2007 University of Rhode Island Combined Research and Extension Plan of Work

Brief Summary about Plan of Work

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

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

Estimated number of professional FTEs/SYs total in the State.

Year	Extenion		Research	
	1862	1890	1862	1890
2007	25.6	0.0	28.6	0.0
2008	28.6	0.0	28.6	0.0
2009	28.6	0.0	28.6	0.0
2010	29.1	0.0	28.6	0.0
2011	30.1	0.0	28.6	0.0

Merit Review Process

The merit review process that will be employed during the 5-Year Plan of Work cycle

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

Brief explanation

Stakeholder input has 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.

RI AES 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.

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 multis and joint activities will address critical issues of strategic importance including those identified by the stakeholders. This suppostion is also supported by the rigors of our merit review process and the rigors of the merit review process associated with prior approval of onging 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 underserved, 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 efficiency?

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.

Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation (Check all that apply)

- 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.

{NO DATA ENTERED}

2(B). 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. 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

{NO DATA ENTERED}

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.

{NO DATA ENTERED}

1. Name of the Planned Program

Aquaculture Biotechnology

2. Program knowledge areas

- 302 25% Nutrient Utilization in Animals
- 311 35% Animal Diseases
- 307 15% Animal Management Systems
- 304 25% Animal Genome

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

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

5. Brief summary about Planned Program

Aquaculture biotechnology includes the technology of raising freshwater and marine organisms, including integrated farming with terrestrial agriculture, as well as the use of molecular methods to improve aquaculture 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, we research utilization of plant proteins as substitutes for fish meal in diets for carnivorous fish, in order to reduce production costs and the harvest of industrial fish from the ocean. In KA 304, we research the genetic factors controlling muscle growth in rainbow trout, in order to obtain faster growth and therefore reduce production costs. In KA 307, we work with terrestrial farmers to integrate aquaculture production with terrestrial agriculture production, in order to diversify crops and therefore develop an additional source of income. In KA 311, we investigate causes of diseases of shellfish and the performance of disease-resistant strains, in order to improve profitability of local shellfish farms.

6. Situation and priorities

The Rhode Island aquaculture industry is overwhelmingly 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. Also, we conduct research toward the production of commercial products (e.g., feeds, improved genetic seed, vaccines) that could be sold to aquaculture producers worldwide. Thus, our stakeholders are both local and international.

7. Assumptions made for the Program

We assume that we will have continued Hatch funding for some projects, extramural grants (NRI, SARE, etc.) for others, continued use of our facilities, including full operation of the Blount Aquaculture Research Lab, continued participation of existing aquaculture faculty, and replacement of at least one of two staff members who have left in the past year.

8. Ultimate goal(s) of this Program

The ultimate goal of this program is to have an expanded aquaculture industry in RI, including both small-scale production of finfish and shellfish and companies producing products that can be sold on an international market.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.5	0.0	2.0	0.0
2008	0.5	0.0	2.0	0.0
2009	0.5	0.0	2.0	0.0
2010	0.5	0.0	2.0	0.0
2011	0.5	0.0	2.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Integrate aquaculture production with terrestrial agriculture production
Investigate causes of diseases of shellfish and performance of disease resistant strains
Research utilization of plant proteins as substitutes for fish meal in diets of carnivorous fish
Research genetic factors controlling muscle growth in rainbow trout
Expand the culture of new candidate species for Rhode Island
Conduct research related to the development and production of commercial products such as feeds, genetic seed and vaccines
Promote environmentally sustainable aquaculture production practices

14. 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	• Web sites

15. Description of targeted audience

Aquaculture industryTerrestrial farmers (interested in integrated aquaculture/agriculture)ProducersDistributersScientistsRhode Island Department of Environmental ManagementPolicy MakersUSDA/NRCS

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	200	1000	75	0
2008	200	1000	75	0
2009	200	1000	75	0
2010	200	1000	75	0
2011	200	1000	75	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0	2008 : 0	2009 : 0	2010 : 1	2011 : 1

18. Output measures

Output Target
Peer Reviewed Publications

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target
Books and Monographs

2007: 0	2008: 0	2009: 1	2010: 1	2011: 0

Output Target
Abstracts

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target
Scientific and Professional Presentations

2007: 2	2008: 2	2009: 2	2010: 1	2011: 1

Output Target
Workshops

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target
Website development and refinement

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target
Student training

2007: 3	2008: 3	2009: 2	2010: 2	2011: 2

Output Target
MS theses and PhD dissertations

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

20. External factors which may affect outcomes

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

Description

{NO DATA ENTERED}

21. Evaluation studies planned

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

Description

{NO DATA ENTERED}

22. Data Collection Methods

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

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Children, 4-H and Families

2. Program knowledge areas

- 802 50% Human Development and Family Well-Being
- 806 50% Youth Development

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

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

5. Brief summary about Planned Program

Working as a team, the Children, 4-H and Families (CFF) Program will target two primary audiences; Rhode Island youth (primarily but not limited to children 7-18 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 an in-depth review and strategic planning initiative 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.

6. 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.

7. 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.

