

2010 University of Massachusetts Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

The mission of UMass Extension is to improve the health, well-being and security of youth, families and communities; conserve and enhance natural resources; and strengthen agriculture and food systems. We fulfill our mission by utilizing the research and teaching capacity of the University of Massachusetts Amherst to generate and communicate knowledge while creating approaches, methods, and tools for solving problems. UMass Extension links the Massachusetts land grant university with a larger community of people in collaborative partnerships to address issues of fundamental importance to the people of Massachusetts, New England, and the nation. UMass Extension Critical Issues Programs offered by UMass Extension are organized according to Critical Issues. These issues serve as a framework to measure the impact of what we do and communicate the value of our work in ways that are meaningful to a wide variety of internal and external clients and partners. The critical issues for our five year plan were determined by an extensive process that was designed to assess the priorities and perspectives of a broad range of citizens and public stakeholders in ways that are relevant to both USDA Emphasis Areas and the teaching and research capacity of the University of Massachusetts Amherst.

- Ecosystem Management, Protection and Restoration
- Food Production
- Land Use Management
- Natural Resource-Based Economic Development
- Nutrition and Health
- Water Resource Protection
- Youth Development and Engagement

FY 10 is the final year before our Critical Issues are significantly revised, largely in response to a newly identified set of NIFA priority areas. Additionally, during FY 10, UMass Extension transitioned from a campus outreach division to new location within the University of Massachusetts Amherst. UMass Extension is now part of the Massachusetts Center for Agriculture in the College of Natural Sciences. The Center is also the organizational home to the Massachusetts Agricultural Experiment Station (MAES). As a result, future UMass Extension plans and reports will be filed jointly with MAES and this will be the final year for an independent extension report

FY 10 Goals

Staff teams with expertise in our Critical Issue areas developed the planned programs that form the basis of this report. Within these planned programs each team identified a set of outcomes for the audiences that our programs will target. These proximal outcomes are related to a set of 4 broad long-term goals that have been specified at the organizational level.

- Stronger Agriculture and Food Systems - Develop and expand systems for environmentally sound and economically viable food production, distribution, access and utilization.
- Improved Human Health and Well-Being - Diverse youth, families, and communities will achieve greater physical and social well-being.

- Enhanced Health and Productivity of Natural Resources and Ecosystems - The quality of land, water, plant, animal, and biodiversity resources will be protected and enhanced, and healthy self-sustaining ecosystems maintained.
- Stronger Local Economies - Natural and human resources will be managed or cultivated in ways that support strong local economies

Our Unique Role

UMass Extension has the unique capability for bringing the University of Massachusetts Amherst's depth and breadth of knowledge and its academic resources to bear in identifying and solving problems. Our research and teaching programs link different departments and facilitate mutually beneficial collaborations between the University and external organizations, individuals, and businesses. In so doing, UMass Extension makes a vital contribution to the public and to the educational experiences and research opportunities of the university. Utilizing the resources of UMass Amherst and the United States Department of Agriculture's national network of Extension programs, UMass Extension advances its organizational goals by:

- Engaging university faculty and outside partners in the identification of critical issues and priorities for research and education
- Engaging partners and collaborators in the delivery of programs that build individual and group skills and strengthen diverse communities
- Conducting integrated research and education programs as sustained efforts to address critical issues, resulting in tangible outcomes
- Facilitating interdepartmental and interdisciplinary research and education programs that address critical issues
- Contributing to the undergraduate and graduate student experience by providing opportunities for community service learning and applied research
- Serving as a clearinghouse for the dissemination of research-based knowledge, ideas, information and techniques
- Pioneering innovative educational approaches and technologies
- Strengthening the ability of university departments and units to meet their outreach goals by forging partnerships and providing support

Program Notes and Changes

Changes occurred in staffing and in related programming after the plan that this report is based on was submitted. These changes reduced our investment in activities within the planned program for Water Resource Protection. While UMass Extension will continue working towards the goal of enhancing the health and productivity of natural resources and ecosystems, some of our planned capacity within Water Resource Protection will be allocated to different programs.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	105.0	0.0	0.0	0.0
Actual	115.8	0.0	0.0	0.0

II. Merit Review Process

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

- Internal University Panel
- External University Panel
- External Non-University Panel

2. Brief Explanation

Internal University Panel

UMass Extension collaborates with department heads from the College of Natural Resources and the Environment and the School of Public Health and Health Sciences on the development of our Plan of Work. The Director of the Agricultural Experiment Station and Vice Provost for University Outreach also participate in this annual review.

External Non-University Panel:

The Massachusetts legislature established a Board of Public Overseers to provide advice and oversight to UMass Extension. This 15 member board, comprised of representatives of constituent organizations, meets quarterly to review and advise UMass Extension and the Chancellor the UMass Amherst. Review of the Plan of Work and Annual Report is a major function of this board. Our annual project plans and reports are posted on line to facilitate review by the Board of Public Overseers and other constituents and stakeholders.

External University Panel

Massachusetts entered into a formal partnership with Cooperative Extension in Maine, New Hampshire, and Vermont in 2004 to develop and implement a web-based planning and reporting system. As a result of this unique partnership, we share a planning and reporting system that allows each of use to view plans and reports of the other states. We have also agreed to provide Merit Review for each other on a rotating basis so that each state in the partnership gets a thorough, expert-review of their state plan of work every four years. In addition to providing feedback to one another, this rotation asks staff to volunteer to be reviewers to look carefully at plans from other states with similar goals and outcomes to their own. For example, 4-H youth development staff in ME, VT, and MA volunteered to review the 4-H youth development plans for NH in 2007 and Agriculture staff reviewed Agriculture plans. This system not only provided New Hampshire with valuable expert-review, but also increased the level of awareness of potential shared programs in neighboring states and helped the reviewers to reflect more critically on their own plans. New Hampshire was the first state to undergo review in 2007; Vermont was reviewed this year. The review for Maine was planned, but did not occur in 2009. It appears that the scheduled review for the Massachusetts plan by the other three New England states could be delayed until 2012.

III. Stakeholder Input

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

- 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 individuals
- Survey of the general public

Brief explanation.

For our 5 year (2007-2011) Plan of Work, UMass Extension initiated an ambitious process to

obtain input from a variety of stakeholders and citizens who are interested in and value the work that Extension does. Our Stakeholder Engagement process has helped us to plan and implement programs that are responsive to state and local needs. Stakeholder Engagement involved a variety of activities that continue to be reflected in this report. These include:

- Web-based stakeholder survey
- Public Forums
- Assessment of UMass Faculty Interests
- Focus Group with State Advisory Board

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

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Open Listening Sessions
- Use Surveys
- Other (Hired Independent Consultants)

Brief explanation.

Internal professional staff members and our advisory boards identified a list of 768 stakeholders who received surveys and were invited to public forum. A team of consultants identified existing and potential faculty partners.

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

1. Methods for collecting Stakeholder Input

- Survey of traditional Stakeholder individuals
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public

Brief explanation.

