

2010 ANNUAL REPORT
OF
ACCOMPLISHMENTS AND RESULTS

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Executive Summary

Extension Evolution

During 2010, we completed the final phase of a 2-year planning process resulting in a refocused plan of work. Driven by tightening budgets and new USDA/NIFA priorities, we have consolidated our resources into seven Planned Programs:

Programs based on NIFA Priorities:

Global Food Security and Hunger

Climate Change

Sustainable Energy

Childhood Obesity

Food Safety

Programs based on Additional Maine Priorities:

Sustainable Youth, Family and Community Development

Sustainable Community & Economic Development

Inherent in each priority issue is the opportunity to develop the leadership capacities of volunteers, business owners, or community groups focused on that priority issue; to address the interplay between human behavior and climate change; and the options and consequences of the choices we make with awareness of the implications for social, economic and environmental sustainability.



Our Digital Evolution: The past year marks an important division between our past and our future. While still believing in the value of human connection, we have put a strong emphasis on developing digital resources and educational programs in order to meet the measure of how people learn and interact in the world, now *and* in

the



future. We are creating new educational videos that address an ever-widening array of needs that are shared across the University of Maine website and embedded in online publications making it possible for anyone to learn how to grow, harvest, and/or preserve strawberries in Maine, ...or learn about food safety at farmer's markets, ... or understand how to look for BEDBUGS, ...and much, much more. Is it working?



Google Analytics data suggests an enormous response, exponentially extending our ability to help people access research-based information and improve their lives.

Extension Success

Signs of the Seasons is a partnership between UMaine Extension, Maine Sea Grant and a group of advisors who have developed a complementary suite of indicators that will contribute to a more accurate profile of the fingerprint of climate change impacts in Maine, and help citizen monitors in our 4-H, Master Gardeners, and coastal volunteers understand how global climate change is affecting the plant and animal species they care about and depend upon. The project has formed a unique partnership among state, regional, and national entities, including practitioners of informal education, climate research, and communications to collect data on the seasonal cycles of plants and animals. Coastal and inland citizens engaged in environmental monitoring will contribute to an understanding of our changing climate first-hand and help people to adapt appropriately.

NIFA's National Water Program selected ***Northeast Drinking Water and Human Health – Education, Testing, and Drinking Safe Water*** as a 2010 Program of Excellence. According to National Program Leader Michael O'Neill the Region 1 collaboration made a significant contribution in dealing with the challenges of helping people learn to address the quality and safety of their own water.

UMaine Extension has been successful in promoting grant opportunities and fostering the submission of quality proposals to ***Northeast Sustainable Agriculture, Research, and Education*** (SARE) through grant-writing workshops, and one-on-one guidance to farmers, educators, and researchers, held. During 2009 and

2010, our Outreach Coordinator reached approximately 500 people with information about SARE mini-grant programs and provided direct individual guidance to 12 farmers and 3 agricultural professionals developing grant proposals. Maine leads the Northeast in the number of Farmer-Grower grants awarded relative to the number of farms in the state. Over the last 10 years:

- ◆ 51 Farmer-Grower grant projects have been funded for more than \$313,600.
- ◆ 16 Research and Education grants have been funded for more than \$2,002,600
- ◆ 5 Professional Development grants have been funded for more than \$221,500 total
- ◆ 13 Partnership grants have been funded for more than \$104,600
- ◆ 8 Sustainable Community grants have been funded for more than \$102,900.

The Agricultural Economy: Our work with agriculture is fundamental – we are an important cog in the machinery that keeps agriculture strong in Maine. We add value through applied research, interacting directly with producers, and working with agricultural related businesses. Some examples:

UMaine Extension has fostered a fledgling artisan cheese making industry that is showing signs of success. For example, in 2005, one dairy farm turned to Extension to help them learn, plan, and develop a cheese making operation. In 2010 their production exceeded 500,000 pounds and their management credits Extension as being the change-agent that enabled this new value added product success.

The University of Maine Animal Health Laboratory (UM AHL) is the only site offering veterinary diagnostic services for poultry in Maine. The Lab offers necropsy and flock health services, as well as a certified salmonella laboratory capable of helping any farm to comply with FDA requirements. We also assist regional veterinarians in poultry and livestock cases. The lab has, in the last 20 years, been a vital member of Maine's salmonella risk reduction program, through which Maine's egg consumers have avoided egg-associated food-borne disease.

We offer a Farm Business Course aimed at helping existing local farmers, and those thinking about becoming farmers, transitioning farm ownership, or become better business managers, and hence, more profitable. Participants learned about selecting and evaluating a new farm enterprise, writing a business plan, enterprise budgets, record-keeping, and market research.

UMaine Extension works regionally to help transitioning organic dairy farms remain profitable and ecologically sound by shifting their farming systems to an integrated model that relies less on expensive concentrates purchased from far away and more on high quality local forage. With over 60 farms in Maine and 200 in Vermont having transitioned to organic dairy production in the last 10 years, the price for organic grain concentrates has skyrocketed. Our multistate project utilized University facilities and farmer participants to research and expand on-farm organic grain production. A database of yield potentials for organic winter and spring grains has been developed along with information on small grain silages harvested at various stages of maturity.

This information has helped over 150 organic farmers reduce expenses, increase direct profits, and maintain value-added financial and environmental benefits of operating organically.

Decreasing Lobster Pound Mortality: One of the risks of lobster trading is holding stock to sell during winter months when prices are higher. Retailers hold lobsters in "pounds" until a suitable market price is reached. However, the economic advantage of impounding is greatly lessened due to mortality caused by stress and disease, reported as high as 20 percent or \$56 million statewide. UMaine Extension and the UMaine Animal Health Laboratory conducted a large study of stressors in lobster handling during 2009 and found that fast hauling speeds, depth of water, and rough handling produce a measurable stress in lobsters, leading to mortality losses. The study identified a microbial agent that appears to have a role in the shrinkage seen in the pounds, correction of which is projected to significantly reduce mortality and result in millions in additional revenue.