8. 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.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	5.0	0.0	0.0	0.0
2008	6.0	0.0	0.0	0.0
2009	7.0	0.0	0.0	0.0
2010	7.0	0.0	0.0	0.0
2011	7.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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 catalyst for improve the science based knowledge, skills and academic motivation among urban elementary and middle school students

14. 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)

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	1000	2000	1500	2000
2008	1000	2000	2000	3000
2009	1000	3000	2500	4000
2010	1000	3000	3000	4000
2011	1000	3000	3000	4000

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Workshops

2007: 30 2008: 30 2009: 30 2010: 30 2011: 30

Output Target

Volunteer Training (number of new volunteers per year)

2007: 50 2008: 50 2009: 50 2010: 50 2011: 50

Output Target

4-H Record Book Submissions

2007: 150 2008: 200 2009: 300 2010: 300 2011: 300

Output Target

Youth reached through programs

2007: 1000 2008: 1000 2009: 1000 2010: 1000 2011: 1000

Output Target

Number of community/family serving groups and organizations reached

2007: 25 2008: 25 2009: 25 2010: 25 2011: 25

Output Target

Number of referrals

2007: 100 2008: 100 2009: 100 2010: 100 2011: 100

Output Target

Community Service (# of projects per year)

2007: 50 2008: 50 2009: 50 2010: 50 2011: 50

Output Target

Activities and Programs (# per year)

2007: 25 2008: 25 2009: 25 2010: 25 2011: 25

Output Target

Student Training (# per year)

2007: 20 2008: 20 2009: 20 2010: 20 2011: 20

Output Target

Website development and refinement

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Curriculum development and delivery

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

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.

Outcome Type: Long

2007: 25 2008: 30 2009: 35 2010: 40 2011: 40

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.

Outcome Type: Short

2007:	25	2008:	30	2009:	35	2010:	40	2011:	45

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.

Outcome Type: Long

2007:	25	2008:	25	2009:	25	2010:	25	2011:	25

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.

Outcome Type: Medium

2007:	25	2008:	30	2009:	35	2010:	40	2011:	45

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

Outcome Type: Medium

2007:	25	2008:	25	2009:	25	2010:	25	2011:	25

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

Outcome Type: Medium

2007:	15	2008:	15	2009:	20	2010:	20	2011:	25

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)

Outcome Type: Medium

2007:	2	2008:	2	2009:	2	2010:	2	2011:	2

20. External factors which may affect outcomes

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

Description
{NO DATA ENTERED}

21. 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}

22. Data Collection Methods

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

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Community Gardening and Outreach

2. Program knowledge areas

- 112 35% Watershed Protection and Management
- 806 5% Youth Development
- 205 60% Plant Management Systems

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

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

5. Brief summary about Planned Program

Gardening is the number 1 hobby in the United States. The URI CELS Cooperative Extension Education Center (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 working closely 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.
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 Rhode Island. Our focus is to maintain an economically viable industry with environmentally benign practices.
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" – programs which target different target audiences involved with a topic and integrating research with outreach – 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.

6. 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 stormwater 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.

7. 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 cliental to apply the information.

8. 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.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	3.0	0.0	0.0	0.0
2008	3.0	0.0	0.0	0.0
2009	3.0	0.0	0.0	0.0
2010	3.0	0.0	0.0	0.0
2011	3.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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

14. 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)

15. Description of targeted audience

Community and Public decision makers (local, state and federal agencies)The general publicAgricultural producers, residential and enginering/regulatory community membersSchool aged childrenUrban populationsMunicipal PlannersPrivate sector firms engaged in watershed management, landscaping, onsite wastewater treatment and private wellsVarious NGOs (land trusts, environmental organizations)

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	5000	100000	2500	0
2008	7000	250000	5000	0
2009	8000	250000	10000	0
2010	10000	250000	15000	0
2011	10000	250000	20000	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Peer reviewed publications

2007: 1 2008: 2 2009: 3 2010: 4 2011: 4

Output Target

Fact sheets, bulletins and newsletters

2007: 10 2008: 10 2009: 10 2010: 10 2011: 10

Output Target

Public service announcements, news releases/articles

2007: 10 2008: 15 2009: 20 2010: 20 2011: 20

Output Target

Website development and refinement

2007: 6	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

Books and monographs

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Abstracts

2007: 2	2008: 3	2009: 4	2010: 5	2011: 5

Output Target

Workshops or Conferences hosted or co-hosted

2007: 2	2008: 3	2009: 4	2010: 4	2011: 4

Output Target

Presentations and short courses

2007: 25	2008: 30	2009: 35	2010: 40	2011: 50

Output Target

Student training

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

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

Outcome Type: Medium

2007: 5	2008: 5	2009: 5	2010: 10	2011: 10

Outcome Target

Development of new models

Outcome Type: Short

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Outcome Target

Increased (%) of BMP approaches adopted by target audiences

Outcome Type: Medium

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Outcome Target

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

Outcome Type: Medium

2007:	10	2008:	15	2009:	15	2010:	15	2011:	20

20. External factors which may affect outcomes

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

21. 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.

22. Data Collection Methods

- Sampling
- Mail
- Unstructured
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Food Insecurity and Nutrition in Vulnerable Populations

2. Program knowledge areas

- 703 50% Nutrition Education and Behavior
- 704 50% Nutrition and Hunger in the Population

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

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

5. 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.

6. Situation and priorities

The poverty rate in RI is 10.7% and Providence is the 4th 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 remained relatively constant at approximately 75,000. 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 with graduate students from the Department of Nutrition and Food Sciences, and EFNEP Community Nutrition professionals and faculty.

7. 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.

8. Ultimate goal(s) of this Program

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

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : No

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	3.5	0.0	2.0	0.0
2008	4.0	0.0	2.0	0.0
2009	4.5	0.0	2.0	0.0
2010	5.0	0.0	2.0	0.0
2011	5.0	0.0	2.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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.