Web-based stakeholder survey - In March 2006, UMass Extension administered a web-based survey to a broad range of citizens and stakeholders in preparation for the development of a 5-year Plan of Work. The goal of the survey was to obtain information to help Extension plan and implement programs that are responsive to state and local needs. Extension administrators and program leaders identified primary topic areas for the stakeholder survey that were based upon our USDA mission, research and teaching interests of UMass faculty and Extension staff capacity. Extension professional staff, state and federal agency representatives, and members of our state advisory board were asked to provide email contact information for individuals they work with or know of, who possess comprehensive knowledge and a broad perspective in these eight areas. Seven hundred sixty-eight (768) individuals were contacted via email. A total of 378 surveys were returned, yielding a (conservative estimated) response rate of 41.2%. These individuals were subsequently sent email messages that directed them to a page on our website where the results from the survey were posted

Public Forums - UMass Extension sponsored two Public Forums in April 2006 to obtain input for our 5-year Plan of Work. At each forum we solicited comments from citizens we work with, or who are interested in and value our work, to help us plan and implement programs that are responsive to state and local needs. At each event we briefly reviewed our Plan of Work development process and presented results from our online stakeholder survey. Individuals were given up to 5 minutes to deliver comments and also asked to submit copies of their comments in writing.

Assessment of UMass Faculty Interests - A consulting team was hired by UMass Extension to conduct the initial part of this assessment. The consultants first reviewed 11 Emphasis Areas specified by the US Department of Agriculture and then conducted a web-scan of university departments and faculty websites. Consultants identified a list of faculty whose interests fit within the USDA areas. Twenty-six interviews were conducted to understand the applied research interests of each faculty member. Faculty who we were not able to interview were sent, via email, a request to complete a brief survey which asked them about their work that engages individuals, communities and groups outside the university. Sixty-seven faculty were contacted and responses were received from twenty-five. A report was issued to summarize information obtained through interviews and surveys of faculty interests. This document has served primarily as an internal resource to UMass Extension planning teams as they developed broad 5-year plans that address critical issues in Massachusetts.

Focus Group with State Advisory Board - In March 2007, UMass Extension conducted a professionally facilitated focus group with our governor appointed state advisory board (Board of Public Overseers) to deepen our understanding of our stakeholder priorities and the appropriate roles and methods for UMass Extension.

3. A statement of how the input will be considered

- To Identify Emerging Issues
- In the Action Plans
- To Set Priorities

Brief explanation.

Extension Planning Teams were established with knowledge and expertise in our Critical Issue areas. Team consisted primarily of professional program staff, with some participation by extension administrators and academic faculty. Each team considered the information obtained through the various elements of the Extension Stakeholder Engagement Process as they developed a broad organizational plan (Issue Plan). These Issue Plans were used as the basis for our planned programs in this report. As such, they identify priorities or key focus areas within each issue. Once priorities were established, teams identified outcomes related to these priorities. Outcomes are the changes in behavior or knowledge that should occur if the projects that address this issue are to be effective.

Brief Explanation of what you learned from your Stakeholders

In addition to providing a framework and background for identification of our seven critical issues, stakeholder feedback helped us to identify changing statewide trends in Food production and the emergence of Massachusetts as a potential national leader in this area.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2649727	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	2414548	0	0	0
Actual Matching	2414548	0	0	0
Actual All Other	10016097	0	0	0
Total Actual Expended	14845193	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	0	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Administration and Organizational Development (Administrative Plan)
2	Ecosystem Management, Protection And Restoration
3	Nutrition and Health
4	Land Use Management
5	Natural Resource-Based Economic Development
6	Water Resource Protection
7	Youth Development and Engagement
8	Food Production

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Administration and Organizational Development (Administrative Plan)

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
901	Program and Project Design, and Statistics	20%			
902	Administration of Projects and Programs	40%			
903	Communication, Education, and Information Delivery	40%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	11.0	0.0	0.0	0.0
Actual	9.6	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
848676	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
489757	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
341783	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Administrative systems and processes include:

Financial Management: includes federal and state grants, gifts, accounts, program budgets, revenue generation/fees, trust accounts, salary administration, etc. in conjunction with the Outreach Business Services Center and the UMass Treasure's Office.

Human Resource Management: includes the hiring, supervision and evaluation of professional and clerical staff and faculty, administration and communication of University HR employment policies and procedures, including performance management, civil rights, grievance and salary administration.

Legal, Risk and Volunteer Management: includes legal, liability, and volunteer policy development and research; consultation with University attorneys, risk officers and state officials; communication and enforcement of University directives and policies; creation of binding agreements (MOA's), negotiations and mediations with collaborating non-profits and governmental agencies; emergency and incident reporting; Criminal History Systems Information (CORI) screening, authorization, and investigations for all Extension youth programs; ES-237 reporting; Volunteer advisory fiscal reporting, administrative systems design and delivery.

Internal and External Relations: includes conduct of public relations with University, state, federal officials, the legislature, the Board of Public Overseers, other state Extension programs within CSREES, stakeholders and collaborating organizations, internal and external audiences in the areas of advocating for strategic initiatives and program delivery.

Program Assessment and Evaluation: includes the design of program assessment instruments, surveys, impact analysis, studies, statistical reports pertaining to Extension programs' delivery, impacts and stakeholder issues.

Marketing and Communications: in conjunction with Outreach Marketing and Communications, includes the development of brochures, newsletters, media, publications, Book Store, web communications, and information systems and data management.

Fundraising and Grant Program Development: includes oversight and coordination of grants, internal and external partnerships and special fundraising programs, relations with Extension related program foundations, working where appropriate in conjunction with Outreach Development, Advancement, federal and state agencies and the appropriate University offices.

Planning, Evaluation and Reporting: includes general design and support for program planning, evaluation and reporting as well as comprehensive evaluation services for projects with substantial evaluation requirements from external sponsors and general advice and capacity building

Organizational Development systems and processes include:

Extension-wide Staff Development Plan: to identify the staffing levels, expectations, skill sets, conferences, on going courses of study, group training and development initiatives need to enhance staff and program unit capacity to meet issue plan goals and emerging needs of UMass Extension internal and external constituencies. This includes analysis of existing and new staff positions, diversity goals attainment in recruitment, hiring, promotion of staff, and regular needs assessment for each program unit. Measures will be established to evaluate the degree of progress toward issue plan impact indicator achievement.

Individual Development Plans: to identify individual work, skill sets and knowledge needs with each staff members job. IDP's help ensure that each program's staff has the necessary training to meet issue plan goals and delivery quality programs, information or research to its constituents. Such plans will integrate with the University's Performance Management goal setting and review system and will tie in with Extension promotion, merit and succession planning. The Individual Plan will reflect the overall strategy of the program area to meet its goals and mission and will include identification of conference opportunities and course work or credentializing opportunities.

Extension Staff Training and Development Series: will make available, through needs assessment and prioritization, a series of offerings available to all Extension staff, such as customized Equal Opportunity and Diversity sessions, technology, or work process re-design training. The series will more formally utilize the University's Workplace Learning and Development offerings, and will be customized to meet each program's needs in a particular discipline or interest area.

Civil Rights Plan: formation, including administrative goals and action plans for programs, internal reviews, complaint procedures and assignment of EEO staffing responsibilities within Extension as reviewed in an evaluation plan.

Revised Public Notification Plans: including new statements on all program communications, brochures, media releases, printed information, contracts and web publications, updating of mailing lists data collection on minority collaborators, publication of policies in diverse public venues, etc.