4-H @ UMaine Weekend: Connecting Kids to Campus is often the first opportunity for rural kids from Maine to experience a University. Each year we bring approximately 80 youth and adult volunteers from all parts of the state to learn about college living and studying at the University of Maine. During the weekend-long visit kids participate in discovery activities with a focus on science, engineering, and technology led by our diverse faculty and graduate students, participate in student life by staying in dorms, eating on campus, and even working out at the campus fitness center.

This year after attending 4-H @ UMaine weekend:

- ◆ 98 percent were thinking about going to college
- ◆ Two thirds are planning to study Science, Engineering or Technology as their chosen field
- ◆ 75 percent reported that 4-H @ UMaine weekend helped them with decision making about their future career/educational goals
- ◆ 81 percent were more confident that their social and academic life in college would be satisfying.

- ◆ Continuing to emphasize educational outreach that enables positive changes in the lives of those with whom we work.

We believe that the need for University outreach through a committed, enthusiastic, and energized Cooperative Extension program has *never been greater*.

UMaine Extension is on the move. Times are tough, but the opportunities to make a difference for Maine people are many. We are proud to report that UMaine Extension's faculty and staff continues to perform excellent work. We are committed to working successfully with a broad range of partners to meet the needs of Maine people, and we understand that community-based collaboration is key to achieving measurable results. As we move into the future we are taking a long-range perspective by positioning ourselves for the next 20-30 years by:

- ◆ Revolutionizing our outreach through technology,
- ◆ Adapting to economic and programmatic priorities in Maine and as expressed by USDA/NIFA, and

Administrative Inputs

USDA Formula Funds	University of Maine	Other
\$42,597	\$155,716	\$114,921

Total Maine Plan of Work Inputs – FY2010

Total Reported effort:	
Days (FTEs)	70.99
Integrated research days (FTEs)	9.45
Multistate days (FTEs)	4.33
Aides and Seasonal Number	343
Aides and Seasonal Hours	104,008
Volunteer number	4,284
Volunteer hours	183,718

Merit Review Process

External University Panel and External Non-University Panel

The University of Maine Cooperative Extension is a member of the New England Planning and Reporting Consortium, a formalized partnership of Extension programs in Massachusetts, New Hampshire, Maine, and Vermont. As part of our multi-state collaboration, we have also developed a rotating multi-state Merit Review process to allow each state partner to receive a thorough peer-review of their state Plans of Work every four years. This rotational process is accomplished by faculty committees who review planned programs that relate to their own programming expertise.

As reported in our 2009 Annual Report of Accomplishments, late last year we completed a planning process that served as the foundation for our future Plans of Work. Informed by that process, our team and individual plans are currently in place and the formal multi-state & multi-institutional review process described above has been initiated. Results will be collated in the spring of 2011. Our future plans will be adjusted accordingly as a result of recommendations.

Stakeholder Input

Actions taken to seek stakeholder input that encouraged their participation:

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

- Other: Research using relevant current and first-source data

A cross-section of stakeholders with diverse roles are currently engaged in reviewing our work in addressing our planned programs using consistent criteria. Reviewers are being asked to evaluate the justification for our work, quality and measurability of outcomes, evaluation intentions, and consistency with our mission.

Reviewers are:

Global Food Security and Hunger

- ◆ Maine Potato Board - Don Flannery
- ◆ Maine Organic Farmers and Growers Association - Russell Libby
- ◆ Vermont Extension - Dr. Bob Parsons
- ◆ Maine Department of Agriculture, Food and Rural Resources - John Harker
- ◆ University of Southern Maine Department of Horticulture - Cheryl Rich
- ◆ Maine Department of Agriculture, Food and Rural Resources - Ann Gibbs
- ◆ Maine Dairy Industry Association - Julie Marie Bickford
- ◆ Maine Board of Pesticides Control - Gary Fish
- ◆ UMaine Department of Biological Sciences - Dr. Eleanor Groden

Climate Change

- ◆ Maine State Climatologist –Dr. George L. Jacobson,
- ◆ Maine Department of Environmental Protection - Roy Bouchard
- ◆ George Mitchell Center for Environmental and Watershed Research – John Peckenham
- ◆ UMaine Department of Plant and Soil Science –Ivan Fernandez

Sustainable Energy

- ◆ USDA Forest Service Northeastern Research Station Forestry Sciences - Roger Monthey
- ◆ UMaine Department of Resource Economics and Policy - Dr. Stewart Smith

Childhood Obesity

- ◆ UMaine Department of Food Science & Human Nutrition - Dr. Adrienne White
- ◆ Maine Nutrition Network - Chris Sady

Food Safety

- ◆ University of New Hampshire Extension - Dr. Catherine Violette
- ◆ UMaine Department of Food Science & Human Nutrition - Dr. Vivian Chi-Hua Wu

Maine Priority Issues; Sustainable Youth, Families, and Communities

- ◆ UMaine College of Education and Human Development - Dr. Mary Bird
- ◆ UMaine Employee Assistance Program - Dr. Polly Moutevelis-Burgess
- ◆ UMaine College of Education and Human Development - Dr. Gary Schilmoeller
- ◆ National 4H Council - Dr. Suzanne Le Menestrel
- ◆ University of Delaware Extension – Mark J. Manno

Maine Priority Issues; Sustainable Community and Economic Development

- ◆ Maine Community Foundation - Meredith Jones
- ◆ Maine Rural Partners - Mary Ann Hayes
- ◆ Maine Senate - Tom Saviello, Wilton, ME

Our ongoing process also includes interaction with partners who connect directly with citizens in focused ways and represent their interests accordingly. Selected examples include:

- ◆ Our partnership with citizen executive committees who provide direction and advice to each County Extension program in Maine and help to prioritize regional programming efforts.
- ◆ Quarterly interactions with the UMaine Board of Agriculture as a representative of agricultural commodity groups, organizations, state government, and related industries.
- ◆ The Wild Blueberry Commission of Maine who represents the industry growers and processors, and who administers a state tax fund of approximately \$1 million.
- ◆ The Maine Potato Board, composed principally of Maine-based potato farmers who offer input and advice backed up with support for research through their education and research committees.
- ◆ The Pine Tree State 4-H Foundation who works as a close partner to enrich youth experiences through our 4-H Youth Development Program.