14. 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 • Newsletters • Billboards • Web sites • Other 1 (Fact sheets, bulletins)

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	4000	100000	5000	10000
2008	4000	100000	5000	10000
2009	4000	100000	5000	10000
2010	4000	100000	5000	10000
2011	4000	100000	5000	10000

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0	2008 : 0	2009 : 0	2010 : 0	2011 : 0

18. Output measures

Output Target

Peer reviewed publications

2007: 0	2008: 1	2009: 1	2010: 0	2011: 1

Output Target

Abstracts

2007: 1	2008: 0	2009: 1	2010: 1	2011: 0

Output Target

Scientific/Professional presentations

2007: 0	2008: 1	2009: 1	2010: 1	2011: 0

Output Target

Website Development and Refinement

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Public Service Announcements and Social Marketing Campaigns

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Video Productions

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target

Curriculum Development and Delivery

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Fact Sheets, Bulletins and Newsletters

2007: 20	2008: 20	2009: 20	2010: 20	2011: 20

Output Target

Student Training

2007: 4	2008: 4	2009: 5	2010: 5	2011: 5

Output Target

Volunteer Training

2007: 15	2008: 15	2009: 15	2010: 20	2011: 20

Output Target

Workshops and Programs

2007: 120	2008: 120	2009: 120	2010: 120	2011: 120

Output Target

MS Thesis or PhD Dissertation

2007: 2	2008: 1	2009: 1	2010: 2	2011: 2

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

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%).

Outcome Type: Long

2007: 1000	2008: 1000	2009: 1000	2010: 1000	2011: 1000

20. External factors which may affect outcomes

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

Description

{NO DATA ENTERED}

21. 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}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Food Safety

2. Program knowledge areas

- 712 50% Protect Food from Contamination by Pathogenic Microorganisms, Pa
- 711 50% Ensure Food Products Free of Harmful Chemicals, Including Residu

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

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

5. 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.

6. 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, 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, to maintain the RI Food Safety Certification and Recertification courses targeting food service establishments, and to develop internet-based training for GMP and personal hygiene for processors and warehouses.

7. 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 /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.

8. Ultimate goal(s) of this Program

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

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.8	0.0	0.0	0.0
2008	1.8	0.0	0.0	0.0
2009	1.8	0.0	0.0	0.0
2010	1.8	0.0	0.0	0.0
2011	1.8	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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)

14. 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

15. 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.

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	350	1000	500	1000
2008	350	1000	500	1000
2009	350	1000	500	1000
2010	350	1000	500	1000
2011	350	1000	500	1000

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0	2008 : 0	2009 : 0	2010 : 0	2011 : 0

18. Output measures

Output Target
Peer Reviewed Publications

2007: 0	2008: 1	2009: 1	2010: 1	2011: 0

Output Target
Abstracts

2007: 0	2008: 1	2009: 1	2010: 1	2011: 0

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

2007: 15	2008: 15	2009: 15	2010: 15	2011: 15

Output Target
Volunteer Training

2007: 10	2008: 10	2009: 10	2010: 10	2011: 10

Output Target
Conferences Hosted

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target
School Based Training Sessions (teachers and children)

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target
Website Development and Refinement

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target
Student training

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target
Provide food safety training to commercial growers of fruit and vegetables, food industry producers and school personnel (#

trainings per year)

Outcome Type: Short

2007:	5	2008:	5	2009:	5	2010:	5	2011:	5

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

Outcome Type: Medium

2007:	0	2008:	1	2009:	1	2010:	1	2011:	1

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

Outcome Type: Long

2007:	0	2008:	1	2009:	1	2010:	1	2011:	1

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (No funding)

Description
{NO DATA ENTERED}

21. Evaluation studies planned

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

Description
{NO DATA ENTERED}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Forestry and Wildlife

2. Program knowledge areas

- 135 10% Aquatic and Terrestrial Wildlife
- 123 40% Management and Sustainability of Forest Resources
- 131 30% Alternative Uses of Land
- 136 20% Conservation of Biological Diversity

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

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

5. 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.

Research will be designed to improve understanding of the site factors that influence amphibian breeding success within forested, vernal pools. Economic analyses will provide new approaches and insights of the public values for changes in forestry practices and public preferences for forest conservation programs. Investigations on wildlife habitat in early successional forests will explore how management practices affect home range and survival of grouse. Research evaluating the quality of available forest habitats and food sources for migrating song birds at stop over sites in Coastal New England will provide insights for managing coastal habitats for enhancing biodiversity.

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. Site assessment and management for individual landowners will be conducted through materials developed by our Woodscaping project. 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.

6. 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.

7. Assumptions made for the Program

Geospatial research and technology can play an enormously important role in providing decision support for land use decision making. In particular, there are new GIS, GPS and other remote sensing based tools that can help local decision makers to both visualize existing and future land use patterns, and model the various impacts of these patterns. Technology alone, however, is unlikely to have much of an impact with this busy audience, without the mediation of education and technical assistance. A planned system of open space conservation, or 'green infrastructure', is as important to an area as its roads and sewers. Preserving forests and open space in the face of these pressures will require unprecedented inputs of education and information to several key audiences - private forest owners and municipal officials and commissioners. This latter audience is overwhelmingly populated by lay volunteers who are in chronically short supply and often poorly supported with education and technical support.

