resources and community assets wisely.This program will focus on commercial farm viability, stewardship of agricultural lands and sustainable development and management of tourism venues.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2012	1.0	0.0	0.0	0.0
2013	1.0	0.0	0.0	0.0
2014	1.0	0.0	0.0	0.0
2015	1.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Workshop • Group Discussion • One-on-One Intervention • Other 1 (Public presentations) • Other 2 (Conferences)	• Web sites • Other 1 (Fact sheets and bulletins) • Other 2 (Displays / Exhibits)

3. Description of targeted 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(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500	20000	200	500
2013	500	20000	200	500
2014	500	20000	200	500
2015	500	20000	200	500
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Conduct Community based workshops

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Professional training

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Public presentations

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Website development and refinement

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Student Training

  2012:200 **2013:**200 **2014:**200 **2015:**200 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Provide information and training to farmers and rural landowners on estate planning strategies and economic development opportunities.
2	Improve viability of agriculture in the state of Rhode Island and southern New England through farmer education/information and consulting concerning sustainable agricultural practices, value-added products and agri-tourism.
3	Provide information and training to municipal leaders and organizations on management of natural resources and community assets.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:15	**2013:**15	**2014:**15	**2015:**15	**2016:**15

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Improve viability of agriculture in the state of Rhode Island and southern New England through farmer education/information and consulting concerning sustainable agricultural practices, value-added products and agri-tourism.

2. Outcome Type : Change in Condition Outcome Measure

2012:10000	**2013:**10000	**2014:**10000	**2015:**10000	**2016:**10000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:15	**2013:**15	**2014:**20	**2015:**20	**2016:**20

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect 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.)

Description

We are existing in turbulent times nationally, regionally, locally, and institutionally. Appropriations budgets are being cut dramatically on many fronts, resulting in fewer resources for increasing need areas. Our university is in flux: we are welcoming a new president, dean, and associate dean in coming months. As finances and personnel change, it is likely our programs and outcomes will have to shift to accommodate them. The past year has resulted in many positive collaborations between Rhode Island agricultural entities, however, so we expect our program to continue to succeed and exceed expectations.

V(K). 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)
- 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

Description

Many of our evaluations occur during specific program activities. However, we also perform more qualitative assessments throughout the year and use them to gauge the effectiveness of existing programs and the need for additional programs.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Unstructured
- Case Study
- Observation

Description

Most of our formal data is compiled by in-person/e-mail/mail surveys. Often our most valuable information is gathered through observation and informal interviews, however.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Vector Borne Diseases and Human Health

2. Brief summary about Planned Program

This program uses a multi-pronged strategy to try to understand the biology and distribution of deer ticks and to reduce the transmission of diseases, especially Lyme disease, from deer ticks to humans.URI researchers continue to study the environmental factors, particularly humidity, that affect deer tick distribution and are developing a web-based information system so that the public can properly understand the risks associated with deer ticks and strategies that humans can take to avoid contact with them.Knowledge areas include 721 (20%) and 722 (80%).In KA 721, we are elucidating transmission dynamics of pathogens among tick vectors and vertebrate hosts, as well as improving methods of pest control through the use of 4-posters to apply pesticides to deer and evaluation of natural enemies of ticks. In KA 722, we are developing methods to prevent disease transmission from ticks to humans, by educating the public about ways to avoid deer ticks, by developing novel vaccination strategies, and by developing biomolecular assays for tick-borne pathogens.Stakeholders in this program literally include the entire U.S. population, who could contract Lyme disease either at home or on vacation, but most stakeholders are in the Northeast U.S. hotbed of this malady.We assume that this program will continue to be funded primarily by extramural sources (e.g., USDA, NIH) and that the leader of the program will be able to continue to attract a multidisciplinary cadre oftalented people to the program.The ultimate goal of the program is to provide the public with enough information and products that the incidence of Lyme disease will be significantly reduced.Outputs from the program include peer-reviewed publications, fact sheets, a web site, and on-site demonstrations of materials and techniques.Outcomes include changes in behavior of the public, so that they reduce the risk of contact with ticks, and a reduction in the incidence of Lyme disease.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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 (Situation and Scope)

1. Situation and priorities

Public awareness of tick-borne diseases is increasing in the coastal Northeast region, but there continues to be poor implementation and compliance with disease prevention strategies, despite the extraordinary prevalence of such diseases in this region, including Rhode Island.The deer tick becomes infected with and transmits a variety of infections including the Lyme disease bacterium, as well as the agents causing human babesiosis and granulocytic anaplasmosis.Populations of white-tail deer, found increasingly even in semi-urban settings, sustain and have served to increase deer tick populations.URI researchers are attempting to develop a health information delivery and decision support system intended to reduce the incidence of Lyme disease.The first step toward the establishment of a health information system involved identifying and prioritizing risk.Using surveillance data accumulated over a dozen years, URI researchers developed new tools to pinpoint risk, both spatially and seasonally.Using computer models to view disease patterns in Rhode Island, URI scientists determined which landscape patterns presented the greatest risk for encountering a tick bite.This will allow formulation of landscape plans to reduce the chances of encounters between ticks and people.Another aspect of the project involves the creation of a web-based decision support system.Using this system, people can compile a customized risk index and then follow links that will help them devise short- and long-term disease prevention action plans.Also, attempts are being made to reduce tick abundance community-wide by using USDA-designed 4-posters, which are devices that attract deer with corn dispensed in small amounts.The deer must pass through a set of vertically mounted rollers that are treated with pesticide, which should reduce the deer tick population.Finally, URI scientists 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. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

It is assumed that this program will continue to be funded primarily by extramural sources (e.g., USDA, NIH) and that the leader of the program will be able to continue to attract a multidisciplinary cadre of talented people to his outreach and research program.

2. Ultimate goal(s) of this Program

The ultimate goal of the program is to provide the public with enough information and products that the incidence of Lyme disease will be significantly reduced. To this end, URI researchers are attempting to develop a comprehensive health information delivery and decision support system addressing risk behaviors and awareness of Lyme disease.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	1.0	0.0	2.0	0.0
2013	1.0	0.0	2.0	0.0
2014	1.0	0.0	2.0	0.0
2015	1.0	0.0	2.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- 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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted 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(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	1000	40000	500	5000
2013	1000	40000	500	5000
2014	1000	40000	500	5000
2015	1000	40000	500	5000
2016	0	0	0	0

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

2012:1 **2013:**1 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	5	0	0
2013	5	0	0
2014	5	0	0
2015	5	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Books and monographs

  2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

- Abstracts

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Conference proceedings

  2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

- Workshops

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Website development and refinement

  2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

- Public presentations

  2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**0

- Public service announcements

  2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

- Student training

  2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

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

2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

- Postdoctoral fellow training

2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

V(I). State Defined Outcome

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 support system to reduce risk to vector borne diseases.
4	Reduce tick abundance community-wide
5	Increase research funding
6	Develop climate-based tick encounter risk prediction model

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Create tick surveillance database

2. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Reduce tick abundance community-wide

2. Outcome Type : Change in Action Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 5

1. Outcome Target

Increase research funding

2. Outcome Type : Change in Condition Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 6

1. Outcome Target

Develop climate-based tick encounter risk prediction model

2. Outcome Type : Change in Condition Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Weather extremes affect deer tick populations.Further, the appropriation of competitive funding will largely determine the progress that is made in this area.Last, the success of the project will be

determined by the degree with which Rhode Islanders change their behavior to reduce risk of the disease.