- ◆ A variety of advisory boards and councils who are formed with targeted intent to guide the work of some of our important programs. Examples include the Senior Companion Advisory Board, the Maine Sea Grant Policy Advisory Committee, Tanglewood 4-H Camp and Learning Center Board, and the Maine Board of Pesticides Control.

Method to identify individuals and groups:

- Use Advisory Committees
- Needs assessments

Methods for collecting stakeholder input:

- Meeting with traditional stakeholder groups
- Survey of traditional stakeholder groups
- Meeting with traditional stakeholder individuals
- Survey of traditional stakeholder individuals
- Meeting specifically with non-traditional groups
- Other: Meetings with state government and agency leadership

How the input was considered:

- In the budget process
- To identify emerging issues
- To redirect Extension programs
- To redirect Research programs
- To set priorities

An example: According to Feeding America, hunger is a reality for 1 out of every 8 Americans. Demand for supplemental food from food banks is growing - with an increased demand of 30 percent over the past 12 months. Unfortunately, this increased demand is occurring when donations to food banks are declining. This is primarily due to grocery stores becoming better at forecasting demand thus minimizing overstocks. In addition, with rising food prices, the money available to food banks doesn't have the purchasing power of a year ago. Under this new economic reality, providing food to those in need will require creative ways to solve an old problem. Over the years we have learned that growing the produce is the easy part; distributing it effectively and efficiently to those in need in our rural area is challenging. UMaine Extension has mobilized its volunteers to grow, glean, and distribute over 70 tons of fresh produce annually for Maine residents who do not have enough.

Key Stakeholder Input Items for NIFA Attention: What did you learn from your Stakeholders?

Through our partnership with the UMaine College of Natural Sciences, Forestry, and Agriculture and the Maine Agricultural and Forest Experiment Station, we represent the Maine Agricultural Center, which supports stakeholder-driven agricultural research and education for Maine. Examples of recent projects include:

- ◆ *Prototheca Bovine Mastitis*
- ◆ *Mycorrhizal Fungi Colonization of Leeks*
- ◆ *Red and Specialty Potato Evaluation*
- ◆ *Vacuum Silage*
- ◆ *The Effect of Scape Removal on Garlic Yield*
- ◆ *Grass Finished and Natural Beef*

Planned Program: Global Food Security and Hunger



This plan addresses USDA/NIFA national priority to Improved Food Security through Sustainable Agricultural Practices, and includes work related to:

- ◆ *Home Horticulture*
- ◆ *Livestock*
- ◆ *Crops*
- ◆ *Ornamental Horticulture*
- ◆ *Farm Energy*

Through UMaine Extension's agricultural, livestock, pest management, aquacultural, and gardening education programs, participants learn the skills required to produce and enjoy safe food supply which leads to a healthy population, sustainable land and water management practices, viable economies, and the potential for greater access to food for Maine residents.

NIFA Knowledge Areas	
	Percentage
Integrated Pest Management Systems (216)	25
Plant Management Systems (205)	15
Economics of Agricultural Production and Farm Management (601)	15
Business Management, Finance, and Taxation (602)	15
Soil, Plant, Water, Nutrient Relationships (102)	10
Animal Diseases (311)	5
Animal Welfare/Well-Being and Protection (315)	5
Basic Plant Biology (206)	5
Weeds Affecting Plants (213)	5

Reported Effort	
Days (FTEs)	24.44
Integrated research days (FTEs)	5.19
Multistate days (FTEs)	2.87
Aides and Seasonal Number	83
Aides and Seasonal Hours	19,459
Volunteer number	559
Volunteer hours	21,144

USDA Formula Funds	University of Maine	Other
\$830,792	\$3,189,186	\$2,335,326

Activities and Participation

Activity (What was done?)

- ◆ Crop Production Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Crop Production Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General activities related to Global Food Security and Hunger (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General activities related to Global Food Security and Hunger (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Home Horticulture Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Home Horticulture Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Livestock Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Livestock Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Pest Management Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Pest Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Pest Management Activities: Grower Site Visits for research, trainings and/or pest monitoring.

Target Audience

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> ◆ 4-H Volunteers (Adult) ◆ 4-H Youth (Youth) ◆ Agricultural Producers (Adult) | <ul style="list-style-type: none"> ◆ Agricultural Workers (Adult) ◆ Apple Growers (Adult) ◆ Blueberry Growers (Adult) | <ul style="list-style-type: none"> ◆ Community Leaders (Adult) ◆ Cranberry Growers (Adult) ◆ Dairy Producers (Adult) ◆ Disabled Adults (Adults) |
|---|--|---|

- ◆ Extension - staff (Adult)
- ◆ Extension Staff (Adult)
- ◆ Families (Adult)
- ◆ General Public (Adult)
- ◆ General Public (Youth)
- ◆ Greenhouse Operators (Adult)

- ◆ Home Gardeners (Adult)
- ◆ Master Gardener Volunteers (Adult)
- ◆ Pesticide Applicator Training Participants (Adult)
- ◆ Potato Growers (Adult)

- ◆ Poultry Producers (Adult)
- ◆ Teachers (Adult)
- ◆ Vegetable Growers (Adult)
- ◆ Veterinarians (Adult)
- ◆ Volunteers (Adult)

Selected Program Accomplishments

Minimizing Pesticide Use on Wild Maine

Blueberries: Maine's 60,000 acres of wild blueberries are worth over \$250 million annually to growers, and more to the Maine economy. The blueberry maggot destroys commercial blueberry crops by attacking the fruit and leaving the berry non-viable. Tighter controls enacted by the EPA, and strict residue restrictions in many countries made growers concerned about insecticide residues on the fruit and the potential for limiting the salability of their crop.

UMaine Extension and the UMaine Department of Plant and Soil Science have partnered with Maine

growers to conduct on-farm trials to test the efficacy of new less toxic insecticides, and developed monitoring protocols that help growers know when treatments are necessary, and when they are not.

Results: Our trials have confirmed this new class of pesticides is effective against the blueberry maggot, and growers in Maine are using the monitoring protocols developed as a component of this project. As a result, insecticide is being used less frequently and only when necessary, helping to minimize residue and maintain the value of wild Maine blueberries to local, out-of-state, and international markets.