8. 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.
Extension: Improve Rhode Island's forestland productivity and health through:Forest landowners learning enhanced knowledge about good forest stewardship; Increased use of geospatial information by local decision makers to improve the planning and stewardship of forested lands.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.5	0.0	1.0	0.0
2008	0.5	0.0	1.0	0.0
2009	0.5	0.0	1.0	0.0
2010	0.5	0.0	1.0	0.0
2011	0.5	0.0	1.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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

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

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

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	350	1000	100	0
2008	400	1000	100	0
2009	450	1000	100	0
2010	450	1000	100	0
2011	450	1000	100	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Peer reviewed publications

2007: 4 2008: 4 2009: 4 2010: 4 2011: 4

Output Target

Fact sheets, Bulletins and newsletters

2007: 5	2008: 5	2009: 5	2010: 4	2011: 12

Output Target

Short courses

2007: 3	2008: 3	2009: 4	2010: 4	2011: 4

Output Target

Website development and refinement

2007: 2	2008: 2	2009: 3	2010: 3	2011: 3

Output Target

Books and monographs

2007: 0	2008: 1	2009: 0	2010: 0	2011: 1

Output Target

Abstracts

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target

Workshops and Conferences hosted

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

Public presentations

2007: 10	2008: 10	2009: 15	2010: 15	2011: 15

Output Target

Student training

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

MS Theses and PhD Dissertations

2007: 1	2008: 2	2009: 1	2010: 2	2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

Increased (%) GIS database usage by towns

Outcome Type: Long

2007: 10	2008: 10	2009: 10	2010: 10	2011: 10

Outcome Target
Stewardship plans developed

Outcome Type: Long

2007:	10	2008:	10	2009:	10	2010:	10	2011:	10

Outcome Target
Increased understanding of fish and wildlife populations (#)

Outcome Type: Long

2007:	2	2008:	2	2009:	2	2010:	2	2011:	2

20. External factors which may affect outcomes

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

Description

Economic conditions may negatively affect land owners' willingness to implement stewardship plans or towns to implement urban forestry programs. Reduced funding may restrict Extension activity.

21. 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.

22. Data Collection Methods

- Sampling
- Mail
- Unstructured
- Observation

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Health and Well-being of Livestock

2. Program knowledge areas

- 311 20% Animal Diseases
- 305 10% Animal Physiological Processes
- 302 20% Nutrient Utilization in Animals
- 301 50% Reproductive Performance of Animals

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

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

5. 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 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 regulation of polyadenylation, during male germ cell development, test male contraceptive candidates, 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 protein tyrosine phosphorylation of sperm plasma membrane proteins 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 305, we study aspects of milk composition in relation to the health status of neonates. In KA 311, we examine mechanisms of disease resistance and immunity of livestock in relation to their nutritional status.

6. 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. The nutritional status of the host animal is becoming increasingly recognized as a factor in the emergence of newly virulent viruses. Until recently the cost of disease has been perceived to be borne only by the animal itself, through the loss of life or loss of productive function. Now it appears that the lack of nutrients, such as vitamin E and selenium, is not only detrimental to the host animal itself but could precipitate pathogenic changes in the infecting virus that can place an otherwise healthy population at risk of disease. 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. 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.

7. Assumptions made for the Program

Assumptions associated with this program are that a) additional funding from extramural sources (e.g., NRI, NIH) will be available, b) the URI farm facilities will be maintained and improved.

8. Ultimate goal(s) of this Program

The ultimate goal of this program is to have improved production of livestock, especially in the Northeast,

but also nationwide, and to develop products and processes that improve reproduction of livestock.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.3	0.0	1.3	0.0
2008	0.3	0.0	1.3	0.0
2009	0.3	0.0	1.3	0.0
2010	0.3	0.0	1.3	0.0
2011	0.3	0.0	1.3	0.0

Outputs for the Program

13. Activity (What will be done?)

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

14. 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	• Web sites

15. Description of targeted audience

Livestock farmers in the NortheastLivestock farmers nationwideThe Livestock Artificial Insemination Industry4-H Youth

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	100	1000	50	100
2008	100	1000	50	100
2009	100	1000	50	100
2010	100	1000	50	100
2011	100	1000	50	100

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 1

18. Output measures

Output Target

Peer reviewed publications

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Student training

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Scientific and Professional Presentations

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Public presentations

2007: 3 2008: 3 2009: 3 2010: 3 2011: 3

Output Target

Website development and refinement

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Abstracts

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Fact sheets, bulletins and newsletters

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

MS Theses and PhD Dissertations

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

Development of fertility assays for use in AI industry

Outcome Type: Long

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Outcome Target

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

Outcome Type: Long

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

20. External factors which may affect outcomes

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

Description

{NO DATA ENTERED}

21. Evaluation studies planned

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

Description

{NO DATA ENTERED}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Horticulture and the Reduction of Pests and Disease Outbreaks in Plants

2. Program knowledge areas

- 215 15% Biological Control of Pests Affecting Plants
- 204 15% Plant Product Quality and Utility (Preharvest)
- 211 15% Insects, Mites, and Other Arthropods Affecting Plants
- 205 15% Plant Management Systems
- 212 15% Pathogens and Nematodes Affecting Plants
- 202 15% Plant Genetic Resources
- 103 10% Management of Saline and Sodic Soils and Salinity

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

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

5. 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. Managed landscapes of turf grass and ornamental plants are found throughout the state, and are the predominant landscape in urban and suburban areas. Maintenance of golf courses, playing fields, lawns and roadsides affects both the local economy and the environment. While not agricultural production per se, the sustainability of our managed landscapes is arguably even more important to our economy and environment because of the much larger land area devoted to such managed landscapes. Our research efforts in this area seek to identify turfgrass and ornamental plant taxa, which can tolerate the environmental stresses present in the landscape, including those resulting from the effects of human activities on the environment. We also work to develop ways of managing the landscape to maximize the benefits from the landscape while minimizing negative environmental impacts. Our horticulture and integrated pest management (IPM) programs, for example, seek ways to minimize the need for pesticides through promotion of resistant plant varieties, biological controls, and cultural alternatives to pesticides. An ornamental plant breeding program is focused on the development of novel and sustainable ornamental plant cultivars. 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 frequently target the green industries of Rhode Island (turf grasses and ornamental horticulture) because of their relative importance to the local economy (wholesale nurseries and turfgrass producers account for two-thirds of RI'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.