Data Collection: by all Extension programs documenting outreach efforts to external constituencies to help ensure access by underserved, diverse communities and individuals in the state. This involves research into appropriate data collection methods (e.g., sampling, county audits;) review of marketing and programming materials, whole population analysis, observations (e.g., agendas, etc.); policy and procedure development on work with collaborators; and creation of a web data collection tool for use by Extension personnel state-wide.

Civil Rights Training Series: for staff, advisories, youth and collaborating organizations. This would include on-line formats such as Civil Rights self-assessment tools.

Access to all Equal Opportunity Policies, Directives and Offices: for staff and all constituencies via web based information sites and printed materials.

Review of Current Program Partnerships: with external groups to ensure EEO compliance, including advisory nominations, compositions, by-laws provisions.

Recruitment, Hiring, and Succession Planning: to ensure EEO considerations are met and integrated with Extension strategic and program issue plans.

Human Resource Policy and Procedures Review: to ensure promotion, separations/retention, recruitment and hiring strategies are aligned with University policies and federal requirements.

Extension-wide Strategic Plan: to align with the Outreach Strategic Plan, federal requirements and the CSREES Plan of Work for 2007-2011. This involves fiscal planning, examination, discussion and decision making on new cross-functional and adaptive program structures for Extension's current four programs. It may require re-definitions of priorities for Extension, new staffing assignments, organizational units and relationships with internal and external partners, faculty and audiences.

Extension Program Strategic Plans: to better define focus areas, revenue generation and resource development strategies, and staffing requirements. These plans will contribute to accountability for and alignment of programs with overall Extension, Outreach and University strategic plans.

Collaborative Outreach Administrative Department Plans: to better clarify the expectations, procedures, deliverables, costs and coordination efforts with Outreach units so that Extension top priorities are met, thus ensuring high quality program delivery to Extension constituencies. The three Outreach units include the Business Services Center, Marketing and Communication (including the Book Store and Information Technology,) and Outreach Development.

2. Brief description of the target audience

University Administrators
 Federal and County Extension Program Administrators (USDA/CSREES)
 UMass Extension Faculty and Staff
 Public Stakeholders

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	200	50	0	0
Actual	200	50	0	0

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

Patent Applications Submitted

Year: 2010
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Administrative Systems and Procedures
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Massachusetts Extensions programs and staff are sustained and advanced, consistent with organizational expectations and stakeholder needs.

Outcome #1

1. Outcome Measures

Massachusetts Extensions programs and staff are sustained and advanced, consistent with organizational expectations and stakeholder needs.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- Case Study
- Other (Fiscal, Legal Liability Audits)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Ecosystem Management, Protection And Restoration

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	10%			
123	Management and Sustainability of Forest Resources	20%			
131	Alternative Uses of Land	15%			
133	Pollution Prevention and Mitigation	10%			
135	Aquatic and Terrestrial Wildlife	10%			
136	Conservation of Biological Diversity	15%			
205	Plant Management Systems	10%			
206	Basic Plant Biology	5%			
212	Pathogens and Nematodes Affecting Plants	5%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	7.1	0.0	0.0	0.0
Actual	13.4	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
352681	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
604208	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1681780	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Analytic tools and techniques

Applied Research Programs

Diagnostic Service

Facilitated Group Meetings and Conferences

Peer Reviewed Publications

Printed Materials

Single day workshop, class or event

Survey or needs assessment

Websites or other computer-based delivery

Workshop Series or educational course

2. Brief description of the target audience

•Natural Resource Agencies •Regional Planning Authorities •Development and Planning Agencies •Municipalities •Conservation Organizations •Landowners and Land Managers •Business/Industry (Natural resource based businesses, development industry, environmental consultants)

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	15415	28177	0	2800
Actual	18471	363534	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	2	0	
Actual	1	2	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Analytic tools and techniques

Year	Target	Actual
2010	5	6

Output #2

Output Measure

- Applied Research Programs

Year	Target	Actual
2010	7	2

Output #3

Output Measure

- Diagnostic Service

Year	Target	Actual
2010	21125	20900

Output #4

Output Measure

- Facilitated Group Meetings and Conferences

Year	Target	Actual
2010	9	10

Output #5

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2010	2	3

Output #6

Output Measure

- Printed Materials

Year	Target	Actual
2010	11	21

Output #7

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	33	76

Output #8

Output Measure

- Survey or needs assessment

Year	Target	Actual
2010	1	2

Output #9

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	12	75

Output #10

Output Measure

- Workshop Series or educational course

Year	Target	Actual
2010	2	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants acquire knowledge, skill and motivation to adopt practices that reduce the risk of exotic pests, diseases and invasive species
2	Participants develop the knowledge and skill to adopt land management practices that protect and enhance natural resources and ecosystems
3	Participants adopt land management practices that protect and enhance natural resources and ecosystems
4	Participants acquire knowledge and skill to effectively address natural resource issues during project review and permitting
5	Participants acquire knowledge and skill to minimize the impact of development projects on natural resources and ecosystems
6	Participants adopt practices that minimize the impact of development projects on natural resources and ecosystems.
7	Number of participants who develop the knowledge and skills for land conservation programs that protect ecosystems and natural resources
8	Participants adopt environmentally sound crop management
9	Participants adopt environmentally sound landscape, floriculture and turf management techniques
10	Participants acquire knowledge and skills for environmentally sound crop management
11	Participants acquire knowledge and skills for environmentally sound landscape, floriculture and turf management techniques

Outcome #1

1. Outcome Measures

Participants acquire knowledge, skill and motivation to adopt practices that reduce the risk of exotic pests, diseases and invasive species

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Participants develop the knowledge and skill to adopt land management practices that protect and enhance natural resources and ecosystems

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	8257

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Private citizens, policymakers and agencies are concerned with maintaining healthy forest in Massachusetts, a vital indigenous resources that support recreation, commerce and wildlife habitat.

What has been done

We develop and disseminate networking tools that target a large segment of forest landowners who have not been reached by traditional programs, to encourage informed decisions, forest conservation and landowner. We provide a continuously updated, local, internet resource that enables landowners to share information through threaded discussions, understand their land in relation to the surrounding area and systems through a mapserver application, find information about their land, and ask questions about estate planning and land transfer.

Results

Effective networks of forest landowners and peer educators have been created. Through these networks, thousands of forest landowners have gained a better understanding of conservation principles and land management options. Hundreds of forest owners were also referred to a private land trust.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #3

1. Outcome Measures

Participants adopt land management practices that protect and enhance natural resources and ecosystems

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Participants acquire knowledge and skill to effectively address natural resource issues during project review and permitting

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	219

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general public, federal and state regulators and our collaborating agencies are highly invested in Conservation Assessment and Prioritization System. The computer software program provides an objective, dynamic, and flexible tool to support decision-making for land conservation, land management, project review and permitting to protect habitat and biodiversity.

What has been done

Work on the Conservation Assessment and Prioritization System (CAPS) continued in FY10, including field data collection in salt marshes, identification of samples from forested wetlands and salt marshes, data analysis and development of indices of biological integrity (IBIs), development and revision of ecological settings variables and integrity metrics, and development of techniques for using CAPS scenario analysis for assessment and project planning.