The Maine Compost School: It is predicted that most landfills in the U.S. will be full within the next decade. Each year Americans dispose of millions of tons of garbage that, when mixed together in landfills does not bio-degrade and causes a variety of problems.



Composting provides a way not only of reducing the amount of waste that needs to be disposed of, but also of converting it into a valuable product that is useful for farming, gardening, and landscaping. The Maine Compost School helps people understand how to recycle organic material, reduce their contributions to landfills, and produce rich, valuable,

soil enhancing compost, a marketable commodity. Participants come from throughout world and are professional compost operators, farmers, municipal workers, homeowners, teachers, and students who gain certification in week long or 2-day programs. The School is a partnership between UMaine Extension, the Maine Department of Agriculture Food and Rural Resources, Maine Department of Environmental Protection, and the Maine State Planning Office.

Results: In the last two years, six new compost businesses were started in Maine as a direct result of the Maine Compost School, creating 17 new jobs and a variety of seasonal employment opportunities. One existing compost producer increased sales 200 percent after the first year of attending the class, with gross annual income for their compost operation now over \$50,000. The Portland Maine school district has reduced waste removal cost by approximately \$15,000 after implementing more recycling efforts in the school cafeterias since attending a school compost workshop in 2009. Since 2006 160 people received certification of technical ability from the Maine Compost School.

Humble Beginnings for Community Farmer's Market: Southern Aroostook County in northern Maine has historically lacked a Farmers' Market that would provide local small, diverse vegetable and livestock farms a direct market to consumers and give residents access to local farm-fresh foods.

In 2009, UMaine Extension approached community leaders in Houlton and led a committee that would create the Houlton, Maine Farmers' Market.

Results: Through humble beginnings of having only four vendors at the end of the 2009 growing season, 2010 saw a venue change, increased advertising, and increased participation for both buyers and sellers. At

the end of the 2010 season, the newly named Houlton Community Market boasted 24 vendors providing locally produced food and crafts that generated approximately \$100,000 in direct sales to local



producers, and more to downtown businesses who benefit from proximity to consumers who are patronizing the market.

Locally-grown Organic Bread Wheat: Maine millers and bakers cannot find enough locally grown organic wheat that meets quality standards for bread production demand. Supplying this expanding market represents a significant economic opportunity for our region's farmers, who lack to produce high quality grains for bread end-use markets using organic methods.

UMaine Extension and the Maine Agricultural and Forest Experiment Station are leading a multi-state project to increase farmers' ability to produce high quality organic bread wheat with a group of 10 researchers from Maine and Vermont through a 4-year \$1.3 million grant from the USDA Organic Agriculture Research and Extension Initiative. In partnership with local farmers, millers, and bakers, we are conducting research on varieties, fertility, weed management, and rotations; and developing tools for farmers to ensure success.

Results: Deputy Secretary of Agriculture, Kathleen Merrigan, recognized our grant at a media event in Maine in October 2009. She praised the project's involvement of stakeholders, integration of research and Extension, and efforts to revitalize a local food

system. The USDA blog post about the event stated, "If there is a better example of USDA's 'Know Your Farmer, Know Your Food' initiative in action, we'd like to see it."

The project was initiated with a trip to Quebec for Maine and Vermont farmers, millers, bakers, and researchers to build connections with their more experienced Quebecois colleagues. A Vermont



producer used information he gleaned from the trip to construct a mill design appropriate for his small scale operation. The bread wheat

variety trials have so far identified 6-8 new varieties that show promise for our region. As a result, several farmers planted one new winter variety based on the yield and quality data that was made available to them in late August. A fertility study evaluating nitrogen topdress treatments to increase grain protein has inspired one farmer to test these strategies on his own farm through a SARE partnership grant.



Harvest for Hunger: UMaine Extension's Harvest for the Hungry Program involves home gardeners, Master Gardeners, and other volunteers

who grow and glean fresh fruits and vegetables and donate them to needy individuals and families in Maine.

Results: During the 2010 garden season, UMaine Extension collected 191,977 pounds of fresh fruit and vegetables to give to food banks, soup kitchens, service organizations, and directly to families as part of our healthy lifestyles educational programs. At an average market value of \$1.69 per pound, the contribution was valued at more than \$325,400. The program's objectives are to mitigate hunger, improve nutrition and health, and help the recipients develop lifelong positive nutritional habits.

Standard Output Measures

Direct Contacts Adult	Indirect Contacts Adult	Direct Contacts Youth	Indirect Contacts Youth
43,171	525,775	2,237	162

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	18,072
Crop Production Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	4,558
General activities related to Global Food Security and Hunger (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	1,084
Home Horticulture Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	1,330
Livestock Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	212
Pest Management Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	10,888
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	6,467
Crop Production Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	1,252
General activities related to Global Food Security and Hunger (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	35
Home Horticulture Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	128
Livestock Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	6
Pest Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	5,046

State Defined Outcome Measures

Pounds of food donated (Action)	191,977
Participate in livestock disease monitoring programs (Action)	182
Participate in livestock quality assurance program (Action)	500
Improve animal well-being (Action)	227
Demonstrate application of life skills (Action)	220
Demonstrate application of subject matter knowledge (Action)	171
Increase career aspirations & goal setting (Action)	302
Demonstrate application of leadership skills (Action)	24
Demonstrate civic engagement (Action)	824
Monetary value of food produced, gleaned, and donated (Action)	\$325,400
Adopt sustainable living practices (Action)	117
Adopt appropriate strategies based on research-based information (Action)	2,387
Form/join citizen networks for citizen action and education (Action)	69
Engage positively in their community (Action)	287
Train, support and mentor others in leadership roles (Action)	1
People donating food (Action)	147
Organizations/collaborators receiving donated food (Action)	176
Demonstrate practices that improve efficiency, reduce inputs, or increase profitability (Action)	64
Apply knowledge of risks to food safety (Action)	14,117
Demonstrate practices including managing nutrient sources, recycling/delivery methods that are compatible with crop/soil/production systems (Action)	96
Increase consumption of locally produced foods (Action)	44
Adopt integrated pest management strategies (Action)	5,134
Develop integrated farming systems (Action)	172

External factors affecting outcomes

X	Natural Disasters (drought, weather extremes, etc.)
X	Economy
X	Public Policy changes
X	Government Regulations
X	Population changes (immigration, new cultural groupings, etc.)