RI CE targets 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.

6. 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. 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.

7. 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.

8. 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.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	6.0	0.0	9.0	0.0
2008	6.0	0.0	9.0	0.0
2009	6.0	0.0	9.0	0.0
2010	6.0	0.0	9.0	0.0
2011	6.0	0.0	9.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Identify and develop species and cultivars of plants which are adapted for use in the landscapes and environment of Rhode Island and the Northeastern US.
Develop and deliver training for green industry professionals and gardeners, emphasizing the use of plants that require less water, labor, nutrients, and pesticides.
Expand markets for resource-conserving products.
Reduce pest-induced damage to horticultural and forest plants, while maintaining environmental quality through reduced use of herbicides and pesticides.
Balance the costs of developing new or improved products with future benefits expected from these products.

14. 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

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	100	1000	0	0
2008	100	1000	0	0
2009	100	1000	0	0
2010	100	1000	0	0
2011	100	1000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0	2008 : 0	2009 : 1	2010 : 0	2011 : 1

18. Output measures

Output Target

Peer reviewed publications

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target

Books and monographs

2007: 0	2008: 1	2009: 0	2010: 1	2011: 0

Output Target

Abstracts

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target

Conference proceedings

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Technical documents, fact sheets and bulletins

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target

Workshops

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target

Website development and refinement

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Public presentations

2007: 4	2008: 4	2009: 4	2010: 4	2011: 4

Output Target

Student training

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target

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

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

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

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

MS Theses and PhD Dissertations

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Professional training

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Professional/scientific presentations

2007: 5 2008: 5 2009: 5 2010: 5 2011: 5

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

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

Outcome Type: Short

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Outcome Target

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

Outcome Type: Medium

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Outcome Target

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

Outcome Type: Medium

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Outcome Target

Develop and select superior and patentable ornamental plants (#)

Outcome Type: Medium

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcome Target

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

Outcome Type: Long

2007:	2	2008:	2	2009:	2	2010:	2	2011:	2

Outcome Target

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

Outcome Type: Long

2007:	2	2008:	2	2009:	2	2010:	2	2011:	2

Outcome Target

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

Outcome Type: Long

2007:	3	2008:	3	2009:	3	2010:	3	2011:	3

Outcome Target

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

Outcome Type: Short

2007:	10	2008:	10	2009:	10	2010:	10	2011:	10

Outcome Target

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

Outcome Type: Long

2007:	20	2008:	20	2009:	20	2010:	20	2011:	20

20. External factors which may affect outcomes

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

Description

{NO DATA ENTERED}

21. 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

{NO DATA ENTERED}

22. Data Collection Methods

- Sampling
- Structured
- Unstructured
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Improving the Quality of Life for Rural Rhode Islanders

2. Program knowledge areas

- 703 30% Nutrition Education and Behavior
- 704 70% Nutrition and Hunger in the Population

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

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

5. Brief summary about Planned Program

This program will engage faculty, staff and students working on issues of community food access in identified rural areas of Rhode Island (Washington County, RI). The focus of the work will be to assess food insecurity, transportation issues and location of retail and government food sites in this identified area. The results of this work will result in a collaborative multi-community effort to improve food security and expand food access, particularly among poor older adults and families with young children.

6. Situation and priorities

Over 100,000 Rhode Islanders depend on at least one federal nutrition program, including WIC, school breakfast, school lunch or the food stamp program for food. Nutritional risk associated with homelessness, particularly for women and children is a growing concern in Rhode Island. Furthermore hunger, food insecurity and poor nutrition are integrally linked with poverty. Food insecurity is seen in all demographic categories but is disproportionately represented in older adults, young children, the working poor and those living in rural areas (no public transportation) of Rhode Island. Preliminary GIS mapping has revealed that rural Rhode Island hosts fewer food outlets and emergency food sites than metropolitan areas, and, census mapping reveals extraordinarily high poverty rates among the elderly and families living in rural areas. The overall priority is to shed light on the degree of food insecurity in rural Rhode Island, and to work on a community and grassroots level to effect and improve food access for vulnerable populations.

7. Assumptions made for the Program

Local (town) governments will respond as community partners with the College of the Environment and Life Sciences and the University to form coalitions to investigate and address issues of food insecurity in their collective communities.

8. Ultimate goal(s) of this Program

To develop and sustain a community based coalition of government (town) personnel, community volunteers, students, faculty and private industry (including the grocery industry) to link collective resources and intellect to improve food security in their communities.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.2	0.0	1.0	0.0
2008	0.2	0.0	1.0	0.0
2009	0.2	0.0	1.0	0.0
2010	0.2	0.0	1.0	0.0
2011	0.2	0.0	1.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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

14. 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	• Newsletters • Web sites

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	50	1000	0	0
2008	100	1000	0	0
2009	100	1000	0	0
2010	100	1000	0	0
2011	100	1000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Peer reviewed publications

2007: 1 2008: 0 2009: 0 2010: 0 2011: 1

Output Target

Student Training

2007: 3 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Professional Training