V(K). 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

Description

A mix of evaluation studies will be undertaken.These will include:
•mail surveys •telephone surveys •web-based studies •journals •direct observation

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Observation
- Journals

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Aquaculture and Fisheries

2. Brief summary about Planned Program

Aquaculture is the technology of raising freshwater and marine organisms, including integrated farming with terrestrial agriculture, as well as the use of molecular methods to improve production. We work at both a local scale (to improve small-scale aquaculture) and at national and international scales (conducting research that can result in commercial products for worldwide use). Knowledge areas related to this work include 302 (25%), 304 (25%), 307 (15%) and 311 (35%).

In KA 302, utilization of plant proteins as substitutes for fish meal in diets for carnivorous fish is being investigated to reduce production costs and the harvest of forage fish from the ocean. In KA 304, genetic factors regulating muscle growth in rainbow trout are being researched to enhance growth rates and therefore reduce production costs. In KA 311, the causes of diseases of shellfish and the performance of disease-resistant strains are being investigated to improve profitability of local shellfish farms.

Our Fisheries program is focused on gear technology transfer, fisheries management, and the quality and safety of seafood. The efforts in fisheries are integrated and have provided local key stakeholders, the fishing community, with the knowledge and skill to ensure a sustainable future. Last, our extension efforts in fisheries stretch beyond the boundaries of Rhode Island as we implement a global fishing extension program.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
135	Aquatic and Terrestrial Wildlife	15%	15%	15%	15%
302	Nutrient Utilization in Animals	20%	20%	20%	20%
304	Animal Genome	25%	25%	25%	25%
307	Animal Management Systems	15%	15%	15%	15%
311	Animal Diseases	25%	25%	25%	25%
	Total	100%	100%	100%	100%

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Rhode Island aquaculture industry is focused on oyster culture at present, but the industry could be expanded with the culture of new candidate species if the production costs for those species could be lowered. In addition to investigating species that might be suitable for culture in the state, research toward the production of commercial products (e.g., improved genetic stocks, vaccines) that could be sold to aquaculture producers worldwide is being conducted. As such, our stakeholders are both local and international. Finally, the success of aquaculture is integrally linked to seafood and commercial fishing and opportunities to exploit this relationship are being examined.

In fisheries, we focus on managing resources to ensure a sustainable future. The elimination or reduction of unwanted bycatch continues to be a driving force in fisheries management, and fishermen and gear specialists are modifying equipment to reduce bycatch, increase profit, and reduce their carbon footprint. While research has shown the extraordinary health benefits of seafood, those health benefits mean nothing if seafood is not properly handled, since it can also produce serious food-borne illnesses. In 1997, the Food and Drug Administration (FDA) Hazard Analysis and Critical Control Point (HACCP) program went into effect and requires both domestic and foreign seafood processors selling fish in the US to follow the food safety system. The HACCP Program is dynamic as the seafood hazards and the ways of controlling or eliminating those hazards are always evolving. Fisheries Cooperative Extension, working jointly with the Rhode Island Sea Grant program, is helping to ensure that all target audiences including general consumers, health care providers, and industry receive accurate information to make informed decisions.Those involved in fisheries are looking at alternative management solutions, including sector allocation, which is allocation of a fisheries quota to a group of fishermen to be fished in accordance with an approved plan.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Analyses from an array of sources predict that consumption of seafood in the US will continue to rise making this an increasingly important area of research. We assume that continued Hatch funding will be available for select projects and extramural grants (AFRI, SARE, etc.) for others. The program assumes continued use and maintenance of our aquaculture facilities, including the Aquaculture Center at East Farm (freshwater) and Blount Aquaculture Research Lab (marine), continued participation of existing aquaculture faculty, and replacement of one technical staff who left in the past year.

The program is also dependent on collaboration with the Rhode Island Sea Grant program.

2. Ultimate goal(s) of this Program

A primary goal of this program is to provide research and expertise to expand the aquaculture industry in RI, including both small-scale production of finfish and shellfish, and companies generating products that can be sold on an international market.

An additional primary goal is to ensure a sustainable future for fisheries by providing practical information, technologies and policies for managing valuable renewable resources.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.8	0.5	2.0	0.5
2013	0.8	0.5	2.0	0.5
2014	0.8	0.5	2.0	0.5
2015	0.8	0.5	2.0	0.5
2016	0.0	0.5	0.0	0.5

V(F). Planned Program (Activity)

1. Activity for the Program

The focus of this program is to: 1) investigate causes of diseases of shellfish and the mechanisms of innate immunity, particularly matrix metalloproteinases in hemocytes, 2) research genetic factors controlling muscle growth in rainbow trout, a model species for aquaculture, 3) develop technologies to reduce bycatch, 4) provide consumers, health care providers and fishing industry represnetatives with accurate information on the handling of seafood, and 5) develop and share strategies to create sustainable fisheries.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

• Workshop • Group Discussion • Other 1 (National and International Mtg)	• Newsletters

3. Description of targeted audience

The target audience includes the aquaculture industry, the fishing industry, producers and distributors, scientists and researchers, the RI Dept. of Environmental Management and Coastal Resource Management Council, policy makers, and parties interested in entering the field.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	200	1000	70	0
2013	200	1000	70	0
2014	200	1000	70	0
2015	200	1000	70	0
2016	200	1000	70	0

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

2012:0 **2013:**0 **2014:**1 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	0	2
2013	2	0	2
2014	2	0	2
2015	2	0	0
2016	2	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

- Abstracts

2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Scientific and Professional Presentations

2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Workshops

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Student training

2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**0

- MS theses and PhD dissertations

2012:2 **2013:**2 **2014:**1 **2015:**2 **2016:**0

- Postdoctoral fellow training

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased aquaculture production in Rhode Island (both of current species and new species). An increase in technology and understanding of basic mechanisms of immunity and muscle growth that will ultimately enhance production.
2	Provide training to improve fisheries management.

Outcome # 1

1. Outcome Target

Increased aquaculture production in Rhode Island (both of current species and new species). An increase in technology and understanding of basic mechanisms of immunity and muscle growth that will ultimately enhance production.

2. Outcome Type : Change in Condition Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 311 - Animal Diseases

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Provide training to improve fisheries management.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:10	**2013:**10	**2014:**10	**2015:**10	**2016:**10

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Government Regulations

Description

The state of the economy could impact the number of new entrants into aquaculture and government regulations (e.g., leases) will determine the number and size of new and existing operations seeking to expand. Additionally, changes in funding priorities could effect the amount of funds available to these projects.

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Observation

Description

Biological data will be collected using standard scientific methods and analyzed during and at the conclusion of experiments.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Climate Change

2. Brief summary about Planned Program

Climate change in the Northeast U.S. is expected to influence hydrology and water resources through a host of drivers, including: increases in temperature; greater severity of drought; wetter dormant seasons; more severe storms and rising sea levels (Hayhoe and Wake, 2006, *Mitigation and Adaptaton Strategies for Global Change*: *Regional climate change projections for the Northeas*t, UCS Publications, Cambridge MA) These changes present great challenges for stakeholders who rely on the functions and values of the water resources within the Region. The Executive Summary of the 2008 IPCC Report: Technical Paper IV: Climate Change and Water **(http://www.ipcc.ch/ipccreports/tp-climate-change-water.htm)** states, "Current water management practices may not be robust enough to cope with the impacts of Climate Change on water supply, reliability, flood risk, health, agriculture, energy and aquatic ecosystems." URI will address these challenges through activities planned for FY 2011 and beyond. Rhode Island relies on its rural lands to provide safe drinking water and sustain the water quality of estuaries and freshwater systems that provide valuable opportunities for recreation, fin fishing and shellfishing. But, the compressed geography, population density and lack of county government present major challenges for water quality protection. In addition, the historic approaches to private well development, unsewered wastewater treatment practices and agricultural waste management generate high risks for ground and surface water contamination. Pesticide, pathogen, naturally-occurring contaminants and nitrate continue to plague private and public well water. Suburban sprawl and rapid development are contributing to the loss of forest, agricultural and open lands and their ecological functions. Research will focus on watershed patterns and processes that affect the fate of nonpoint contaminants and approaches to assess the effects of contaminants and disturbance on surface water ecosystems and groundwater. Research methods include lab and field studies as well as inventories, remote sensing studies and GIS. Extension programs, in cooperation with stakeholders and partner agencies, identify needs and build upon successful local programs to create and disseminate new materials, tools and curricula for use throughout New England. We seek to to deliver an integrated water quality program that educates, empowers, and engages agricultural producers, residents and communities throughout New England to become effective stewards of their local water resources. Our water quality programming will continue long-term development, delivery and application of proven water quality management tools and techniques such as best management practices (BMPs) for onsite waste water treatment, shoreline buffers, Nonpoint Education for Municipal Officials (NEMO) programming, Home *A Syst/Farm*A*Syst, Volunteer Water Quality Monitoring and geospatial data development and use.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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 (Situation and Scope)