Results

The Conservation Assessment and Prioritization System (CAPS) was used to identify core forest and wetland areas, and clusters of vernal pools for inclusion in the Biomap 2 project. Biomap 2 is used by agencies and organization throughout Massachusetts to prioritize land protection efforts. CAPS serves as the centerpiece of the state’s comprehensive wetlands monitoring and assessment program and a potential model for use at the regional scale. Important Habitat Maps based on CAPS assessments are integrated into MassDEPs approach for protecting wildlife habitat during wetlands permitting by requiring greater scrutiny of specific projects that take place in or near these habitats.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #5

1. Outcome Measures

Participants acquire knowledge and skill to minimize the impact of development projects on natural resources and ecosystems

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	2006

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general public, our partner organizations, which include the Nature Conservancy and the Massachusetts Division of Ecological Restoration, as well as municipalities at different levels (town, state and region) throughout the country are highly invested in this work which focuses on

the impact of road-stream crossings (culverts, bridges, fords) on fish and other aquatic organism passage.

What has been done

We worked with our collaborators to revise our road-stream crossing assessment methods based on results of a detailed evaluation of the previous version of the protocol. A universal coding system for road-stream crossings that can be used throughout the U.S. was developed and is ready for implementation. The online Crossings Database has been updated and a new scoring algorithm for aquatic passability was developed and implemented.

Results

The MA River and Stream Crossing Standards that have been generated continue to inform policy at both the state and federal level. Multiple references to the Massachusetts River and Stream Crossing Standards and Road-Stream Crossing Assessment protocols were included in the Massachusetts Department of Transportation's handbook "Design of Bridges and Culverts for Wildlife Passages at Freshwater Streams" issued in December 2010. The standards are referenced in the U.S. Army Corps of Engineers Programmatic General Permit (PGP) for Massachusetts that was reissued in January of 2010. New crossings of rivers and streams must meet these standards in order to qualify for non-reporting status under the General Permit.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #6

1. Outcome Measures

Participants adopt practices that minimize the impact of development projects on natural resources and ecosystems.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Number of participants who develop the knowledge and skills for land conservation programs that protect ecosystems and natural resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	1012

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a shared interest and collective responsibility for maintaining ecosystems, promoting biodiversity and preserving native species.

What has been done

A third season of field data collection was completed in 2010 and preliminary results are already being used to provide technical advice to people engaged in turtle conservation in Massachusetts and other states. Twenty volunteers were involved in the Massachusetts Calling Amphibian Survey monitoring 18 routes as part of the North American Amphibian Monitoring Program. A web site for the Massachusetts Herp Atlas Project was developed and launched in FY10.

Results

Data from turtle tunnel research is being used to provide technical advice to people engaged in turtle conservation in Massachusetts and other states. Calling amphibian monitoring data were collected for 18 routes in Massachusetts as part of the North American Amphibian Monitoring Program. Members of the public have begun submitting records of amphibian and reptile occurrences to the MA Herp Atlas web site, continually updating distribution maps for those species and providing important information for wildlife conservation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #8

1. Outcome Measures

Participants adopt environmentally sound crop management

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	2335

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
133	Pollution Prevention and Mitigation
205	Plant Management Systems
206	Basic Plant Biology
212	Pathogens and Nematodes Affecting Plants

Outcome #9

1. Outcome Measures

Participants adopt environmentally sound landscape, floriculture and turf management techniques

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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2010 {No Data Entered} 675

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

We serve the entire green industry including floriculture (greenhouse) operations, turfgrass managers (golf courses, athletic fields, municipal parks and grounds, and school fields), landscape contractors, arborists, and the vegetable industry. The long term viability of this sector of the Massachusetts economy, as well as their client and consumer base, relies on accurate diagnosis of plant problems and an accurate picture of soil nutrient levels, physical characteristics, and heavy metal contamination.

What has been done

The Soil and Tissue Testing Laboratory processes over 20,000 soil and tissue samples for nutrient analysis and a report is sent which outlines major nutrients status, organic matter content of the soil, CEC, soil pH, and the presence of toxic, heavy metals such as lead and mercury. Each report also contains detailed fertilizer recommendations based upon the intended use of the soil.

Results

Each year, thousands of clients receive our services, and as a result they base their pest management decisions on accurate diagnosis of plant problems. We also provide critical education and that helps floriculture operations, turfgrass managers, landscape contractors, arborists, and farmers to implement environmentally sound management practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
133	Pollution Prevention and Mitigation
205	Plant Management Systems
206	Basic Plant Biology
212	Pathogens and Nematodes Affecting Plants

Outcome #10

1. Outcome Measures

Participants acquire knowledge and skills for environmentally sound crop management

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
133	Pollution Prevention and Mitigation
205	Plant Management Systems
206	Basic Plant Biology
212	Pathogens and Nematodes Affecting Plants

Outcome #11

1. Outcome Measures

Participants acquire knowledge and skills for environmentally sound landscape, floriculture and turf management techniques

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	230

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
133	Pollution Prevention and Mitigation
205	Plant Management Systems
206	Basic Plant Biology
212	Pathogens and Nematodes Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Nutrition and Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%			
704	Nutrition and Hunger in the Population	10%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%			
724	Healthy Lifestyle	30%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	46.9	0.0	0.0	0.0
Actual	50.7	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
16469	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3710623	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Applied Research Programs

Demonstrations

Displays and Exhibits

Peer Reviewed Presentations

Printed Materials

Published Articles (News, Professional and Trade)

Single day workshop, class or event

Websites or other computer-based delivery

Workshop series or educational course

2. Brief description of the target audience

- Adults
- Youth
- Women
- Minority and underserved populations
- Health educators and providers
- Teachers
- UMass faculty, students and administration
- State and local agencies
- State legislators

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	10160	58802	55560	38457
Actual	12363	149046	57411	5448

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	0	

Actual	0	0	0
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V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Output #2

Output Measure

- Demonstrations

Year	Target	Actual
2010	65	110

Output #3

Output Measure

- Displays and Exhibits

Year	Target	Actual
2010	1696	470

Output #4

Output Measure

- Peer Reviewed Presentations
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Printed Materials

Year	Target	Actual
2010	4	9

Output #6

Output Measure

- Published Articles (News, Professional and Trade)
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	941	605

Output #8

Output Measure

- Websites or other computer-based delivery
Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Workshop series or educational course

Year	Target	Actual
2010	1968	2681

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Proportion of participants who gain knowledge and skill to improve dietary behaviors
2	Proportion of participants who gain knowledge and skill to improve physical activity behaviors
3	Proportion of participants who improve dietary behaviors
4	Proportion of participants who improve physical activity behaviors
5	Growers implement practices to avoid food-borne illness
6	Growers increase knowledge and skill to implement practices to avoid food-borne illness
7	Participants adopt practices to control food safety risks and hazards
8	Proportion of participants who increase knowledge and skill to control food safety risks and hazards
9	Participants improve physical activity behaviors
10	Participants improve meal planning and preparation behaviors
11	Participants improve food resource management behaviors
12	Participants improve dietary behaviors
13	Participants acquire knowledge and skills to improve dietary behaviors

Outcome #1

1. Outcome Measures

Proportion of participants who gain knowledge and skill to improve dietary behaviors

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Proportion of participants who gain knowledge and skill to improve physical activity behaviors

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Proportion of participants who improve dietary behaviors

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Proportion of participants who improve physical activity behaviors

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Growers implement practices to avoid food-borne illness

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #6

1. Outcome Measures

Growers increase knowledge and skill to implement practices to avoid food-borne illness

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Participants adopt practices to control food safety risks and hazards

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	759

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #8

1. Outcome Measures

Proportion of participants who increase knowledge and skill to control food safety risks and hazards

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Participants improve physical activity behaviors

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	339

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Children and adults from low income families, health providers, teachers and the general public are all deeply concerned about increasing levels of physical activity, both for the individual benefits as well avoiding the collective social problems that result from excessive levels of sedentary behavior.