2007: 10 2008: 10 2009: 10 2010: 10 2011: 10

Output Target

Volunteer Training

2007: 12 2008: 12 2009: 12 2010: 12 2011: 12

Output Target

Conferences Hosted

2007: 1 2008: 1 2009: 0 2010: 0 2011: 1

Output Target

Community Service Efforts

2007: 2 2008: 1 2009: 0 2010: 0 2011: 1

Output Target

Fact Sheets, Bulletins, Assessment Instruments

2007: 2 2008: 1 2009: 0 2010: 0 2011: 0

Output Target

MS Thesis or PhD Dissertation

2007: 1	2008: 0	2009: 1	2010: 0	2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

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

Outcome Type: Short

2007: 2	2008: 1	2009: 0	2010: 0	2011: 1

Outcome Target

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

Outcome Type: Medium

2007: 2	2008: 2	2009: 1	2010: 0	2011: 0

Outcome Target

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

Outcome Type: Long

2007: 2	2008: 1	2009: 1	2010: 1	2011: 5

20. External factors which may affect outcomes

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

Description

{NO DATA ENTERED}

21. Evaluation studies planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

{NO DATA ENTERED}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Natural and Environmental Resource Economics, Markets and Policy

2. Program knowledge areas

- 606 25% International Trade and Development
- 610 25% Domestic Policy Analysis
- 609 25% Economic Theory and Methods
- 605 25% Natural Resource and Environmental Economics

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

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

5. 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.

6. 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.

7. 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 and increase the efficiency of fishery governance by developing ideas and knowledge will support transition to market-based fishery management.

8. 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.

9. Scope of Program

- In-State Research
- Multistate Research

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : No

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	2.0	0.0
2008	0.0	0.0	2.0	0.0
2009	0.0	0.0	2.0	0.0
2010	0.0	0.0	2.0	0.0
2011	0.0	0.0	2.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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.

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

Extension	
Direct Methods	Indirect Methods
• {NO DATA ENTERED}	• {NO DATA ENTERED}

15. Description of targeted audience

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

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	25	500	0	0
2008	25	500	0	0
2009	25	500	0	0
2010	25	500	0	0
2011	25	500	0	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0	2008 : 0	2009 : 0	2010 : 0	2011 : 0

18. Output measures

Output Target
Peer reviewed publications

2007: 4	2008: 4	2009: 4	2010: 4	2011: 4

Output Target
Books and monographs

2007: 0	2008: 1	2009: 0	2010: 1	2011: 0

Output Target
Abstracts

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target
Conference proceedings

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target
M.S. theses and Ph.D. dissertations

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

Output Target
Professional/scientific presentations

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target
Student training

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

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

Outcome Type: Short

2007: 3	2008: 3	2009: 3	2010: 3	2011: 3

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

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target
Expand seafood markets by development of new marketing ideas.

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target
Identification of market niches for seafood

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

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

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target
Development of alternative seafood products.

Outcome Type: Medium

2007:	0	2008:	0	2009:	1	2010:	1	2011:	1

20. External factors which may affect outcomes

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

Description
{NO DATA ENTERED}

21. Evaluation studies planned

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

Description
{NO DATA ENTERED}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Nutrition, Health and Obesity Prevention

2. Program knowledge areas

- 703 75% Nutrition Education and Behavior
- 702 25% Requirements and Function of Nutrients and Other Food Components

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

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

5. Brief summary about Planned Program

Work under KA 702 will continue to investigate how different metabolic and hormonal mechanisms in people prone to obesity may impact their responses to different carbohydrate types, and thus their appetite regulation.
Work under KA 703 will reach low-income Latinos with nutrition information and effective interventions for weight management that are culturally sensitive.

6. Situation and priorities

The most recent edition of the US Dietary Guidelines makes an urgent call for data clarifying the effects of sugars on human health. Appropriate dietary recommendations related to this for healthy weight management are a high priority, given the composition of the current US food supply and the obesity epidemic.
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 sugars in human health and to develop, test and refine culturally sensitive weight management interventions and materials for a Latino population.

7. 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.

8. Ultimate goal(s) of this Program

To reduce the risk of overweight/obesity and the incidence of related diseases in Latino populations.
To clarify the role of sugars in human health and weight management

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.3	0.0	0.5	0.0
2008	0.3	0.0	0.5	0.0
2009	0.3	0.0	0.5	0.0
2010	0.3	0.0	0.5	0.0
2011	0.3	0.0	0.5	0.0

Outputs for the Program

13. Activity (What will be done?)

For KA 702:
Data collection
Fitness testing and body composition analysis
Survey and questionnaire completion
Blood analysis and test meal trials.
For KA 703:
Facilitate partnership with Latino communities
Conduct focus groups with Latinos
Develop health and nutrition assessment tools that are appropriate for the Latino audience
Develop and test interventional modalities for health maintenance and obesity prevention
Conduct surveys
Analyze data
Print materials and develop curriculum
Conduct workshops/interventions
Evaluate outcomes

14. 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)

15. Description of targeted audience

KA 702: Lean and obese adults
KA 703: Latino men and women

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	200	0	0	0
2008	400	0	0	0
2009	400	0	0	0
2010	400	0	0	0
2011	400	0	0	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Develop and conduct healthy weight focus group research component

2007: 0 2008: 1 2009: 0 2010: 0 2011: 0

Output Target

Develop, conduct and evaluate a pilot healthy weight group study

2007: 1 2008: 0 2009: 0 2010: 0 2011: 0

Output Target

Refine, deliver and evaluate major healthy weight intervention study

2007: 0 2008: 1 2009: 1 2010: 0 2011: 0

Output Target

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

2007: 1 2008: 1 2009: 0 2010: 0 2011: 0

Output Target

Conduct metabolic studies

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Peer reviewed publications

2007: 1 2008: 2 2009: 2 2010: 1 2011: 2

Output Target

Abstracts

2007: 1 2008: 1 2009: 2 2010: 2 2011: 1

Output Target

Workshops

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Student Training

2007: 3 2008: 3 2009: 3 2010: 3 2011: 3

Output Target

Professional Training

2007: 0 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Scientific and Professional Presentations

