

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Supporting Rural Economies

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships			4%	
111	Conservation and Efficient Use of Water			4%	
123	Management and Sustainability of Forest Resources			1%	
131	Alternative Uses of Land			8%	
134	Outdoor Recreation			14%	
136	Conservation of Biological Diversity			1%	
202	Plant Genetic Resources			4%	
205	Plant Management Systems			3%	
206	Basic Plant Biology			4%	
315	Animal Welfare/Well-Being and Protection			7%	
605	Natural Resource and Environmental Economics			18%	
608	Community Resource Planning and Development			24%	
723	Hazards to Human Health and Safety			8%	
	Total			100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	4.4	0.0
Actual Paid Professional	0.0	0.0	5.6	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	285140	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	381842	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	264504	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct scientific research. Publish peer-reviewed journal articles and other publications. Present findings at professional and public meetings and at other venues. Educate undergraduate and graduate students.

2. Brief description of the target audience

Scientists, economists, state and local policymakers, extension specialists, green/horticulture industry, tourism planners, land use commissions, and commercial fishermen

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2012

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	3	16

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed

Year	Actual
2012	5

Output #2

Output Measure

- Number of other publications

Year	Actual
2012	24

Output #3

Output Measure

- Faculty in this program area secured \$445,523 in extramural funding

Year	Actual
2012	445523

Output #4

Output Measure

- A prototype sensor-automated fog system for propagating cuttings

Year	Actual
2012	1

Output #5

Output Measure

- A survey comparing landowners who harvested trees in the last five years with and without the advice of a forester

Year	Actual
2012	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Use of information on occupational/agricultural chemicals by Maine state toxicologists and other regulators to make decisions about safe levels of exposure to toxicants in the workplace
2	Number of state agencies and regional tourism development groups that will use research results in planning types and locations of new nature-based tourism initiatives in the northern forest region
3	Better understanding among community leaders and citizens of the dynamics of labor markets and businesses and their effects on rural communities
4	Development of models that predict how plant water use is affected by the greenhouse environment.
5	Better understanding of the ability of the land base to support specific industries or recreation opportunities; the consequences of changing preferences on the remote and rural character of communities; and the design of management and policy tools in Maine's predominantly private landscape with multiple owners.
6	Maine growers will carry more "new" and unusual" plants for their production list and share their knowledge on these plants with their customers.
7	Maine growers will have new plants bred from Maine and increase their market-share locally, regionally, and national-wide.
8	Scientists, fishermen, and other stakeholders will adopt participatory approaches for producing and using knowledge for marine fisheries management
9	Adoption of strategies/tools for sustaining Maine's rural economies and communities
10	Improve knowledge of, or strategies and tools for, sustaining Maine's rural economies and communities

Outcome #1

1. Outcome Measures

Use of information on occupational/agricultural chemicals by Maine state toxicologists and other regulators to make decisions about safe levels of exposure to toxicants in the workplace

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of state agencies and regional tourism development groups that will use research results in planning types and locations of new nature-based tourism initiatives in the northern forest region

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Better understanding among community leaders and citizens of the dynamics of labor markets and businesses and their effects on rural communities

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An understanding of attributes and forces that enhance or detract from community quality of life is important for guiding decision-making on policy.

What has been done

University of Maine economists, as part of multistate project NE1029, are attempting to increase knowledge about the forces affecting rural communities in terms of labor markets, industry, governance, and quality of life. Research conducted at the University of Maine focused on the following project objectives: identify and analyze ongoing and potential changes in rural labor

markets; investigate the potential for rural development policies based on entrepreneurship and industrial clustering; and investigate the effects of tax policy on economic growth in rural areas.

Results

After completing a Trade Area Analysis and Retail/Service Sector Gap Analysis for the City of Ellsworth, Maine, UMaine economists prepared reports and presented the results to more than 70 businessowners, economic development professionals, and policymakers who attended a Chamber of Commerce-sponsored event. The reports were posted to the Chamber's website and community officials indicated that they plan to incorporate results of the study in their upcoming economic development strategic plans.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

Development of models that predict how plant water use is affected by the greenhouse environment.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Better understanding of the ability of the land base to support specific industries or recreation opportunities; the consequences of changing preferences on the remote and rural character of communities; and the design of management and policy tools in Maine's predominantly private landscape with multiple owners.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Maine's forests are experiencing rapid change in ownership and land-use status as parcels are fragmented and residential development displaces tradition production-oriented land uses. Maine's forestlands are fundamental to the health and economic viability of the state's forest-based economic sectors, and also play a key role in the quality of life for many residents and visitors.