1. Situation and priorities

The IPCC (2008) predicts that higher water temperatures, increased precipitation intensity, and longer periods of low flows will increase the risks of water pollution from watershed based nonpoint sources. Altered flow regimes can lead to changes in residence time and dilution capacity. Our aquatic ecosystems, both freshwater and estuaries, will be more susceptible to algal blooms, hypoxia and pathogen contamination &ndash with consequences for local water supplies, recreation, biodiversity and human health. The activities of volunteer monitoring through Watershed Watch and watershed modeling through S-1042 &ndash have never been more important. Stakeholders need locally-relevant information to target and manage sensitive aquatic resources and to be able to identify and manage areas likely to be at increased risk of serving as pollution sources in the future. An increase in the length and severity of drought, rising sea level and increased storm intensity pose risks to rural water supplies, warranting information that targets these locations and management practices to protect and maximize existing water supplies.. Advances in siting and design for on-site wastewater systems can mitigate the risks associated with intense weather extremes attributed to climate change. Advanced treatment systems offer the potential for reuse of treated wastewater that can conserve potable water supplies of a rural community, but this requires training of stakeholders in the proper use of these technologies.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Land use characteristics and anticipated changes create conflicts between the developed and undeveloped environment and between land managers and others. This situation is predicted to become exacerbated due to increased land use development patterns over the near term. The development and transmission of relevant information is needed to enable public and private decision makers to best manage this evolving situation.

2. Ultimate goal(s) of this Program

Our long term goal is to strengthen URI's capacity to deliver an integrated water quality program that educates, empowers, and engages agricultural producers, residents and communities throughout New England to become effective stewards of their local water resources and to address risks posed by land use, climatic variability and climate change.

Research will improve the capacity of land managers and community decision makers to understand and manage water quality and hydrologic risks associated with climate variability and climate change on rural and mixed use watersheds

Extension: Provide locally-relevant programs focused on individual actions and and community management that can protect and restore water quality in surface water ecosystems and in groundwater.

Communities decision makers will adopt new approaches to assess, characterize and protect water resources and mitigate existing problems.

Private industry will be trained in new techniques that improve site specific practices such as onsite wastewater treatment and shoreline landscaping.

Watershed residents will learn about onsite wastewater management and sustainable landscape practices that reduce the risks of surface and groundwater contamination. In addition they will engage in monitoring practices that will enhance their understanding of local water quality issues and encourage them to pursue actions at the local and community level to protect and improve water resources.

Agricultural producers will gain insight and be encouraged to adopt appropriate BMPs to reduce loss of nutrients from the working landscape

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.0	0.0	7.0	0.0
2013	3.0	0.0	7.0	0.0
2014	3.0	0.0	7.0	0.0
2015	3.0	0.0	7.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research investigations focus on watershed patterns and processes that affect the fate of nitrogen and environmental flows. Research methods include lab and field studies as well as geospatial analyses.

Extension programs create locally relevant programs focused on land and community management.In cooperation with stakeholders and partner agencies, we will identify needs and build upon successful local programs to create and disseminate new materials, tools and curricula in RI and New England. . Our water quality programs will continue development, delivery, training and application of proven water quality management tools and techniques such as:

Develop of curricula and training on best management practices (BMPs) for conventional and alternative and innovative onsite waste water treatment

Public outreach and training on stormwater management

Development of curricula and training regarding private wells,;

Volunteer Water Quality Monitoring

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

Public decision makers / Policy makers / NRCS / 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(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	3500	15000	500	0
2013	3500	15000	500	0
2014	3500	15000	500	0
2015	3500	15000	500	0
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	1	3
2013	2	1	3
2014	2	1	3
2015	2	1	3
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Fact sheets, bulletins and newsletters

  2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**0

- Website development and refinement

  2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

- Training manuals and Instructional CD's developed

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Public service announcements, news releases/articles

  2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**0

- Books and monographs

  2012:1 **2013:**1 **2014:**0 **2015:**0 **2016:**0

- Abstracts

  2012:5 **2013:**5 **2014:**5 **2015:**0 **2016:**0

- Workshops and Conferences hosted or Co-hosted

  2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**0

- Presentations and Short Courses

  2012:40 **2013:**40 **2014:**45 **2015:**0 **2016:**0

- Student training

2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**0

- MS theses and PhD dissertations

2012:2 **2013:**1 **2014:**1 **2015:**2 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased (%) of the proportion of professionals and the public knowledgeable about maintenance, improvement and challenges of climate variability and climate change related to onsite wastewater treatment.
2	Increased understanding by scientists and decision makers through publications and presentations of the management and risks of watershed nitrogen delivery.
3	Increased (%) development of locally based water resource data for use by communities and the public that can assist in risk assessment and management related to watershed changes, climate variability and climate change.
4	Increase in the proportion of the public and professionals knowledgeable about options for addressing risks related to watershed changes, climate variability and climate change related to storm water management.
5	Increase in targeted households and professionals gaining knowledge of private well management options related to land use, climate variability and climate change, including testing, treatment, siting and protection measures.

Outcome # 1

1. Outcome Target

Increased (%) of the proportion of professionals and the public knowledgeable about maintenance, improvement and challenges of climate variability and climate change related to onsite wastewater treatment.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:5	**2013:**5	**2014:**5	**2015:**5	**2016:**5

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Increased understanding by scientists and decision makers through publications and presentations of the management and risks of watershed nitrogen delivery.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Increased (%) development of locally based water resource data for use by communities and the public that can assist in risk assessment and management related to watershed changes, climate variability and climate change.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:10	**2013:**10	**2014:**10	**2015:**10	**2016:**10

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Increase in the proportion of the public and professionals knowledgeable about options for addressing risks related to watershed changes, climate variability and climate change related to storm water management.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:5	**2013:**5	**2014:**5	**2015:**5	**2016:**5

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 5

1. Outcome Target

Increase in targeted households and professionals gaining knowledge of private well management options related to land use, climate variability and climate change, including testing, treatment, siting and protection measures.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:15	**2013:**15	**2014:**15	**2015:**15	**2016:**15

3. Associated Knowledge Area(s)

- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Use and management of various inputs to the working landscape will be impacted by various weather events.Also, reduced funding for Extension programs will reduce the ability to conduct educational programs, establish and showcase demonstration sites, etc.