Evaluation Studies:

Evaluation initiatives will measure desired behavioral changes that contribute to Sustainable Youth, Families and Communities in Maine. Methods will include:

- ◆ Post activity assessments
- ◆ Online survey
- ◆ Observations

Evaluation Studies Completed:

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

Data Collection Methods:

X	Survey - On-Site
X	Interview - Structured
X	Case Study
X	Observation

Planned Program: Climate Change



This plan addresses USDA/NIFA national priority to achieve a healthier climate and environment, and includes work related to:

- ◆ Climate change Awareness
- ◆ Coastal and Marine Resource Management
- ◆ Small Woodlot Management
- ◆ Water Quality Management

Through Extension's initiatives in climate change awareness education program participants learn how to effectively assess the environmental implications of their decisions and actions and how projected climate changes will affect their households, communities, and businesses and act accordingly. More informed decision-making benefits other community members by mitigating the negative effects of climate change and contributing to a healthy environment. Planning for the projected negative impacts of climate change benefits Maine's economic sustainability and reduces the potential for natural resource disasters.

NIFA Knowledge Areas	
	Percentage
Weather and Climate (132)	25
Management and Control of Forest and Range Fires (122)	15
Management and Sustainability of Forest Resources (123)	15
Agroforestry (125)	15
Watershed Protection and Management (112)	10
Waste Disposal, Recycling, and Reuse (403)	10
Appraisal of Soil Resources (101)	5
Sociological and Technological Change Affecting Individuals, Families, and Communities (803)	5

Reported effort:	
Days (FTEs)	4.51
Integrated research days (FTEs)	0.76
Multistate days (FTEs)	0.68
Aides and Seasonal Number	3
Aides and Seasonal Hours	2,020
Volunteer number	292
Volunteer hours	5,728

USDA Formula Funds	University of Maine	Other
\$109,513	\$264,343	\$293,602

Activities and Participation (What was done?)

- ◆ General activities in support of Climate Change (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General activities in support of Climate Change (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Marine Resources Management Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Marine Resources Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Small Woodlot Management Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Water Quality Resource Management Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Water Quality Resource Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)

Target Audience

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> ◆ Agricultural Producers (Adult) ◆ Community Leaders (Adult) ◆ Extension - staff (Adult) ◆ Extension Staff (Adult) | <ul style="list-style-type: none"> ◆ Forestland Owner (Adult) ◆ General Public (Adult) ◆ General Public (Youth) ◆ Small or Home-Based Business | <ul style="list-style-type: none"> ◆ Owners - Current (Adult) ◆ Teachers (Adult) ◆ Volunteers (Adult) ◆ Watershed Stewards (Adult) |
|---|--|--|

Selected Program Accomplishments

Maintaining a Valuable Asset; Sand Beaches:

Sand beaches are a major contributor to the economies of Southern Maine coastal communities. Chronic erosion can damage property values and the economic potential of this valuable asset.



Understanding changes due to erosion and making appropriate management decisions is a result of long-term data collection and analysis.

The Southern Maine Beach Profile Monitoring Program has been operating under the leadership of

Maine Sea Grant and UMaine Extension since 1999. Our program coordinates community volunteers to engage in controlled monitoring of beach profiles in order to provide data on changes that may result in damage to beaches.

Results: Our 11 year dataset is routinely used as a basis for management decisions in order to maintain adjacent property values and the value of beaches to communities. As an example, our profiling data contributed to a recent decision to reconstruct a seawall at Higgins Beach in Scarborough Maine that helps sustain property values responsible for generating more than \$2.3 million in property taxes from adjacent properties. As a key indicator of the value seven communities (York, Ogunquit, Wells, Kennebunk, Saco, Scarborough, South Portland) all maintain support for the Program to help ensure long-term value of this important community asset.

Maine's Climate Future: In 2009 the 124th Maine Legislature passed a resolve to create a stakeholder-based group to evaluate climate change adaptation options for Maine.

As requested by the state's Governor, Maine Sea Grant and UMaine Extension collaborated with the University of Maine Climate Change Institute and other partners to edit and produce *Maine's Climate Future's: An Initial Assessment*. This document

served as the foundation for the statewide stakeholder process for climate preparation through a resolve from the legislature to work towards gathering data, information and recommendations for all sectors across Maine. This included the commitment of 67 stakeholder participants meeting consistently during a one-year timeframe for which we contributed

community-based education expertise for both the Steering Committee and the Marine Committee.

Results: This resulted in a consensus and summary documents provided to the legislature who in turn created a resolve to continue the work toward the development of a complete Climate Change Adaptation Plan for Maine, work that was initiated in the following legislative session.

Standard Output Measures

Direct Contacts Adult	Indirect Contacts Adult	Direct Contacts Youth
4,119	6,794	569

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	244
General activities in support of Climate Change	41
Marine Resources Management Activities	44
Small Woodlot Management Activities	9
Water Quality Resource Management Activities	150
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	128
General activities in support of Climate Change (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	104
Marine Resources Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	5
Water Quality Resource Management Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	19

State Defined Outcome Measures

Manage natural resources to promote land, water and air quality (Action)	2,517
Form/join networks for citizen action and education (Action)	95
Demonstrate application of leadership skills (Action)	144
Adopt sustainable living practices (Action)	52
Assess community vulnerabilities, needs, and assets (Action)	5,015
Adopt effective community strategies and solutions (Action)	168
Demonstrate application of leadership skills (Action)	5

External factors affecting outcomes.

X	Natural Disasters (drought, weather extremes, etc.)
X	Economy
X	Public Policy changes
X	Population changes (immigration, new cultural groupings, etc.)