2007: 0 2008: 1 2009: 2 2010: 2 2011: 1

Output Target

MS Thesis or PhD Dissertation

2007: 1 2008: 1 2009: 0 2010: 0 2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

Identify factors contributing to overweight and obesity in the Latino population

Outcome Type: Short

2007: 1 2008: 1 2009: 0 2010: 0 2011: 0

Outcome Target

Create healthy weight assessment tools and intervention programs

Outcome Type: Short

2007: 1 2008: 1 2009: 0 2010: 0 2011: 0

Outcome Target

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

Outcome Type: Medium

2007: 15 2008: 20 2009: 20 2010: 0 2011: 0

Outcome Target

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

Outcome Type: Long

2007: 0 2008: 20 2009: 20 2010: 25 2011: 0

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

Outcome Type: Medium

2007:	0	2008:	1	2009:	1	2010:	1	2011:	1

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

20. External factors which may affect outcomes

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

Description
{NO DATA ENTERED}

21. 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}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Sustainable Communities

2. Program knowledge areas

- 602 25% Business Management, Finance, and Taxation
- 605 25% Natural Resource and Environmental Economics
- 601 25% Economics of Agricultural Production and Farm Management
- 608 25% Community Resource Planning and Development

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

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

5. 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.

6. 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, “ …urban 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.

7. 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 CSREES/national and regional sustainable tourism research and education resources.

8. 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.

9. Scope of Program

- In-State Extension
- Integrated Research and Extension

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.0	0.0	0.0	0.0
2008	1.0	0.0	0.0	0.0
2009	1.0	0.0	0.0	0.0
2010	1.0	0.0	0.0	0.0
2011	1.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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

14. 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)

15. Description of targeted audience

Farmers/ Farm OrganizationsRI Department of Environmental Management (RI DEM), Division of AgricultureRI Center for Agricultural Promotion & EducationOther Agricultural Service ProvidersTourism Councils and Tourism BusinessesLand TrustsPolicy Makers and Municipal LeadersGrassroots and Community Organizations

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	500	10000	0	500
2008	500	10000	0	500
2009	500	10000	0	500
2010	500	10000	0	500
2011	500	10000	0	500

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Identify new muncipal partners

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Conduct Community based workshops

2007: 8 2008: 8 2009: 5 2010: 5 2011: 5

Output Target

Professional training

2007: 6 2008: 6 2009: 8 2010: 10 2011: 10

Output Target

Public presentations

2007: 5 2008: 5 2009: 5 2010: 5 2011: 5

Output Target

Website development and refinement

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Student Training

2007: 1 2008: 1 2009: 2 2010: 2 2011: 2

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

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

Outcome Type: Short

2007:	5	2008:	5	2009:	5	2010:	5	2011:	5

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

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

20. 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
{NO DATA ENTERED}

21. 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}

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Vector Borne Diseases and Human Health

2. Program knowledge areas

- 721 20% Insects and Other Pests Affecting Humans
- 722 80% Zoonotic Diseases and Parasites Affecting Humans

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

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

5. 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 of very talented 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.

6. 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.

7. 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 very talented people to his outreach and research program.

8. 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.

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	1.0	0.0	2.0	0.0
2008	1.0	0.0	2.0	0.0
2009	1.0	0.0	2.0	0.0
2010	1.0	0.0	2.0	0.0
2011	1.0	0.0	2.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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.

14. 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

15. Description of targeted audience

The target audience will be diverse and will represent all Rhode Islanders, especially those at greatest risk of contracting vector borne diseases. This audience will include:Community membersGrassroots agenciesMunicipal and State Policy MakersHome ownersEducational Institutions

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	100	10000	100	5000
2008	100	10000	100	5000
2009	100	10000	100	5000
2010	100	10000	100	5000
2011	100	10000	100	5000

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 1

18. Output measures

Output Target

Peer reviewed publications

2007: 3 2008: 3 2009: 3 2010: 3 2011: 3

Output Target

Books and monographs

2007: 0 2008: 0 2009: 1 2010: 0 2011: 1

Output Target

Abstracts

2007: 4 2008: 4 2009: 4 2010: 4 2011: 4

Output Target

Conference proceedings

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Workshops

2007: 10 2008: 10 2009: 10 2010: 10 2011: 10

Output Target

Website development and refinement

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Output Target

Public presentations

2007: 3 2008: 3 2009: 3 2010: 3 2011: 3

Output Target

Public service announcements

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

Student training

2007: 2 2008: 2 2009: 2 2010: 2 2011: 2

Output Target

M.S. theses and Ph.D. dissertations

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target

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

Outcome Type: Short

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcome Target

Create tick surveillance database

Outcome Type: Medium

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcome Target

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

Outcome Type: Long

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

Outcome Target

Reduce tick abundance community-wide

Outcome Type: Medium

2007: 1 2008: 1 2009: 1 2010: 1 2011: 1

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

Outcome Type: Long

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target
Formulate novel vaccination strategies to prevent tick-transmitted diseases

Outcome Type: Long

2007:	0	2008:	0	2009:	0	2010:	0	2011:	1

Outcome Target
Elucidate transmission dynamics of pathogens among tick vectors

Outcome Type: Medium

2007:	1	2008:	1	2009:	1	2010:	1	2011:	1

Outcome Target
Increase research funding

Outcome Type: Long

2007:	5	2008:	5	2009:	5	2010:	5	2011:	5

20. 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.