V(K). 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

Description

Evaluation studies will be varied in terms of time and program area.main efforts will be to evaluate, on an ongoing basis, attitudes changed due to knowledge gains resulting from our programs.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Unstructured
- Observation
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

The Environment and Adaptive Agro-Ecosystems

2. Brief summary about Planned Program

Presently, 60% of Rhode Island is forested. Eighty-percent of this forested land (303,000 acres) is privately owned by roughly 32,000 people. Approximately 80% (over 26,000 people) own forest parcels of less than 10 acres which amounts to roughly 250,000 acres of forestland in RI. This trend is not unique to our small, densely populated state. Nationally, there are 150,000 new forest owners each year who acquire between 1 and 10 acre parcels. These forest owners are obtaining some of the most productive forestland. Cumulatively, they can have a significant impact on the Rhode Island landscape and their management decisions affect biodiversity, wildlife, the character of rural communities and forest health. Local governments also play an important role in forest and wildlife management within RI. Policy makers and professionals need information on which to base their land use decisions, including options for land preservation, identification of sensitive areas, and the management and protection of open space areas. In addition, invasive species threaten the sustainability of our forests and terrestrial ecosystems. Research will include: Assessment of the impacts of urbanization on seasonal woodland ponds along a disturbance gradient, with special emphasis on impacts of groundwater withdrawal on pond hydrology and amphibian habitat suitability; Investigation of use of body composition and blood metabolites of song .. Economic analyses of willingness to pay for land conservation or ecosystem services will generate new knowledge in relationship to people's willingness to support ecosystems and conservation and to assess the potential for green markets.

Investigations on habitat quality in early successional forests will explore how management practices affect populations of grouse, woodcock and associated wildlife species. Research on changes in body composition and blood metabolites will evaluate the quality of available forest habitats and food sources for migrating song birds at stop over sites in Coastal New England and will provide insights for managing coastal habitats for enhancing biodiversity. Investigations on the potential for hybridization and resultant vigor and invasiveness of native and introduced plants will provide insights that can enable appropriate risk assessment and risk management strategies for invasives. Development of subaqueous soils interpretive approaches will improve decisions on such issues as eelgrass restoration, dredging and aquaculture.Extension work will be designed to raise the awareness of forest owners, local decision makers, NGOs and state officials about the value of RI's forest resource and to provide our audience with the tools and educational materials to make informed decisions that protect and enhance the state's forests. We will provide data and training to planners, conservation groups, and land trusts at the municipal level to increase awareness of vital natural resources and critical habitats, including forest resources throughout the State. We will focus on delivering training in GIS technology and provide access to a wealth of spatial data through the URI Environmental Data Center Websites. We will also collaborate with the Rhode Island Natural History Survey to meet both our research and extension goals.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	15%		25%	
123	Management and Sustainability of Forest Resources	25%		15%	
131	Alternative Uses of Land	30%		10%	
135	Aquatic and Terrestrial Wildlife	10%		25%	
136	Conservation of Biological Diversity	20%		25%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Presently, 60% of Rhode Island is forested.Eighty-percent of this forested land (303,000 acres) is privately owned by roughly 32,000 people.Approximately 80% (over 26,000 people) own forest parcels of less than 10 acres which amounts to roughly 250,000 acres of forestland in RI.This trend is not unique to our small, densely populated state.Nationally, there are 150,000 new forest owners each year who acquire between 1 and 10 acre parcels.These forest owners are obtaining some of the most productive forestland.Cumulatively, they can have a significant impact on the Rhode Island landscape and their management decisions affect biodiversity, wildlife, the character of rural communities and forest health. Local governments also play an important role in forest and wildlife management within RI.Policy makers and professionals need information on which to base their land use decisions, including options for land preservation, identification of sensitive areas, and the management and protection of open space areas.

Sustaining wildlife through habitat management is a critical issue for RI.Migrating song birds require suitable food sources to complete their migration and coastal lands have undergone extreme changes in vegetation, potentially imperiling migration success and fecundity for many native species.Ruffed Grouse are a of particular concern in southern New England because they are a native gamebird species that is currently too rare to sustain a hunting season and they serve as a "sentinel species" for the response of many species to the success or failure of management of early successional forests. Although vernal ponds in forested watersheds provide essential habitat for a host of organisms, the fecundity of these organisms is highly linked to forest disturbance and management, requiring a careful understanding of the underlying ecology. Invasive plants threaten the integrity of New England habitats and could affect biodiversity within the state.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research

- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding will be secured throughout the course of the projects.

Forest managers continue their interest in game birds
The public and land managers continue their interest in managing invasive plant species
Local, state, non profit decision makers and landowners continue their interest in preserving and managing open space for natural resource values.
Wetland restoration and preservation to sustain biological diversity continues to be a priority for the public.
State, local and federal decision makers and the public continue their interest in siting aquaculture and prioritizing restoration sites.

2. Ultimate goal(s) of this Program

Research: Improve Rhode Island's forest habitat and wildlife through:
• Understanding how wildlife habitats, particularly vernal ponds and early successional forests can be maintained or restored to assure sustainable levels of indigenous species in the face of increasing pressures of population growth, urbanization, pollution, and inadequate public understanding
• Improved public understanding of the life history, values and status of Ruffed Grouse
• Increased understanding about the role of coastal habitat for the long term survival of migrating song birds.
• Enhanced understanding of the drivers and risks associated with invasive species on terrestrial and wetland habitats. Increased understand of the public's willingness to pay for ecosystem services. Improved understanding of the structure and functions of subaqueous soils to promote aquaculture, restoration and carbon sequestration. Extension:
• Increased use of geospatial information by local decision makers to improve the planning and stewardship of forested lands.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.5	0.0	1.0	0.0
2013	0.5	0.0	1.0	0.0
2014	0.5	0.0	1.0	0.0
2015	0.5	0.0	1.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Sustaining wildlife through habitat management is a critical issue for RI.Migrating song birds require suitable food sources to complete their migration and coastal lands have undergone extreme changes in vegetation, potentially imperiling migration success and fecundity for many native species.Ruffed Grouse are a of particular concern in southern New England because they are a native gamebird species that is currently too rare to sustain a hunting season and they serve as a "sentinel species" for the response of many species to the success or failure of management of early successional forests. Although vernal ponds in forested watersheds provide essential habitat for a host of organisms, the fecundity of these organisms is highly linked to forest disturbance and management, requiring a careful understanding of the underlying ecology. Invasive plants threaten the integrity of New England habitats and could affect biodiversity within the state.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Workshop • One-on-One Intervention • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

A mixture of public policy personnel (federal and state agencies as well as town conservation, planning and management officials), local nonprofit groups involved in land management, such as conservancies, interested and involved citizens, and private landowners and high school students through training and participation in the Rhode Island Environthon.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	1000	5000	100	0
2013	1000	5000	100	0
2014	1000	5000	100	0
2015	1000	5000	100	0
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	5	0	5
2013	5	0	5
2014	5	0	5
2015	5	0	5
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**0

- Fact sheets, Bulletins and newsletters

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Short courses

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Website development and refinement

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Books and monographs

  2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

- Abstracts

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Workshops and Conferences hosted

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Public presentations

  2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**0

- Student training

  2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**0

- MS Theses and PhD Dissertations

2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased (%) forest and conservation geospatial information resources and use by towns, agencies, NGOs and the public
2	Increased understanding by wildlife biologists and managers through publications and talks of how habitat quality and forest management practices affect populations of grouse, migrating song birds, amphibians and other wildlife.
3	Increased understanding by wildlife biologists and other habitat managers through publications and talks on the risks of invasive species, with special emphasis on phragmites.
4	Increased understanding by wildlife biologists, NGOs, local and state officials through publications and talks on people's willingness to support ecosystems and conservation.
5	Increased development of new sub-aqueous soils interpretive approaches and dissemination of these approaches to other scientists and natural resource managers through publications, workshops or talks.