Evaluation Studies:

Evaluation initiatives measured behavioral changes that contribute to a healthy climate and environment in Maine. Methods include:

- ◆ Pre and post activity assessments
- ◆ Surveys
- ◆ Interviews
- ◆ Case Studies
- ◆ Observations

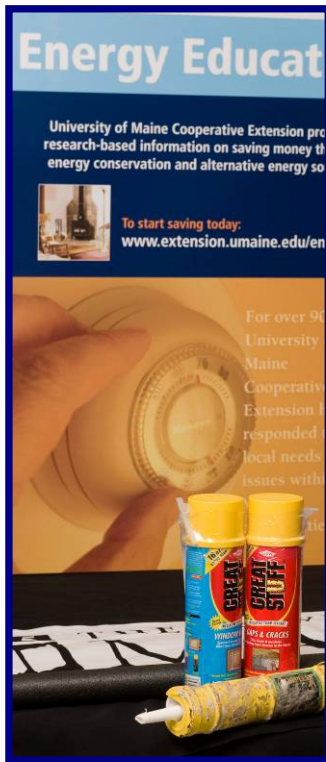
Evaluation Studies Completed:

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

Data Collection Methods:

X	Survey - On-Site
X	Interview - Structured
X	Interview - Unstructured
X	Case Study
X	Observation

Planned Program: Sustainable Energy



This plan addresses USDA/NIFA national priority to achieve a healthier climate and environment, and includes work related to:

- ◆ *Home Energy Conservation*
- ◆ *Farm Energy*

Our home energy educational programs help participants make informed decisions about implementing techniques to reduce their consumption of fossil fuels and reduce their carbon footprint, through conservation practices, and change to alternative energy sources.

Our farming and fishing energy educational programs help participants use energy more efficiently and reduce the use of fossil and other fuels, which will lead to reduced expenses and increased profitability, keeping local businesses viable and shrinking the region's carbon footprint.

NIFA Knowledge Areas	
	Percentage
Management and Sustainability of Forest Resources (123)	15
Agroforestry (125)	14
Natural Resource and Environmental Economics (605)	11
Engineering Systems and Equipment (402)	9
Waste Disposal, Recycling, and Reuse (403)	9
Watershed Protection and Management (112)	9
Conservation and Efficient Use of Water (111)	8
Community Resource Planning and Development (608)	8
Pollution Prevention and Mitigation (133)	8
Conservation of Biological Diversity (136)	5
Urban Forestry (124)	4
	100 percent

Reported effort:

Days (FTEs)	0.83
Integrated research days (FTEs)	0.08
Volunteer hours	2,460

USDA Formula Funds	University of Maine	Other
\$28,226	\$104,513	\$72,322

Activities and Participation (What was done?)

- ◆ Farm Energy Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Farm Energy Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General Sustainable Energy Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General Sustainable Energy Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Home Energy Conservation (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)

Target Audience.

- ◆ Agricultural Producers (Adult)
- ◆ Community Leaders (Adult)
- ◆ General Public (Adult)
- ◆ General Public (Youth)
- ◆ Pesticide Applicator Training Participants (Adult)
- ◆ Teachers (Adult)

Selected Program Accomplishments

Growing Alternative Fuel: Aroostook County, Maine is a vast agricultural region where many farms have been abandoned in recent decades because of high operating costs. They have gone from producing 150,000 acres of potatoes in the 1950's to 50,000 today. Grass pellets have the potential to establish a new bio-energy industry in Maine, create a valuable crop for Maine farmers, and reduce energy costs for state residents.



For the past two years we have been researching the use of perennial grasses left from small grain rotations as solid fuel crops. We are now working with the UMaine Process Development Center on a Biomass Engineered Fuel Project, a \$1.65 million initiative recently funded by the State of Maine Technology Asset Fund linking UMaine research and development

with Maine farmers, energy consumers, companies, and entrepreneurs to develop and commercialize biomass fuel. In the next four years, the project will focus on the manufacturing efficiencies of converting energy crops to solid biofuel, and testing that biofuel for performance, combustion efficiency, and ultimate commercial potential.

Results: The goal is to prototype a commercial-scale demonstration facility in Aroostook County — the first of its kind in the Northeast. Grass pellets will be beta tested in commercial biomass systems in the state. Several Maine companies have expressed interest in operating biofuel production facilities and licensing the technology.

UMaine researchers say the annual economic impact of a single commercial pellet mill in northern Maine is expected to be between \$17 million and \$23 million. With potential for 25 pellet mills statewide, the overall economic impact is projected to be more than \$500 million annually, possibly replacing more than 100 million gallons of home heating oil each year.

Planned Program: Standard Output Measures

Direct Contacts Adult

1,675

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	528
Farm Energy Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	44
General Sustainable Energy Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	56

Home Energy Conservation (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	428
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	3
Farm Energy Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	2
General Sustainable Energy Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	1
Home Energy Conservation (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	0

State Defined Outcome Measures

Increase career aspirations & goal setting (Action)	302
Reduce carbon footprint (Action)	18
Adopt sustainable living practices (Action)	117
Adopt appropriate strategies based on research-based information (Action)	2,387
Form/join citizen networks for citizen action and education (Action)	69
Engage positively in their community (Action)	287
Implement techniques to reduce energy consumption (Action)	38
Evaluate alternative sources of energy and act accordingly (Action)	22
Convert to non-fossil-based energy fuels (Action)	55
Decide not to convert to/install an inefficient new source of energy (example: installing a wind turbine in a poor location) (Action)	5
Research and evaluate novel energy production methods, and act accordingly (Action)	16
Make a decision to install or not install a novel energy production method (Action)	16
Increase consumption of locally produced foods (Action)	44

External factors affecting outcomes.

X	Natural Disasters (drought, weather extremes, etc.)
X	Economy
X	Appropriations changes

X	Public Policy changes
X	Government Regulations
X	Competing Programmatic Challenges
X	Other (Climate Change)

Evaluation Studies Completed:

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

Data Collection Methods:

X	Survey - On-Site
X	Observation



Planned Program: Childhood Obesity

This plan addresses USDA/NIFA national priority that nutritious foods are affordable and available and provides guidance so that individuals and families are able to make informed, science-based decisions about their health and well-being.

University of Maine Cooperative Extension's educational initiatives in nutrition help participants to adopt healthy dietary practices, increase physical activity, and consume locally-grown and produced foods. This work contributes to decreased incidence of chronic disease and benefits others through improved community wellness and decreased health care costs.