What has been done

University of Maine forest scientists have developed spatially explicit models to predict the likely location of new residential and commercial development within the state based on past and current patterns of land use. They have developed this capacity for the 2.5-million-acre Lower Penobscot River Watershed (LPRW), which drains roughly one-quarter of the state. Using Bayesian Belief Networks (BBNs) combined with geospatial data and expert opinion, they identified land suitability for forestry, agriculture, conservation and development. They then explored potential conflicts and compatibilities based on these land use suitabilities.

Results

This modeling of alternative scenarios for future growth has proven to be an effective way to improve understanding of existing land use and the intricate and dynamic connections between human and natural systems. The researchers have engaged stakeholders across a broad range of interests that includes conservation, government, business and real estate development. This breadth allows them to better understand the factors likely to drive future challenges and opportunities affecting Maine's landscape. The stakeholder-derived models of land suitability provide the public with quantitative, spatially explicit depictions that not only inform key stakeholders of current land use and suitability, but also allow various interests to design and evaluate the effects of alternative assumptions regarding population growth and development pressures on current and future landscapes. Most importantly, this modeling is designed to facilitate the identification of where compatibilities and conflicts in projected land use are likely to exist across time in response to differing assumptions embodied in future land use scenarios. The researchers believe that the proactive nature of this futures modeling approach is of great value to a wide range of stakeholders, allowing individuals, government and business to anticipate and avoid conflict, and in doing so help to achieve future landscape conditions that maximize social, ecological and economic benefits while reducing unnecessary costs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

Maine growers will carry more "new" and unusual" plants for their production list and share their knowledge on these plants with their customers.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Maine growers will have new plants bred from Maine and increase their market-share locally, regionally, and national-wide.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Scientists, fishermen, and other stakeholders will adopt participatory approaches for producing and using knowledge for marine fisheries management

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Adoption of strategies/tools for sustaining Maine's rural economies and communities

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Human dimensions of natural resources have become a recognized component of management that is just as necessary as ecological study. As the state of Maine faces emerging issues such as increased development, growing motorized recreation use, and changes in supply and demand for forest resources, this research fills a critical need.

What has been done

University researchers conducted and analyzed forest social science survey, focus group, and interview data.

Results

This research on policy solutions to address issues of public access to private land influenced the successful passing of a Maine law, LD1613, "An Act to Strengthen the Relationships between Landowners and Land Users." The scientist directly presented the results to legislators and stakeholder groups who attended an open public meeting and this research was cited in legislative testimony during the comment period.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

Outcome #10

1. Outcome Measures

Improve knowledge of, or strategies and tools for, sustaining Maine's rural economies and communities

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Maine and the nation suffer frequent strangles outbreaks in horses, with significant economic loss. Recently, carriers of the strangles organism have been shown to be detectable by endoscopy of the guttural pouch, and it is hypothesized that their isolation and treatment will reduce strangles incidence. Through development and dissemination of standard protocols for strangles surveillance, applicable not just in Maine, but the nation, University of Maine animal scientists anticipate that knowledge of how to eradicate the strangles organism will become more widespread.

What has been done

Using Maine as a testing ground, UMaine scientists are working to develop a model of strangles surveillance that could be applicable nationally and internationally towards eventual eradication of the disease worldwide.

Results

Confronted with two strangles outbreaks, the scientist started eradication programs. They have partnered with IDEXX Corporation to provide strangles diagnosis at no-cost to the client, through research funds. This has provided a platform for strangles surveillance, eradication, clinical studies, and field testing of diagnostic tests. The first of several endoscopes has been placed with a veterinarian to assist with strangles eradication. While there is still much work to be done, their efforts have led to a more coordinated approach to strangles surveillance in Maine, through the involvement of the assistant state veterinarian, and an increased understanding of strangles surveillance by veterinarians.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Some projects terminated early or PIs changed focus of their research, which affected our ability to report on all previously submitted state-defined outcomes.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluations are currently conducted at the project and program levels. At the project level, all projects are reviewed by an internal research council and external peer reviewers when initiated and again at completion by the research council. During the research council final evaluation, the focus is on determining if terminating projects met their stated objectives, secured extramural funding, and produced peer-reviewed publications. For FY12, five projects went through the review process in this program area. As for other measures of successful research programs, faculty in this program area published 16 peer-reviewed articles and secured more than \$1,300,000 in extramural funding. Also during this time period, research results published by faculty in this program area were cited by peers more than 200 times in other peer-reviewed journals.

Researchers use a variety of methods to evaluate their own research projects including evaluations retrospectively, before-after, and during the life of the project; case studies; and comparisons between treatment/intervention and

nontreatment/nonintervention.

At the program level, external NIFA review teams are asked to review the research programs of schools/departments. These teams provide input on the impact and productivity of research programs supported through the station. The station is working to develop a standard program-level evaluation process, which will be used to evaluate each station program area. Our current plans include an approach based on use of expert panels as recommended by the federal Government Accounting Office with individual program evaluations occurring every four to five years on a staggered time table.

Key Items of Evaluation