Outcome # 1

1. Outcome Target

Increased (%) forest and conservation geospatial information resources and use by towns, agencies, NGOs and the public

2. Outcome Type : Change in Condition Outcome Measure

2012:5	**2013:**5	**2014:**5	**2015:**5	**2016:**5

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Increased understanding by wildlife biologists and managers through publications and talks of how habitat quality and forest management practices affect populations of grouse, migrating song birds, amphibians and other wildlife.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Increased understanding by wildlife biologists and other habitat managers through publications and

talks on the risks of invasive species, with special emphasis on phragmites.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 136 - Conservation of Biological Diversity

4. Associated Institute Type(s)

- 1862 Research

Outcome # 4

1. Outcome Target

Increased understanding by wildlife biologists, NGOs, local and state officials through publications and talks on people's willingness to support ecosystems and conservation.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land

4. Associated Institute Type(s)

- 1862 Research

Outcome # 5

1. Outcome Target

Increased development of new sub-aqueous soils interpretive approaches and dissemination of these approaches to other scientists and natural resource managers through publications, workshops or talks.

2. Outcome Type : Change in Condition Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Economic conditions may negatively affect land owners' willingness to implement stewardship plans or towns to implement urban forestry programs.

Competing public priorities

V(K). 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)

Description

A variety of evaluation approaches will be employed and will vary from research and Extension effort.

2. Data Collection Methods

- Sampling
- Unstructured
- Observation

Description

Web based surveys will be used to assess users.In addition use statistics will be compiled on the number of views and types of sites accessing specific webpages.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Community Gardening and Outreach

2. Brief summary about Planned Program

Gardening is the number 1 hobby in the United States. The URI CELS Cooperative ExtensionEducationCenter (CEEC) uses this passion for gardening as an avenue for communicating a wealth of information on environmental issues directly tied to behaviors at home. The URI CEEC delivers a range of research-based horticulture and environmental programs for the general public, youth, the Green Industry and governmental agencies. At the Center we work closely with Rhode Island's AES and CE programs in agricultural systems management. These programs emphasize the green industries (turfgrass and environmental horticulture) of the state because of their relative importance to the economy here in Rhode Island. We also are workingclosely with URI CE staff involved with sustainable agriculture as part of an effort to revitalize and strengthen outreach programs to the more traditional agricultural sector. Rhode Island.Our focus is to maintain an economically viable industry with environmentally benign practices.

We work with CELS faculty and staff to address the needs of the state in a coordinated program of research and outreach that covers plant production, landscape design, landscape plant use, installation, and maintenance and coordinate educational programs in these areas for the general public.Thus,we directly impact green industry professionals, homeowners, and all citizens and visitors utilizing managed landscapes (parks, ball fields, and golf courses) throughout

Our program in environmental landscape horticulture integrates research and outreach.Research faculty work very closely with CE faculty, educators and staff and provide the basis for the coordinated outreach efforts in Invasive Species, Emerging Infectious Diseases, Sustainable Agriculture and Integrated Pest Management.

This "vertical integration" &ndash programs which target different target audiences involved with a topic and integrating research with outreach &ndash is integral to our efforts to solve problems. For example, the Green Industry benefits from a strong partnership with URI to deliver research-based information and demonstration/training programs. These activities open new opportunities and insights into the economics, marketing and financial advantages of environmental horticulture and IPM.However, successful environmental horticulture and IPM programs also require a strong public education component to create market demand for new products and approaches .We collaborate with CELS scientists in horticulture, entomology, plant pathology, turf, biotech, water quality, wildlife, wetlands, soils, business and communications.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	60%		60%	
806	Youth Development	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Rhode Island is one of the most densely populated states in the country. Managed landscapes, including residential and other development in suburban areas, have a significant impact on the quality and quantity of the state's drinking water as well as on the water quality of Narragansett Bay. Other serious environmental problems can be traced to residential and developing landscapes including pollution from storm water runoff, loss of wildlife habitat, management of invasive plants, preservation of green and open space and waste management. Solving these problems entails working with local and state agencies to identify problems, providing research-based information to develop solutions and coordinating programs designed to influence the behavior of individuals.The URI Cooperative Extension Education Center is uniquely positioned to deliver educational programs on pollution prevention to key target audiences in the state by incorporating these programs into our well-established and highly successful outreach efforts. 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.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Protecting water quality and quantity, preserving green and open space, enhancing wildlife habitat

and biodiversity will be challenges for southern New England. Research conducted by scientists at the University of Rhode Island and by other scientists within the Land Grant System will help identify the most economically efficient and environmentally effective approaches to addressing the problems. University outreach programs can play a critical role in problem-solving by providing research-based information and working with clientale to apply the information.

2. Ultimate goal(s) of this Program

Research: Establish a minimum of 3 collaborative research projects with by faculty and staff in the URI CELS and other land grant universities regarding Sustainable Landscapes, Sustainable Agriculture, Invasive Species, Watershed Patterns and Processes and Watershed management, Emerging Infectious Diseases, and Integrated Pest Management; Extension: Provide locally-relevant programs focused on individual actions and community management that can enhance community green and open space, protect and restore water quality in surface water ecosystems and in groundwater; conserve water and increase composting of organic materials.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.0	0.0	0.0	0.0
2013	3.0	0.0	0.0	0.0
2014	3.0	0.0	0.0	0.0
2015	3.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • TV Media Programs • Web sites • Other 1 (Print media)

3. Description of targeted audience

Community and Public decision makers (local, state and federal agencies)

The general public

Agricultural producers, residential and engineering/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(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	10000	250000	7500	2500
2013	10000	250000	7500	2500
2014	10000	250000	7500	2500
2015	10000	250000	7500	2500
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

- Fact sheets, bulletins and newsletters

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Public service announcements, news releases/articles

  2012:20 **2013:**20 **2014:**20 **2015:**0 **2016:**0

- Website development and refinement

  2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

- Books and monographs

  2012:1 **2013:**1 **2014:**0 **2015:**0 **2016:**0

- Abstracts

  2012:5 **2013:**5 **2014:**5 **2015:**0 **2016:**0

- Workshops or Conferences hosted or co-hosted

  2012:4 **2013:**4 **2014:**4 **2015:**0 **2016:**0

- Presentations and short courses

  2012:50 **2013:**50 **2014:**0 **2015:**0 **2016:**0

- Student training

  2012:3 **2013:**3 **2014:**3 **2015:**0 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase in target audiences (households) gaining research-based knowledge of landscape management practices that minimize contamination of surface and groundwater with pesticides and fertilizers.

Outcome # 1

1. Outcome Target

Increase in target audiences (households) gaining research-based knowledge of landscape management practices that minimize contamination of surface and groundwater with pesticides and fertilizers.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Use and management of various inputs to the working landscape will be impacted by weather events.Also, reduced funding for Extension programs will reduce the ability to conduct educational programs, demonstration sites and outreach to the community and stakeholders.

V(K). 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

Description

Evaluation studies will be varied in terms of time and program area.Main efforts will be to evaluate on an ongoing basis, the attitudes and behaviors changed that are in response to CEEC programs and knowledge gained through those programs.