NIFA Knowledge Areas	
	Percentage
Nutrition Education and Behavior (703)	35
Human Development and Family Well-Being (802)	22
Nutrition and Hunger in the Population (704)	15
Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins (712)	10
Healthy Lifestyle (724)	10
Sociological and Technological Change Affecting Individuals, Families, and Communities (803)	8

Reported Effort	
Days (FTEs)	3.57
Integrated research days (FTEs)	0.56
Multistate days (FTEs)	0.16
Aides and Seasonal Number	46
Aides and Seasonal Hours	1,318
Volunteer number	586
Volunteer hours	4,641

USDA Formula Funds	University of Maine	Other
\$73,273	\$456,159	\$338,504

Activities and Participation

Activity (What was done?)

- ◆ Eat Well Nutrition Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Eat Well Nutrition Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General Activities to address Childhood Obesity (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General activities to address Childhood Obesity (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General activities to address Nutrition Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Nutrition Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)

Target Audience

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> ◆ 4-H Youth (Youth) ◆ Community Leaders (Adult) ◆ Disabled Adults (Adults) ◆ Eat Well Participants (Adult) ◆ Eat Well Participants (Youth) ◆ Elders or Seniors (Adult) | <ul style="list-style-type: none"> ◆ Extension - staff (Adult) ◆ Extension Staff (Adult) ◆ Food Stamp Recipients (Adult) ◆ General Public (Adult) ◆ General Public (Youth) | <ul style="list-style-type: none"> ◆ Master Gardener Volunteers (Adult) ◆ Parent Educators (Adult) ◆ Parents (Adult) ◆ Senior Companion Program Volunteers (Adult) ◆ Teachers (Adult) |
|---|---|--|

Selected Program Accomplishments

Nutrition and Physical Activity: In Maine, more than



28 percent of children age 10-17 are overweight or obese, and children in limited-income families are twice as likely to be overweight or obese as their middle income peers. Maine is one of ten states with the highest rate of food insecure children under the

age of 18. This contradiction between the rate of obesity and food insecurity demonstrates that poor food choice and lack of nutritious food have a significant impact on Maine's children. UMaine Extension's Eat Well Nutrition Education Program provides limited-income citizens, including youth, with and basic nutrition, physical activity, and food resource management education. We worked with over 15,000 young people this year through school enrichment programs and summer youth

programming; and 2,225 families in one of three ways: one-on-one in their homes; by presenting lessons in small group settings; through *Eat Well by Mail*, our correspondence course which can be customized to address specific individual needs.

Results: As a result of our nutrition and physical activity education programs during 2010: More than 13,000 youth increased their knowledge of the essentials of human nutrition, increased their ability to select low-cost, nutritious foods, and now eat a variety of foods.

Fifty-two percent of the 972 families (over 2,400 individuals) who graduated from our program, demonstrated improvement in meal planning, comparing prices, using grocery lists, and not running out of food.

One of our nutrition aides offers: *"I asked one of my clients in Portland if my visits had helped him. He beamed and said that he was saving \$15.00 every two weeks at the grocery store. He's quit buying processed foods. His cholesterol is lower; his blood sugar is in control. He said that I encouraged him to walk more often and he attributes that to his weight loss and the fact that he's maintaining his new weight."*

Planned Program: Standard Output Measures

Direct Contacts Adult	Indirect Contacts Adult	Direct Contacts Youth	Indirect Contacts Youth
4,792	8,745	19,960	210

State Defined Output Measures

Delivery Method	Outputs
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Direct; Club, Conference, Program, Consultation, Scholarship, or Training	17,931
Eat Well Nutrition Education	17,356
General Activities to address Childhood Obesity	431
General Activities to address Nutrition Education	144
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	421
Eat Well Nutrition Education	1
Childhood Obesity	413
Nutrition Education	7

State Defined Outcome Measures

Demonstrate application of life skills (Action)	220
Demonstrate civic engagement (Action)	824
Engage positively in their community (Action)	287
Adopt healthy dietary practices (consume nutrient-rich foods, follow current Dietary Guidelines for Americans or DASH, etc) (Action)	14,103
Integrate regular physical activity into daily life (Action)	158
Increase consumption of healthful, locally-grown and -produced food (farm to school program, food preservation, etc.) (Action)	8
Reduce consumption of highly processed foods (fast foods, convenience foods, etc.) (Action)	12,650

External factors which affected outcomes

X	Economy
X	Population changes (immigration, new cultural groupings, etc.)

Evaluation Studies:

Evaluation initiatives measure behavioral changes related to improved nutrition and increased physical activity that contribute to decrease incidence of overweight and obesity in children and adults in Maine. Methods include:

- ◆ Pre- and pos- activity assessments
- ◆ Surveys
- ◆ Observations
- ◆ Case Studies

Evaluation Studies Completed:

X	Retrospective (post program)
X	Before-After (before and after program)
X	During (during program)
X	Case Study
X	Comparisons between different groups of individuals or program participants experiencing different levels of program intensity

Data Collection Methods:

X	Interview - Structured
X	Case Study
X	Observation
X	Other

Planned Program: Food Safety

The University of Maine Cooperative Extension's educational initiatives in food safety helps participants become aware of the risks associated with food contamination and learn appropriate food production and handling practices,



leading to improved food safety skills that will benefit other community members through reduced risk of food-borne illnesses and a safer food supply.

NIFA Knowledge Areas	
	Percentage
New and Improved Food Processing Technologies (501)	30
New and Improved Food Products (502)	30
Home and Commercial Food Service (504)	30
Quality Maintenance in Storing and Marketing Non-Food Products (512)	10

Reported effort	
Days (FTEs)	1.85
Integrated research days (FTEs)	0.25
Multistate days (FTEs)	0.14
Aides and Seasonal Number	34
Aides and Seasonal Hours	130
Volunteer number	20
Volunteer hours	310

USDA Formula Funds	University of Maine	Other
\$53,351	\$199,315	\$184,199

Activities and Participation

Activity (What was done?)