What has been done

We identify individuals from target communities who are recruited and trained to deliver nutrition education to small groups of families for 2 to 4 months. Staff are based in five UMass Extension field offices across the state providing nutrition education through adult workshop and youth classes. We also provided food demonstrations, nutrition education materials, and healthy recipes at farmers' market sites.

Results

Nearly one-third of adult participants report they increased their level of physical activity at exit from the program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #10

1. Outcome Measures

Participants improve meal planning and preparation behaviors

Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

Participants improve food resource management behaviors

Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

Participants improve dietary behaviors

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	2322

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Children and adults from low income families, health providers, teachers and the general public are all deeply concerned about increasing levels of healthy eating, both for the individual benefits as well as avoiding the collective social problems that result from poor diets.

What has been done

Our staff, based in seven UMass Extension field offices, work in partnership with more than 50 community collaborators on projects that are jointly planned and implemented with community partners who devote significant time and resources. Together, we create educational workshops, events and materials that promoting healthy lifestyle choices and higher levels of physical activity.

Results

Our programs have a consistent evaluation record of demonstrating participant improvements in knowledge and behaviors related to healthy eating. Supplemental educational materials for school teachers and nurses designed to extend the content provided by our own educational staff were also shown to be effective.

4. Associated Knowledge Areas

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

Outcome #13

1. Outcome Measures

Participants acquire knowledge and skills to improve dietary behaviors

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	6981

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Other (Focus group)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Land Use Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	40%			
605	Natural Resource and Environmental Economics	20%			
608	Community Resource Planning and Development	40%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	2.4	0.0	0.0	0.0
Actual	1.9	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
50173	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
86131	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
235639	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Facilitated Group Meetings and Conferences
- Printed Materials
- Published Articles (News, Professional and Trade)
- Single day workshop, class or event
- Websites or other computer-based delivery
- Workshop series or educational course
- Applied Research Project
- Research, Grant or Policy Report

2. Brief description of the target audience

- Local government officials
- State and Federal legislators
- State and Federal agencies/commissions
- Working landscape stakeholders
- Development and design communities
- Large landowners
- Non-profit conservation, land use planning and community development organizations and interested professional organizations
- Educators and outreach professionals and trainers
- Consultants and professional practitioners in land use, community planning, natural and cultural resource preservation, community development
- Regional organizations
- Other stakeholders, private citizens, students, schools

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	1040	11930	0	0
Actual	1578	6672	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Facilitated Group Meetings and Conferences

Year	Target	Actual
2010	4	7

Output #2

Output Measure

- Printed Materials

Year	Target	Actual
2010	5	3

Output #3

Output Measure

- Published Articles (News, Professional and Trade)
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	35	33

Output #5

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	2	2

Output #6

Output Measure

- Workshop series or educational course

Year	Target	Actual
2010	10	3

Output #7

Output Measure

- Applied Research Project

Year	Target	Actual
2010	{No Data Entered}	1

Output #8

Output Measure

- Research, Grant, or Policy Report

Year	Target	Actual
2010	{No Data Entered}	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants promote, implement or participate in strategic land conservation programs that protect natural resources and ecosystems
2	Participants acquire knowledge and skill to promote, implement or participate in strategic land conservation programs that protect natural resources and ecosystems
3	Participants acquire knowledge and skill to develop legally sound land use decisions
4	Participants acquire knowledge and skill to promote, implement or adopt Land Use plans and programs that accommodate development in a manner that protects natural resources and ecosystems
5	Local land use officials and professional planning practitioners have the knowledge, skills and motivation to promote sustainability and equity through planning and regulation
6	Municipal board members with increased confidence and competence in administering land use regulations.
7	Municipal land use boards are committed to legal and procedural standards and increased transparency.
8	Participants develop the knowledge and skills to adhere to principles of sustainability and smart growth

Outcome #1

1. Outcome Measures

Participants promote, implement or participate in strategic land conservation programs that protect natural resources and ecosystems

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Participants acquire knowledge and skill to promote, implement or participate in strategic land conservation programs that protect natural resources and ecosystems

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	405

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #3

1. Outcome Measures

Participants acquire knowledge and skill to develop legally sound land use decisions

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Participants acquire knowledge and skill to promote, implement or adopt Land Use plans and programs that accommodate development in a manner that protects natural resources and ecosystems

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	2304

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The extremely high population density and the dwindling natural resources of the Massachusetts demand that we look at new and better methods for developing land and growing our economy in ways that preserve the long term health and vitality of our towns, communities and citizens. To do this, we must design approaches and technologies that support sustainable growth.

What has been done

The northern Massachusetts towns of the Quinebaug/Shetucket comprise a critical track of land in the states watershed corridor. We encourage sustainable growth by providing town residents with outreach, education and facilitation that will encourage capacity building and the consideration of land, water and sustainability issues in the day to day decision making processes of the towns and the region.

Results

Working with the Town of Brimfield we began a wholesale analysis of the towns planning and zoning situation to address the projected construction of a casino in the nearby town of Palmer. We also worked towards making the members of the Mass Land Trust Coalition aware of threats

to their financial well-being as the result of town assessors removing statutorily authorized property tax exemptions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #5

1. Outcome Measures

Local land use officials and professional planning practitioners have the knowledge, skills and motivation to promote sustainability and equity through planning and regulation

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

Municipal board members with increased confidence and competence in administering land use regulations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	3711

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general public benefits greatly when municipal officials are better educated and more well-informed of appropriate regulatory policies and practices. Communities benefit when local boards are well-functioning entities that engage in sound decision-making that is consistent with legal standards and community priorities.

What has been done

Information was delivered through a series of workshops and conferences. We also offered a website and a webinar series. These educational programs and resources addressed the basic roles and responsibilities of citizens who serve on Planning Boards and Zoning Boards of Appeal. They explain state policies and procedures for implementing local regulations that preserve open space and farmland and disseminate information on how municipal boards can implement plans and policies that promote sustainable growth.