2. Data Collection Methods

- Sampling
- Mail
- Unstructured
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Health and Well-being of Livestock

2. Brief summary about Planned Program

This program seeks to improve animal production through research on the relationship between nutrition and immune function, as well as through research on bovine and porcine male reproductive physiology. In KA 301, we investigate a) development of a model of spermatogenesis that will facilitate investigation of the regulation of gene expression, including transcription factors, during male germ cell development, and identify factors that contribute to male infertility, and b) sperm cellular functions that contribute to in vivo fertility in livestock species, especially the correlation between transcription factors and select mRNAs of sperm and male fertility. In KA 302, we investigate the composition and biological availability of nutrients in feed as they relate to immune function of the organism. In KA 311, we examine mechanisms of disease resistance and immunity of livestock in relation to their nutritional status and vitamin E.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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 (Situation and Scope)

1. Situation and priorities

Research in health and well-being of livestock at URI includes work on nutrition and disease as well as on reproductive physiology. Ensuring and improving the health of the world's livestock and subsequently the populations that they nourish has always been a priority for the world's scientists.The diseases that afflict livestock are many and varied but they all have one thing in common; immune compromised animals are more susceptible to succumbing to disease. Research in health and well-being of livestock at URI includes work on nutrition and disease as well as on reproductive physiology. Ensuring

and improving the health of the world's livestock and subsequently the populations that they nourish has always been a priority for the world's scientists.The diseases that afflict livestock are many and varied but they all have one thing in common; immune compromised animals are more susceptible to succumbing to disease.

The nutritional status of an animal is becoming increasingly recognized as a contributing factor to an animal's susceptibility to disease. The objectives of this project are to: 1.) investigate the mechanisms by which vitamin E modulates maternal transfer of immunity to the fetus and neonate, 2.) address whether maternal vitamin E supplementation can enhance the neonates innate ability to respond to immune challenges, 3.) determine whether vitamin E supplemented directly to the young, superimposed upon maternal supplementation , could prove of added benefit and 4.) investigate the effect of the magnitude and duration of vitamin E supplementation on the immune function of pregnant sheep and their offspring. This project utilizes immunological, biochemical and molecular techniques to answer these questions. Soil mineral content has a direct bearing on the mineral profile of plants grown on that soil.Many areas of the United States such as the Northeast are considered marginal in soil selenium content.Therefore, forages and crops grown on selenium insufficient soil will themselves be marginal or deficient in selenium, so that the animals that consume these feedstuffs may be as well. The effects of selenium supplementation on health and the immune system are being investigated.

Reproduction, especially through artificial insemination, is a cornerstone of livestock production.Recent advances in molecular techniques allow us to investigate aspects of reproduction in ways that will lead to improved methods and therefore success. The *CREM* (cyclic-AMP responsive element modulator) is a major transcription factor during spermatogenesis and is regulated by alternative messenger RNA (mRNA) processing. Full-length mRNA sequences for economically relevant livestock species (boar and bull) during developmental stages of sperm production have not been investigated. The overall objective of this study is to clone and characterize *CREM* transcription factor expression during several stages of male germ cell development in the boar and bull. A correlation of *CREM* levels in the transcriptionally-insert sperm populations with in vivo fertility will then be investigated.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Assumptions associated with this program are that 1) some internal sources of funding will be available , 2) additional funding from extramural sources (e.g., AFRI, NIH) will be obtained and 3) the URI farm facilities will be maintained and improved.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to improve production of livestock in the Northeast and nation and to develop products and processes that improve health and reproduction of livestock.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.3	0.0	1.3	0.0
2013	0.3	0.0	1.3	0.0
2014	0.3	0.0	1.3	0.0
2015	0.3	0.0	1.3	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The research foci of this program are to: 1) examine the role of selenium and vitamin E on immune system function in livestock and 2) investigate cellular and molecular regulation of spermatogenesis and and how it relates to in vivo male fertility in livestock.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Workshop ● One-on-One Intervention ● Other 1 (Presentations at Meetings)	● Newsletters

3. Description of targeted audience

The target audiences for the proposed research are: livestock farmers in the Northeast and nationwide, the livestock artificial insemination industry and 4H- youth.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	100	1000	20	50
2013	100	1000	20	50
2014	100	100	20	50
2015	100	1000	20	50
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	1	1	2
2014	1	1	2
2015	1	1	2
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

- Student training

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Scientific and Professional Presentations

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**0

- Public presentations

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Abstracts

  2012:2 **2013:**2 **2014:**2 **2015:**0 **2016:**0

- Fact sheets, bulletins and newsletters

  2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

- MS Theses and PhD Dissertations

  2012:1 **2013:**1 **2014:**1 **2015:**0 **2016:**0

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

Development of fertility assays for use in AI industry

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 305 - Animal Physiological Processes

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 311 - Animal Diseases

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes

- Competing Programmatic Challenges

Description

The state of the economy and changes in research focus could impact the amount of intramural and funding available for conduct of the research.

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

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Observation

Description

Data will be collected from animals and isolated cells using standard procedures. All data will be analyzed using appropriate statistical methods.

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Horticulture and the Reduction of Pests and Disease Outbreaks in Plants

2. Brief summary about Planned Program

RI AES research on integrated agro-ecosystem management promotes economically profitable and technologically progressive local agriculture that is 1) environmentally benign and 2) sensitive to the balance of scarce resources allocated among competing uses important to society. Rhode Island contains both agricultural production, predominantly of ornamental plants and sod, and extensive areas of managed urban and suburban landscapes. The sustainability of Rhode Island farms and managed landscapes is critical to the future of the our green industry. Our research efforts seek to identify turf grasses and ornamental plant taxa which can tolerate the environmental stresses present in the landscape, both natural and man made.As well we are selecting and breeding amenity plants for management with reduced inputs, and native grass populations suited for use in low traffic/minimally managed areas and roadsides. Our horticulture and integrated pest management (IPM) programs, for example, seek to minimize the need for pesticides through promotion of resistant plant varieties, biological controls, and cultural alternatives to pesticides. We are actively engaged in developing successful biocontrol strategies against major plant-pest complexes and invasive plants species. Toward this goal we maintain a USDA-approved plant pest quarantine and biocontrol facility.

Similarly, through the URI Biotechnology Initiative, we seek to develop state-of-the-art strategies for plant improvement for a range of agricultural products. Approaches include modern genomic analysis for gene identification and functional characterization and transgenics for genetic modification and enhancement of a range of plant materials.

Our research efforts often target the green industries of Rhode Island (turf grasses and ornamental horticulture) because of their relative importance to the local economy (wholesale nurseries and turf grass production accounts for two-thirds of Rhode Island's 11,000 acres in agricultural production), but also encompass other important agricultural crops appropriate to RI agriculture. These farms face a wide array of pest problems and significant pressure for land development. Technological and market innovations are essential for this industry to remain regionally and nationally competitive in the new economy. Efforts to address the needs of farmers growing food are listed under the Sustainable Communities Program.

RI CE reaches out to both green industry professionals, who develop and manage landscapes, and the gardening public (described in our Community and Gardening Program).We include them here because we are attempting to influence what is produced locally and how it is produced. While emphasizing ornamental horticulture, we also maintain a capability to respond to emerging problems in insect and disease management on the wide variety of crops grown in RI. We seek to better understand the market potential of products that result from identifiably more benign forms of agriculture.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	15%		15%	
202	Plant Genetic Resources	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	5%		5%	
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%	
216	Integrated Pest Management Systems	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

For agriculture to remain competitive in a global economy much is required beyond the ability of the system to produce adequate materials at affordable prices. Agricultural products (food, feed, fiber, other desirable plant and animal goods) must be safe for use and environmentally benign in their production. Alternative and more efficient uses for agricultural products or by-products should be developed. Agricultural production systems must conserve soil, ground water, fossil fuels and other nonrenewable resources. Farming practices should cause minimal harm to the environment. As global agricultural systems strain to meet ever-greater human needs, they threaten planetary carrying capacities. Agriculture must change to less energy-and-material-dependent plants and animals, and to energy-conservative management practices. This conservation of resources must not significantly raise production costs, which would price US products out of the international market. In addition, our agricultural products must possess attributes that make them attractive to consumers in the global marketplace.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The green industry in Rhode Island faces a wide array of pest problems and significant pressure for land development. Technological and market innovations are essential for this industry to remain regionally and nationally competitive in the new economy. The capacity for RI AES and CE to significantly impact agriculture and public horticulture in Rhode Island is limited by the availability of federal and state funds supporting research and outreach, and also by staff reductions in response to the budget crisis.