21. 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

22. Data Collection Methods

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

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Water Quality

2. Program knowledge areas

- 131 15% Alternative Uses of Land
- 101 10% Appraisal of Soil Resources
- 133 25% Pollution Prevention and Mitigation
- 112 50% Watershed Protection and Management

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

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

5. Brief summary about Planned Program

New Englanders take great pride in their countryside, where a patchwork of colonial farms, historic villages and independent local governments reflect our Nation's origins. 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. Total Maximum Daily Load (TMDL) studies across New England relate water quality problems to nitrogen, phosphorus and pathogen inputs from rural and agricultural landscapes. Pesticide, pathogen and nitrate contamination continue to plague private and public well water. In addition, naturally-occurring contaminants present challenges to the risks associated with drinking water protection. More recently, suburban sprawl and rapid development are contributing to the loss of forest, agricultural and open lands and their ecological functions. Local governments grapple for watershed management tools that can minimize water quality risks from development.

To address the water quality challenges of Rhode Island and rural New England, research will be conducted to characterize and control nonpoint sources of water contamination from rural and mixed use watersheds. Investigations will also 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 will continue to create locally relevant programs focused on land and community management. We work at both local and regional scales. We will develop, test and refine programs with case studies at the local level that leverage other sources of support. 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 for use throughout New England. 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. 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.

6. Situation and priorities

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. Total Maximum Daily Load (TMDL) studies across New England relate water quality problems to nitrogen, phosphorus and pathogen inputs from rural and agricultural landscapes. Pesticide, pathogen and nitrate contamination continue to plague private and public well water. In addition, naturally-occurring contaminants present challenges to the risks associated with drinking water protection. More recently, suburban sprawl and rapid development are contributing to the loss of forest, agricultural and open lands and their ecological functions. Local governments grapple

for watershed management tools that can minimize water quality risks from development.

7. 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.

8. Ultimate goal(s) of this Program

Research: Improve our understanding of water quality management in rural and mixed use watersheds.
Characterize the risks of nonpoint sources of water contamination from rural and mixed use watersheds.
Investigate watershed patterns and processes that affect the fate of nonpoint contaminants.
Assess the efficacy of water quality improvement practices at the local and watershed scale
Assess the effects of contaminants and disturbance on surface water ecosystems and groundwater.
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

9. Scope of Program

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

Inputs for the Program

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

11. Expending other then formula funds or state-matching funds : Yes

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

Year	Extension		Research	
	1862	1890	1862	1890
2007	3.0	0.0	7.0	0.0
2008	3.0	0.0	7.0	0.0
2009	3.0	0.0	7.0	0.0
2010	3.0	0.0	7.0	0.0
2011	3.0	0.0	7.0	0.0

Outputs for the Program

13. Activity (What will be done?)

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

14. 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

15. Description of targeted audience

Public decision makers / Policy makers (local, state and federal agencies)Municipal plannersPrivate sector firms engaged in watershed management, landscaping, onsite waste water treatment and private wellsA variety of NGOs (land trusts, environmental organizations, etc).Agricultural producersThe general public

16. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	400	3000	0	0
2008	500	4500	0	0
2009	500	5000	0	0
2010	500	5500	0	0
2011	500	6000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents

2007 : 0 2008 : 0 2009 : 0 2010 : 0 2011 : 0

18. Output measures

Output Target

Peer Reviewed Publications

2007: 4 2008: 4 2009: 4 2010: 4 2011: 4

Output Target

Fact sheets, bulletins and newsletters

2007: 10	2008: 10	2009: 10	2010: 10	2011: 10

Output Target

Website development and refinement

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Training manuals and Instructional CDS developed

2007: 1	2008: 1	2009: 2	2010: 2	2011: 2

Output Target

Public service announcements, news releases/articles

2007: 5	2008: 10	2009: 10	2010: 10	2011: 10

Output Target

Books and monographs

2007: 1	2008: 1	2009: 1	2010: 1	2011: 1

Output Target

Abstracts

2007: 5	2008: 5	2009: 5	2010: 5	2011: 5

Output Target

Workshops and Conferences hosted or Co-hosted

2007: 4	2008: 4	2009: 4	2010: 4	2011: 4

Output Target

Presentations and Short Courses

2007: 55	2008: 55	2009: 65	2010: 65	2011: 70

Output Target

Student training

2007: 2	2008: 2	2009: 2	2010: 2	2011: 2

Output Target

MS theses and PhD dissertations

2007: 1	2008: 2	2009: 1	2010: 1	2011: 2

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Target
Increased (%) of BMP approaches adopted by target audience

Outcome Type: Short

2007:	2008:	2009:	2010:	2011:
5	5	5	5	5

Outcome Target
Development of new models

Outcome Type: Medium

2007:	2008:	2009:	2010:	2011:
1	1	1	1	1

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

Outcome Type: Long

2007:	2008:	2009:	2010:	2011:
5	5	5	5	5

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

Outcome Type: Long

2007:	2008:	2009:	2010:	2011:
5	5	5	10	10

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

Outcome Type: Long

2007:	2008:	2009:	2010:	2011:
10	15	15	15	20

Outcome Target
Increased testing of well water by targeted homeowner populations

Outcome Type: Long

2007:	2008:	2009:	2010:	2011:
10	10	10	15	15

20. External factors which may affect outcomes

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

21. 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.

22. Data Collection Methods

- Sampling
- Mail
- Unstructured
- Observation

Description

{NO DATA ENTERED}