Results

Surveys have illustrated that our users depend on the training we provide to achieve a level of confidence and competence to administer land use regulations. Over time, the number of audience members that tell us they have gained knowledge about relevant planning matters has increased. Surveys and interviews indicate that our training programs lead to positive outcomes in local communities. Specifically, members of municipal Planning Boards and Zoning Boards of Appeal are more likely to implement regulations that achieve intended outcomes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development

Outcome #7

1. Outcome Measures

Municipal land use boards are committed to legal and procedural standards and increased transparency.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Participants develop the knowledge and skills to adhere to principles of sustainability and smart growth

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	294

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Natural Resource-Based Economic Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	10%			
204	Plant Product Quality and Utility (Preharvest)	10%			
205	Plant Management Systems	10%			
216	Integrated Pest Management Systems	20%			
601	Economics of Agricultural Production and Farm Management	20%			
605	Natural Resource and Environmental Economics	20%			
723	Hazards to Human Health and Safety	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	8.5	0.0	0.0	0.0
Actual	12.1	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
283412	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
484398	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1374962	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Applied Research Programs
- Demonstrations
- Displays and Exhibits
- Facilitated Group Meetings and Conferences
- Individual Consultations and Site Visits
- Printed Materials
- Published Articles (News, Professional and Trade)
- Single day workshop, class or event
- Survey or needs assessment
- Websites or other computer-based delivery
- Workshop series or educational course

2. Brief description of the target audience

- Farmers
- Landowners
- Resource Managers
- Horticultural Green Industry businesses and personnel
- Professional Organizations and Industry Groups
- Natural Resource Agencies
- Municipalities
- Land Trusts and Conservation Groups

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	16568	1160856	0	0
Actual	7824	228255	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Applied Research Programs

Year	Target	Actual
2010	15	1

Output #2

Output Measure

- Demonstrations
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Displays and Exhibits
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Facilitated Group Meetings and Conferences

Year	Target	Actual
2010	93	31

Output #5

Output Measure

- Individual Consultations and Site Visits

Year	Target	Actual
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2010 430 8

Output #6

Output Measure

- Printed Materials

Year	Target	Actual
2010	29	9

Output #7

Output Measure

- Published Articles (News, Professional and Trade)

Year	Target	Actual
2010	16	18

Output #8

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	3	13

Output #9

Output Measure

- Survey or needs assessment
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	110	93

Output #11

Output Measure

- Workshop series or educational course

Year	Target	Actual
2010	48	35

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants acquire knowledge and skill in sustainable resource management practices for operating Natural Resources-based businesses
2	Participants acquire knowledge and skill for practices that increase the economic viability of natural resource-based businesses
3	Participants adopt practices that enhance the environmental sustainability of Natural Resources-based businesses
4	Participants acquire knowledge and skills to adopt practices that enhance the environmental sustainability of Natural Resources-based businesses
5	Participants acquire knowledge and skill in sustainable practices for operating agricultural businesses
6	Participants adopt practices that ensure economic viability of agricultural-based businesses.
7	Participants adopt practices that increase the economic viability of natural resource-based businesses
8	Employees of natural resource-based businesses meet state-mandated guidelines regarding pesticide training and use

Outcome #1

1. Outcome Measures

Participants acquire knowledge and skill in sustainable resource management practices for operating Natural Resources-based businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	1510

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In the highly populated northeastern United States, managed grass covered surfaces collectively comprise an integral part of our communities. Turf management practices have broad implications for water resources, property values, energy consumption, greenhouse gas mitigation, safety of youth and adult sports participants, and the economic viability of businesses and communities.

What has been done

We provided research-based information through a comprehensive array of workshops, courses, websites, educational presentations, field days, and site consultations. This includes continued dissemination of a seminal manual, IPM Protocols for Turf on School Properties and Sports fields. Activities serve to convene state and regional partners and build the skills and knowledge that are needed for maintaining and enhancing turf landscapes, with emphasis on protecting human health and conserving water and other natural resources.

Results

More than 300 land and turf managers learned about the protection and enhancement of water resources and environmental quality through sustainable turf best management and irrigation practices. These individuals also learned Integrated pest management tactics related to turf.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Participants acquire knowledge and skill for practices that increase the economic viability of natural resource-based businesses

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Participants adopt practices that enhance the environmental sustainability of Natural Resources-based businesses

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Participants acquire knowledge and skills to adopt practices that enhance the environmental sustainability of Natural Resources-based businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	787

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nursery and greenhouse production is ranked first among the state's agricultural commodities. Plant production is also the basis for many associated horticultural industries such as plant and seed propagators, product suppliers and service industries. Combined, these companies provide for a considerable economic and potential environmental impact in Massachusetts.

What has been done

We deliver comprehensive resources and education focusing on Integrated Pest Management (IPM), renewable energy and environmental best management practices for operating

greenhouses. Key activities and resources include: educational programs and conferences, print publications and web resources. We also conduct and facilitate research that generates knowledge to inform sustainable greenhouse management practices.

Results

We began an integrated pest management (IPM) education program for Massachusetts growers of greenhouse crops in 1990. As a result of our research and education, more Massachusetts growers of greenhouse crops are now managing insect pests with beneficial insects, mites and nematodes and using fewer pesticides. Thrips, aphids and fungus gnats are common pests of spring bedding plants and other crops grown in greenhouses in Massachusetts. These pests have natural enemies that are now commercially raised and are purchased by growers for introduction into their crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
205	Plant Management Systems
216	Integrated Pest Management Systems
605	Natural Resource and Environmental Economics

Outcome #5

1. Outcome Measures

Participants acquire knowledge and skill in sustainable practices for operating agricultural businesses

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Participants adopt practices that ensure economic viability of agricultural-based businesses.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Participants adopt practices that increase the economic viability of natural resource-based businesses

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Employees of natural resource-based businesses meet state-mandated guidelines regarding pesticide training and use

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	559

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
205	Plant Management Systems
723	Hazards to Human Health and Safety

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Water Resource Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	25%			
133	Pollution Prevention and Mitigation	50%			
307	Animal Management Systems	25%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	4.6	0.0	0.0	0.0
Actual	1.3	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
46845	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
80066	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
227266	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Applied Research Programs

Demonstrations

Facilitated Group Meetings and Conferences

Individual Consultations and Site Visits

Peer Reviewed Presentations

Peer Reviewed Publications

Printed Materials

Single day workshop, class or event

Survey or needs assessment

Websites or other computer-based delivery

2. Brief description of the target audience

- Farmers
- Horticultural Green Industry businesses and personnel (landscape, lawn care, golf, athletic field, public and private school and facilities, municipalities and other publicly owned properties)
- Land owners and Land Managers
- Natural Resource Farmers
- Natural Resource Agencies
- Municipalities
- Environmental Protection Groups and Organizations
- Professional Organizations and Industry Groups
- Business/Industry

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	1335	5906	0	400
Actual	560	8650	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
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Plan	3	0	
Actual	0	2	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Applied Research Programs

Year	Target	Actual
2010	11	17

Output #2

Output Measure

- Demonstrations

Year	Target	Actual
2010	90	4

Output #3

Output Measure

- Facilitated Group Meetings and Conferences
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Individual Consultations and Site Visits

Year	Target	Actual
2010	45	50

Output #5

Output Measure

- Peer Reviewed Presentations

Year	Target	Actual
2010	2	3

Output #6

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2010	3	2

Output #7

Output Measure

- Printed Materials

Year	Target	Actual
2010	40	32

Output #8

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	14	8

Output #9

Output Measure

- Survey or needs assessment
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	2	1

Output #11

Output Measure

- Research, Grant, or Policy Report

Year	Target	Actual
2010	{No Data Entered}	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants acquire knowledge and skill in practices that prevent and reduce water pollution, and protect and restore water resources
2	Participants acquire the knowledge to implement best management practices to protect and restore water resources
3	Participants implement best management practices to protect and restore water resources
4	Participants acquire the knowledge and skill to ensure adequate supplies of high quality drinking water
5	Participants acquire knowledge and skill related to water resources, ecosystem health, biodiversity, stormwater, land use, and climate change science and policy
6	Participants acquire knowledge and skill to minimize the impact of development projects on water resources
7	Participants acquire knowledge and skills to effectively address water resource issues during project review and permitting

Outcome #1

1. Outcome Measures

Participants acquire knowledge and skill in practices that prevent and reduce water pollution, and protect and restore water resources

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Participants acquire the knowledge to implement best management practices to protect and restore water resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation
307	Animal Management Systems

Outcome #3

1. Outcome Measures

Participants implement best management practices to protect and restore water resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Dairy and livestock farmers together manage more than 130,000 acres of hay, pasture and corn. Massachusetts also has a sizable equine industry with more than 10,000 horse owners. We provide educational opportunities for these groups to increase their knowledge of environmental issues and their ability to reduce threats to water that result from pathogens and nutrient loss from barns, stables, fields and pastures.