2. Ultimate goal(s) of this Program

RI AES research on integrated agro-ecosystem management promotes economically profitable and technologically progressive local agriculture that is 1) environmentally benign and 2) sensitive to the balance of scarce resources allocated among competing uses important to society.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.0	0.0	8.0	0.0
2013	5.0	0.0	8.0	0.0
2014	5.0	0.0	8.0	0.0
2015	5.0	0.0	8.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Identify, select or breed species and cultivars of plants which are better 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 by minimizing the use of agrochemicals.

• Develop novel non-chemical methods of controlling invasive plant species.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

We have active partnerships with agricultural producers of turf grass and ornamental plants, administered by a joint advisory committee of the Plant Sciences department, 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: The Rhode Island Nursery and Landscape Association (RINLA) represents nurserymen, landscapers, tree farms and arborists. The Rhode Island Greenhouse Growers Association represents greenhouse growers and vegetable producers. The Rhode Island Fruit Growers Association represents orchards and small fruit growers.The RI Farm Bureau acts as an umbrella for RI agriculture with national links. Contacts are also maintained with regional commodity groups such as the New England Nursery Association and New England Floriculture, Inc. 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, scholarships, and the development of a formal garden demonstrating sustainable plantings (seea virtual tour of this facility at riaes.cels.uri.edu/explore). The principle commodity groups representing turf grass 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). We have strong working relationships with many of the individual golf course superintendents and sod producers throughout Rhode Island. Through our Winter School and Green Share 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(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	300	18000	200	400
2013	300	18000	200	400

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2014	300	18000	200	400
2015	300	18000	200	400
2016	0	0	0	0

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

2012:0 **2013:**1 **2014:**1 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	2	4
2013	2	2	4
2014	2	2	4
2015	2	2	4
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Books and monographs

  2012:1 **2013:**0 **2014:**1 **2015:**0 **2016:**0

- Abstracts

  2012:5 **2013:**4 **2014:**4 **2015:**4 **2016:**0

- Conference proceedings

  2012:4 **2013:**2 **2014:**2 **2015:**3 **2016:**0

- Technical documents, fact sheets and bulletins

  2012:5 **2013:**8 **2014:**6 **2015:**7 **2016:**0

- Workshops

  2012:3 **2013:**3 **2014:**2 **2015:**2 **2016:**0

- Website development and refinement

  2012:1 **2013:**3 **2014:**2 **2015:**2 **2016:**0

- Public presentations

  2012:6 **2013:**6 **2014:**7 **2015:**6 **2016:**0

- Student training

  2012:12 **2013:**12 **2014:**15 **2015:**12 **2016:**0

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

  2012:2 **2013:**2 **2014:**3 **2015:**3 **2016:**0

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

  2012:1 **2013:**1 **2014:**2 **2015:**2 **2016:**0

- MS Theses and PhD Dissertations

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Professional training

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Professional/scientific presentations

  2012:5 **2013:**5 **2014:**4 **2015:**5 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Identify and improve sustainable trees, shrubs, and grasses, with an emphasis on native species (#)

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:2	**2013:**2	**2014:**2	**2015:**2	**2016:**2

3. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

Description

Despite the recent economic recession, the Rhode Island agricultural economy is as strong as it has been in recent years. There are 30% more farms than there were 5 years ago. Industry support for our work is greated than ever. Key limiting factors include changes in AES and CE priorities and federal, state and university funding of faculty, staff and facilities.

V(K). 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

Description

Periodic surveys are conducted on stakeholder needs and AES/CE impacts. All workshops make use of pre- and post-survey instruments. Input is sought from commodity groups through advisory councils and personal contacts.

2. Data Collection Methods

- Whole population
- Mail
- On-Site
- Structured
- Unstructured
- Observation

Description

Survey instruments are applied to the whole industry through commodity groups, and on an individual basis during workshops and one-on-one contacts.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Natural and Environmental Resource Economics, Markets and Policy

2. Brief summary about Planned Program

An understanding of the economics of natural and envronmental resources is key to effective management.RIAES expects to continue its work in this area with a thrust toward management of fisheries and aquaculture resources.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

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 (Situation and Scope)

1. Situation and priorities

Effective management of our fisheries resources is critical to maintaining the health of our oceans and sustaining our recreational and commercial fishing communities. However, the current system of overlapping federal, state and local bureaucracies is not producing effective policies. In the absence of management reform, many of our fisheries may enter ecological and economic crises. At present, there is little agreement on whether and how to reform fisheries governance institutions.

Further, there exist alternative marketing approaches and approaches to negative publicity regarding seafood.Development of develop marketing strategies that maximize the value of seafood products will benefit both the consumer and the producer.

2. Scope of the Program

- In-State Research
- Multistate Research
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The efficient management of marine resources relies on developing policies that synthesize the biological structure of the resource with the decision heuristics employed by harvesting agents.

At present, there is little agreement on whether and how to reform fisheries governance institutions. We believe that the lack of agreement and lack of substantive ideas for reforming our fishery management institutions are rooted in the lack of understanding of how fishery management policies are produced.

Developing decision support tools to integrate management and marketing andincrease the efficiency of fishery governance by developing ideas and knowledge will support transition to market-based fishery management.

2. Ultimate goal(s) of this Program

First, we propose to develop a comprehensive model of fisheries policy making and to subject selected hypotheses to extensive testing thus resulting in a new political-economic tool that will provide techniques for improving the design of fishery management institutions.

Second we hope to expand and develop seafood markets by developing new marketing ideas, identifying market niches, and developing alternative seafood products.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.0	0.0	2.0	0.0
2013	0.0	0.0	2.0	0.0
2014	0.0	0.0	2.0	0.0
2015	0.0	0.0	2.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	500	500	0	0
2013	500	500	0	0
2014	500	500	0	0
2015	500	500	0	0
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	4	0	4
2013	4	0	4

Year	Research Target	Extension Target	Total
2014	4	0	4
2015	4	0	4
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**0

- Books and monographs

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

- Abstracts

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Conference proceedings

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

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

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Professional/scientific presentations

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

- Student training

  2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Increase understanding of scientists and decision makers through publications and presentations of the the outcomes of game theoretical models to identify fisheries where political intervention is likely based on the degree of heterogeneity among harvesters.
2	Increase understanding of private and public sector and scientists of economic and market factors in fisheries and aquaculture management through publications and presentations.

Outcome # 1

1. Outcome Target

Increase understanding of scientists and decision makers through publications and presentations of the the outcomes of game theoretical models to identify fisheries where political intervention is likely based on the degree of heterogeneity among harvesters.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Research

Outcome # 2

1. Outcome Target

Increase understanding of private and public sector and scientists of economic and market factors in fisheries and aquaculture management through publications and presentations.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

Energy prices in Rhode Island are among the highest in the country. On average, Rhode Islanders pay 28% more per million Btu for than the nation as a whole (RI State Energy Plan, 2009). Moreover, almost of all Rhode Island 's energy supply comes from imported fuels; the money Rhode Island spends on energy flows out of the state's economy.

Rhode Island also faces major consequences from carbon dioxide and other greenhouse gases (GHGs) that are warming the planet at a rapid rate. Our coastal location puts the state at jeopardy from sea level rise, flooding, saltwater contamination of drinking water and extreme weather events such as hurricanes.

Under a business as usual scenario, energy use and GHG emissions in Rhode Island are projected to increase steadily, with a concurrent increased flow of dollars out of the state and a host of costly environmental problems. To avoid this, Rhode Island has decided to move aggressively in pursuing energy efficiency through 'least cost procurement' and in developing renewable energy through a large offshore wind project.