What has been done

We established on-farm research to demonstrate that well-established cover crops are effective in taking-up residual soil nitrate from applied manure and after crops are harvested. The project included corn hybrid selection and nitrogen sufficiency testing. In addition to our work with farmers, we helped horse owners effectively manage nutrients, manure and mud and provided assistance to equine operations in establishing productive, environmentally sustainable pastures.

Results

Farmers have transitioned to pasture-based operation based on our recommendations and educational activities while horse owners have adopted nutrient management, mud management and pasture management practices that minimize non-point source pollution. The use of cover crops is also increasing which reduces the amount of Nitrogen leaching into soil and maintains the quality of water resources.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation

Outcome #4

1. Outcome Measures

Participants acquire the knowledge and skill to ensure adequate supplies of high quality drinking water

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Participants acquire knowledge and skill related to water resources, ecosystem health, biodiversity, stormwater, land use, and climate change science and policy

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Participants acquire knowledge and skill to minimize the impact of development projects on water resources

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Participants acquire knowledge and skills to effectively address water resource issues during project review and permitting

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Youth Development and Engagement

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	10%			
806	Youth Development	90%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	14.0	0.0	0.0	0.0
Actual	13.6	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
494233	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
284502	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
716623	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

4-H Clubs

Curricula

Facilitated Group Meetings and Conferences

Printed Materials

Single day workshop, class or event

Websites or other computer-based delivery

Workshop series or educational course

2. Brief description of the target audience

•Youth from all backgrounds •Adults from all backgrounds (volunteers, parents, collaborating organization staff) •Youth Serving Organizations and Programs from diverse communities (including K-12, Home Schooled youth, and Camps) •Community Coalitions •UMass Amherst Faculty •Faculty from other colleges and universities

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3500	10000	20000	0
Actual	3500	2429	32579	4325

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 4-H Clubs

Year	Target	Actual
2010	350	323

Output #2

Output Measure

- Curricula

Year	Target	Actual
2010	3	1

Output #3

Output Measure

- Facilitated Group Meetings and Conferences

Year	Target	Actual
2010	11	279

Output #4

Output Measure

- Printed Materials

Year	Target	Actual
2010	16	111

Output #5

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	76	884

Output #6

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	1	1

Output #7

Output Measure

- Workshop series or educational course

Year	Target	Actual
2010	50	753

Output #8

Output Measure

- Community Service Projects

Year	Target	Actual
2010	{No Data Entered}	900

Output #9

Output Measure

- Displays and Exhibits

Year	Target	Actual
2010	{No Data Entered}	137

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Youth adopt behaviors that will help them succeed academically and in the workplace
2	Youth employ technology more effectively
3	Youth demonstrate greater communication skills
4	Adults acquire knowledge of the effects of deployment on military youth
5	Military youth feel supported
6	Youth are effective team members, communicators, and leaders
7	Youth engage in community service
8	Youth engage in community service learning
9	Youth acquire knowledge and skill to practice competent, applied science
10	Youth practice competent, applied science
11	Youth acquire knowledge and skills that will help them succeed academically and in the workplace

Outcome #1

1. Outcome Measures

Youth adopt behaviors that will help them succeed academically and in the workplace

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	661

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

Youth employ technology more effectively

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	195

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

Youth demonstrate greater communication skills

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	1279

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

More than 22% of the population of Massachusetts is under age 18. These young people are the future workforce and leaders of our state and our nation. UMass Extension provides opportunities for youth to develop the critical communication and leadership skills they need to become independent, successful and contributing members of society.

What has been done

Clubs, educational events and other youth activities are conducted by our Educators working with volunteers to support the development of knowledge and skills in the focus areas of science, communication skills, leadership development and community service. We also reach youth through school enrichment programs conducted in schools and short term (minimum of 6 hours) programs such as Babysitting and Plant Science.

Results

Our youth development programs makes a difference in the lives of young people helping them feel valued and connected and enabling them to develop the skills necessary to become capable, competent adults. A primary program focus is on building communication skills. Evaluation results revealed that 96% of parents believed our programs helped their child become a better speaker and 87% thought it helped them to give more effective presentations in school.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

Adults acquire knowledge of the effects of deployment on military youth

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

806 Youth Development

Outcome #5

1. Outcome Measures

Military youth feel supported

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One of the frequently overlooked consequences of American military involvement abroad is that many thousands of children in National Guard and Reserve households are experiencing the unexpected deployment of a family member. Those children experience problems coping with new family circumstances, new responsibilities and new stresses as part of their daily lives.

What has been done

UMass Extension coordinates a statewide network of volunteers and staff that educates citizens on the impact of military deployment on communities, families and youth. The project also provides educational, recreational and social programs for the children of service members. This past year we reached 4,025 military children and youth, delivered 101 support programs for military youth and educated 711 community members through 17 workshops on the effects of deployment on children.

Results

?Hero Packs? were assembled and presented to hundreds of military families. Over \$19,000 in charitable donations was raised to support this effort this past year. After attending a special workshop for service members and their spouses on the effects of deployment on children, which was delivered 9 times, reaching 488 adults, an Army Reservist commented "Where were you the first time I was deployed?"

4. Associated Knowledge Areas

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

806 Youth Development

Outcome #6

1. Outcome Measures

Youth are effective team members, communicators, and leaders

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Youth engage in community service

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	1662

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures

Youth engage in community service learning

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Youth acquire knowledge and skill to practice competent, applied science

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	192

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

UMass Extension is a key partner in the Massachusetts Envirothon, a statewide youth environmental education program. Teams representing schools and community organizations prepare through the year for a statewide event in May that tests knowledge of forest, wildlife, water, and soil resources, and current environmental issues. The program stresses the interdependence of human and natural systems and emphasizes hands-on, team-oriented problem solving and community involvement.

What has been done

The UMass Extension contribution to the Massachusetts Envirothon consisted of the following: curriculum development; delivery of workshops attended by 158 students and 41 coaches; a judge's orientation program; evaluation of youth learning and development outcomes; organizing a community awards program.

Results

According to survey results, youth report substantial increases in knowledge in the area of resource management and understanding groundwater issues. Youth and coaches also reported increased youth capacity for teamwork and increases in their ability to understand and directly affect local environmental issues

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #10

1. Outcome Measures

Youth practice competent, applied science

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	58

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #11

1. Outcome Measures

Youth acquire knowledge and skills that will help them succeed academically and in the workplace

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	505

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

National organizations, such as APLU and the National 4-H Council, along with the UMass Extension 4-H program have identified science, technology, engineering, and math (STEM) education as an area of critical need for underserved youth. Education in the STEM disciplines is critical for preparing a globally and regionally competitive workforce.