Rhode Island also has been an early leader in efforts to reduce greenhouse gas emissions. As part of the Regional Greenhouse Gas Stakeholders Process, an Action Plan was published in July 2002. The Action Plan offered 52 strategies to meet the goals set by the New England Governors and the Eastern Canadian Premiers of reducing GHG emissions to 1990 levels by 2010, to 10% below 1990 levels by 2020, with a long term goal of reducing emissions by 75% to 85% below current levels. A number of key strategies have been implemented since 2002 including both the Renewable Energy Standard and the RI participation in the Regional Greenhouse Gas Initiative.

Through this new program area, we propose to fast track implementation of several key energy management strategies. The strategies include energy efficiency initiatives targeting public buildings and facilities, residential efficiency and energy supply and solid waste initiatives (RI Greenhouse Gas Action Plan, 2002).

The program area will be managed by the University of Rhode Island (URI) Energy Center . The URI Energy Center includes a cross-disciplinary team of URI researchers, graduate and undergraduate students and outreach specialists who work in partnership with national, state and local governments, energy providers and the business community to develop locally-based solutions to global energy issues. As part of the Energy Center , URI undergraduate and graduate students, known as

Energy Fellows, receive training in energy issues as well as specialized leadership, communication and outreach training. The Fellows are then provided the opportunity to gain hands-on experience solving real-world problems through guided research and outreach efforts, working alongside faculty, staff and graduate students.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
132	Weather and Climate	20%		0%	
133	Pollution Prevention and Mitigation	20%		0%	
605	Natural Resource and Environmental Economics	20%		0%	
608	Community Resource Planning and Development	20%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	20%		0%	
	Total	100%		0%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The State of Rhode Island is committed to reducing energy consumption and increasing energy efficiency and sustainability.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The Sustainable Energy Program assumes that energy consumption, and greenhouse gas emissions, can be reduced significantly by providing stakeholders with information and technical assistance regarding energy Best Management Practices. In many cases, cost savings will accrue immediately.

2. Ultimate goal(s) of this Program

Achieve on-going greenhouse gas reductions in Rhode Island.
Reduce energy consumption by RI municipalities; private sector stakeholders and residential consumers.
Reduce municipal spending / save taxpayer dollars; reduce private sector and residential energy bills.
Improve local air quality in RI communities.
Expand model throughout RI and US.
Achieve on-going greenhouse gas reductions in showcase.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	1.0	0.0	1.0	0.0
2013	1.0	0.0	1.0	0.0
2014	1.0	0.0	1.0	0.0
2015	1.0	0.0	1.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Energy audit and GHG inventory in selected municipalities/businesses
Feasibility and implementation of energy efficiency and renewable energy technologies
Municipal energy training:
- Training for municipal officials and employees
- Climate Showcase Community conferences

Residential Energy Education:
- Participants pledge 10% energy savings
- Trained volunteers conduct locally-based education and outreach

Outreach Activities:
- Sustainable energy page on local websites
- Community workshops
- Traditional and web media

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

Municipal officials
- Building and utility managers
- Financial administrators
- Mayors/town managers

Municipal employees

Residential energy consumers

School systems

Small businesses

ESCOs
Ocean State Clean Cities Coalition

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	3000	250000	2000	10000
2013	4000	250000	3000	10000
2014	4000	250000	4000	10000
2015	4000	250000	5000	10000
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Fact sheets, Bulletins and newsletters

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**0

- Short courses

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**0

- Website development and refinement

2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Workshops and Conferences hosted

2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**0

- Public presentations

2012:6 **2013:**7 **2014:**8 **2015:**9 **2016:**0

- Student training

2012:50 **2013:**100 **2014:**100 **2015:**100 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	Build and leverage partnerships across multiple stakeholder groups
2	Increase stakeholder awareness of energy conservation benefits (municipalities, small business, consumers)
3	Build capacity within local municipalities to address energy management and GHG emission reduction
4	Link funded activities to broader climate management issues.
5	Increase energy conservation behaviors by municipal, residential and small business stakeholders
6	Develop replicable project and program models for sustainable energy education and management
7	Design and install demonstration renewable energy projects as part of overall energy management system

Outcome # 1

1. Outcome Target

Build and leverage partnerships across multiple stakeholder groups

2. Outcome Type : Change in Action Outcome Measure

2012:10	**2013:**25	**2014:**30	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Increase stakeholder awareness of energy conservation benefits (municipalities, small business, consumers)

2. Outcome Type : Change in Knowledge Outcome Measure

2012:2000	**2013:**2000	**2014:**3000	**2015:**3000	**2016:**3000

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Build capacity within local municipalities to address energy management and GHG emission reduction

2. Outcome Type : Change in Knowledge Outcome Measure

2012:10	**2013:**20	**2014:**25	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Link funded activities to broader climate management issues.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 5

1. Outcome Target

Increase energy conservation behaviors by municipal, residential and small business stakeholders

2. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 6

1. Outcome Target

Develop replicable project and program models for sustainable energy education and management

2. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

Design and install demonstration renewable energy projects as part of overall energy management system

2. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**1

3. Associated Knowledge Area(s)

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

CELS CARES

2. Brief summary about Planned Program

CELS CARES (College of the Environment and Life Sciences Community Access to Research and Extension Services) is a program that enables the academic community to respond to community needs. As the acronym indicates, the program provides a means for stakeholders to access the resources of the experiment station and extension. The program fosters integration and development of infrastructure critical to the Station's research mission and Extension's outreach endeavors .

3. Program existence : New (One year or less)

4. Program duration : Medium Term (One to five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
902	Administration of Projects and Programs	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The experiment station and extension require a systematic process to respond the needs, problems and challenges of key stakeholders. This program provides the administrative support to respond to need and provide resources in key areas through both competitive and non-competitive processes.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Formula funding for the experiment station and extension will continue.

Integration of station and extension activities is valued.

Multi-state activities are valued.

2. Ultimate goal(s) of this Program

Provide a means for stakeholders to access the experiment station and extension.
Provide the administrative support to respond to need and provide resources in key areas through both competitive and non-competitive processes.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	2.0	0.0	2.0	0.0
2013	2.0	0.0	2.0	0.0
2014	2.0	0.0	2.0	0.0
2015	2.0	0.0	2.0	0.0
2016	0.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The experiment station and extension developed a request for application (RFA) process that encouraged innovative, integrated proposals that meet the needs of state stakeholders. Proposals are then evaluated by internal university teams and external peers.Infrastructure needs are also addressed by this program.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

• Workshop • Group Discussion • One-on-One Intervention • Other 1 (email blast)	• Newsletters • Web sites

3. Description of targeted audience

Academic faculty, university staff, graduate students, undergraduate students, university administrators

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	100	250	0	0
2013	100	250	0	0
2014	100	250	0	0
2015	100	250	0	0
2016	0	0	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	0

V(H). State Defined Outputs

1. Output Target

- Proposal submissions

2012:20 **2013:**20 **2014:**20 **2015:**20 **2016:**0

- Proposals funded

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	New knowledge generated
2	Research and extension infrastructure built and adequately supported
3	Number of integrated research and extension projects increase
4	Cultures of research and extension merge

Outcome # 1

1. Outcome Target

New knowledge generated

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Research and extension infrastructure built and adequately supported

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of integrated research and extension projects increase

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

Cultures of research and extension merge

2. Outcome Type : Change in Condition Outcome Measure

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

3. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect 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.)

Description

Of the external factors thjat could most adversely affect this program, funding is the most important.

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

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Unstructured
- Observation
- Portfolio Reviews

Description

{NO DATA ENTERED}