What has been done

We working with community partners who offer after school programs for middle school youth ages 10-14 in the City of Springfield. The project uses experiential learning with a content focus on science, engineering, and technology, while incorporating a college awareness experience. University of Massachusetts undergraduates serve as mentors and provide instruction at three community centers. During the school year, programs meet two times per week and a three day summer camp experience is offered to youth on the UMass Amherst campus.

Results

Positive changes were observed in youth attitudes towards higher education. One of the largest changes was in the proportion of youth who disagreed with the statement "I don't think I could get into a good college or university."

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Food Production

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
204	Plant Product Quality and Utility (Preharvest)	25%			
216	Integrated Pest Management Systems	25%			
601	Economics of Agricultural Production and Farm Management	25%			
604	Marketing and Distribution Practices	15%			
723	Hazards to Human Health and Safety	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	10.7	0.0	0.0	0.0
Actual	13.1	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
322059	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
385486	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1727421	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Applied Research Programs

Demonstrations

Diagnostic Services

Facilitated Group Meetings and Conferences

Individual Consultations and Site Visits

Peer Reviewed Presentations

Peer Reviewed Publications

Printed Materials

Published Articles (News, Professional and Trade)

Single day workshop, class or event

Websites or other computer-based delivery

Workshop series or educational course

2. Brief description of the target audience

The primary audience for this plan is food producers and food production organizations. This not only includes those that are well-established, but also those that are new, immigrant, and part-time. Both conventional and organic farmers are included. Others audiences include government agencies (including schools and institutions), non-profits, community based organizations such as food pantries and food banks that provide food to low-income families, and the public (including low income and urban).

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	4872	35695	0	0
Actual	7889	159033	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	3	0	
Actual	0	7	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Applied Research Programs

Year	Target	Actual
2010	33	15

Output #2

Output Measure

- Demonstrations

Year	Target	Actual
2010	44	57

Output #3

Output Measure

- Diagnostic Services

Year	Target	Actual
2010	1	135

Output #4

Output Measure

- Facilitated Group Meetings and Conferences

Year	Target	Actual
2010	4	4

Output #5

Output Measure

- Individual Consultations and Site Visits

Year	Target	Actual
2010	100	64

Output #6

Output Measure

- Peer Reviewed Presentations

Year	Target	Actual
2010	10	6

Output #7

Output Measure

- Peer Reviewed Publications

Year	Target	Actual
2010	3	7

Output #8

Output Measure

- Printed Materials

Year	Target	Actual
2010	87	44

Output #9

Output Measure

- Published Articles (News, Professional and Trade)

Year	Target	Actual
2010	4	8

Output #10

Output Measure

- Single day workshop, class or event

Year	Target	Actual
2010	23	56

Output #11

Output Measure

- Websites or other computer-based delivery

Year	Target	Actual
2010	5	34

Output #12

Output Measure

- Workshop series or educational course

Year	Target	Actual
2010	6	4

Output #13

Output Measure

- Research, Grant, or Policy Report

Year	Target	Actual
2010	{No Data Entered}	13

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants develop and market locally grown products more effectively
2	Participants promote, implement or adopt best management practices for Food Production
3	Participants acquire knowledge and skill to promote, implement or adopt best management practices for Food Production
4	Participants adopt practices that lower the risk from and exposure to pesticides and fertilizers used in food production
5	Participants adopt practices that ensure the economic viability of Food Production
6	Participants adopt practices that ensure the environmental sustainability of Food Production
7	Participants acquire knowledge and skill for sustainable resource and crop management practices
8	Participants adopt sustainable resource and crop management practices
9	Participants grow and successfully market new ethnic crops, specialty crops or biofuel crops
10	Participants acquire knowledge and skill to grow and successfully market new ethnic crops, specialty crops or biofuel crops
11	Participants acquire knowledge and skills that ensure the economic viability of Food Production
12	Participants acquire knowledge and skills that ensure the environmental sustainability of Food Production

Outcome #1

1. Outcome Measures

Participants develop and market locally grown products more effectively

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Participants promote, implement or adopt best management practices for Food Production

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Participants acquire knowledge and skill to promote, implement or adopt best management practices for Food Production

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Participants adopt practices that lower the risk from and exposure to pesticides and fertilizers used in food production

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Participants adopt practices that ensure the economic viability of Food Production

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	1250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In the past ten years, cranberry growers have gone from receiving record high prices for their fruit to record low prices. While the industry has stabilized for now, the focus to remain economically has sharpened. Growers must adopt innovative technology and understand the biology of cranberry pests to properly utilize new management tactics and remain competitive.

What has been done

Nearly 300 cranberry growers attended our annual meeting and we published 5 issues of the Cranberry Station newsletter. More than 130 samples were processed through our cranberry diagnostic services. Our Cranberry Station website received approximately 12,000 hits to the main home page and more than 1,200 hits to our primary management guide. We synthesized our research on phosphorus use in cranberry systems and its impact on water quality into scientific presentations, papers and a management guide.

Results

Growers adopted a variety of practices to maintain the health and productivity of their operations in ways that are cost-effective. Common practices included canopy management strategies as well as sanding, pruning and irrigation management to enhance crop production. In addition, 274 of our workshop attendees obtained 1096 contact hours towards pesticide recertification, ensuring that the organizations they represent are in compliance with state guidelines.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #6

1. Outcome Measures

Participants adopt practices that ensure the environmental sustainability of Food Production

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	1904

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To maintain their operations in ways that are environmental sustainability, growers in Massachusetts must continually strive to understand farm ecology. Studies of pest ecology and control techniques provide integrated approaches to pest management that optimize control, reduce chemical use and increase fruit quality. A successful partnership between Massachusetts tree fruit producers and UMass Extension will foster a secure and diverse food supply that protects environmental quality over the long term.

What has been done

A combination of twilight meetings, site visits, orchard demonstrations and field days were offered, while print and web-based educational materials were disseminated to help Massachusetts commercial apple and stone fruit growers become more environmentally sustainable. Applied research and demonstration activities provided growers with concrete models for Integrated Pest Management (IPM) techniques. Mass Aggie Seminars provided information and assistance to growers in adopting environmentally sustainable practices.

Results

Massachusetts growers acquired the knowledge and skills needed to implement IPM programs their orchards. Fifty growers adopted new technology that minimizes environmental impact, while 100 growers used more reduced-risk pesticides and pest control tactics.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #7

1. Outcome Measures

Participants acquire knowledge and skill for sustainable resource and crop management practices

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Participants adopt sustainable resource and crop management practices

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Participants grow and successfully market new ethnic crops, specialty crops or biofuel crops

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

Participants acquire knowledge and skill to grow and successfully market new ethnic crops, specialty crops or biofuel crops

Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

Participants acquire knowledge and skills that ensure the economic viability of Food Production

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	3500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #12

1. Outcome Measures

Participants acquire knowledge and skills that ensure the environmental sustainability of Food Production

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	3732

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
723	Hazards to Human Health and Safety

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}