- ◆ Food Preservation (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Food Preservation (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Food Safety (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Food Safety (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General Food Safety Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General Food Safety Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Specialty Food Products (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)

Target Audience

- ◆ Agricultural Producers (Adult)
- ◆ Eat Well Participants (Adult)
- ◆ Eat Well Participants (Youth)
- ◆ General Public (Adult)
- ◆ Master Gardener Volunteers (Adult)
- ◆ Volunteers (Adult)

Selected Program Accomplishments

Master Food Preservers – Preserving the Harvest:

UMaine Extension has always been a very important resource for providing current research-based information about preserving food at home. Recently interest and demand for food preservation education has sky-rocketed due in part to tough economics and the public interest to support a local food system. Our Master Food Preserver Program was launched in 2008 to help meet this emerging need. Approximately 12 new volunteers are taught each year to extend our reach through food preservation master classes. Each receives 40 hours of extensive training in food safety and storage, and the specifics of canning, freezing, drying, making jams and jellies, pickling, and storing foods. After training, volunteers pass a minimum competency test to assess their knowledge of food preservation and storage methods, and their ability to teach using the resource materials.

Results: This year, Master Food Preserver volunteers delivered *Preserving the Harvest* workshops to more than 350 attendees. Evaluations completed by all participants indicate that:

- ◆ 95 percent understand how to preserve foods in accordance with the latest USDA guidelines;
- ◆ 95 percent feel more confident about their skills in home food preservation.
- ◆ 88 percent plan to preserve foods differently (safely) to reduce their risk of food borne illness;

Based on these results, we can begin to understand the impact of our work on creating a social shift towards a more educated and skilled public that can



improve their health, contribute to a revitalizations of our local food system, and positively impact the local agricultural economy through

an increase in safely preserving local foods at home to eat year round.

Enabling New Enterprises Selling Meat and Poultry Products:

In the US any company that processes and sells meat or meat containing products



is required by the USDA to have a Hazard Analysis Critical Control Point (HACCP) plan. This requirement was put in place to help ensure that high health risk foods like meat were properly and safely processed. The state of Maine has been without

formal meat and poultry HACCP certification training since 2003. Since then producers have had to attend a course in Connecticut or Pennsylvania to become certified.

During 2010 two multi-day HACCP courses were offered through UMaine Extension and the Maine Department of Agriculture, Food and Rural Resources. Part lecture and part hands-on activity, the courses enabled participants to write and implement a HACCP plan for their meat and/or poultry selling operations.

Results: As a result, 43 individuals representing 38 Maine-based companies were HACCP certified for meat and poultry. The 2010 trainings enabled the start of 16 new small companies producing cuts of beef and pork, and products such as jerky, meat topped pizza, and smoked or barbecued meats; and helped six non-meat related food business learn more about food safety and apply HACCP principle to their businesses.

Planned Program: Standard Output Measures

Direct Contacts Adult	Direct Contacts Youth
3,758	15,036

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	18,081
Food Preservation	603
Food Safety	17,459
General Food Safety Activities	15
Specialty Food Products	4
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	8
Food Preservation	2
Food Safety	4
General Food Safety Activities	2

State Defined Outcome Measures

Reduce consumption of highly processed foods (fast foods, convenience foods, etc.) (Action)	12,650
Apply knowledge of risks to food safety (Action)	14,117
Adopt food safety practices (Action)	739

External factors affecting outcomes.

X	Natural Disasters (drought, weather extremes, etc.)
X	Economy
X	Competing Programmatic Challenges

Evaluation Studies:

Evaluation initiatives will measure behavioral changes that contribute to improved food safety practices in Maine. Methods will include:

- Pre and post activity assessments
- Surveys
- Observations
- Case Studies

Evaluation Studies Completed:

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

Data Collection Methods:

X	Survey - On-Site
X	Interview - Structured
X	Interview - Unstructured
X	Case Study
X	Observation

Planned Programs: Sustainable Community and Economic Development

- ◆ Home-based Business Development
- ◆ Tourism & Economic Development
- ◆ Personal & Family Resource Development
- ◆ Farm Business Management

Extension's educational initiatives in community and economic development help program participants learn how to effectively manage and sustain: small and home-based businesses, household resources and community assets. This contributes to



viable businesses, households, and communities that will benefit other community members by contributing to gainful employment, quality of place, and municipal tax revenues that support community services.

NIFA Knowledge Areas	
	Percentage
Business Management, Finance, and Taxation (602)	25
Marketing and Distribution Practices (604)	20
Individual and Family Resource Management (801)	20
Consumer Economics (607)	15
Community Resource Planning and Development (608)	15
Community Institutions, Health, and Social Services (805)	5

Reported effort	
Days (FTEs)	7.57
Integrated research days (FTEs)	1.54
Multistate days (FTEs)	0.11
Volunteer number	37
Volunteer hours	218

USDA Formula Funds	University of Maine	Other
\$297,572	\$846,555	\$633,800

Activities and Participation (What was done?)

- ◆ Personal and Family Resource Management Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Resource Development and Management for Sustainable Communities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Resource Development and Management for Sustainable Communities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Small and Home Based Business Management Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Small and Home Based Business Management Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Tourism Economic Development Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Tourism Economic Development Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General activities in support of Sustainable Community and Economic Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General activities in support of Sustainable Community and Economic Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)

Target Audience

- | | | |
|--|-----------------------------|---|
| ◆ 4-H Youth (Youth) | ◆ Extension - staff (Adult) | ◆ Small or Home-Based Business Owners - Current (Adult) |
| ◆ Agricultural Producers (Adult) | ◆ Extension Staff (Adult) | ◆ Small or Home-Based Business Owners - Potential (Adult) |
| ◆ Business Assist Organization Staff (Adult) | ◆ Families (Adult) | |
| ◆ Community Leaders (Adult) | ◆ Families (Youth) | |
| ◆ Disabled Youth (Youth) | ◆ General Public (Adult) | |
| | ◆ Maple Producers (Adult) | |

Selected Program Accomplishments

Strategies for Economic and Community Success:

While the profitability of business is a key factor in a strong local economy, local town government often plays a role in economic development. Often there are strong but competing views about what a town should do to support local business and economic development. Town leaders need assistance to negotiate inclusive and productive planning and input processes that maximize the potential for success. UMaine Extension works with community governments to plan, facilitate, and evaluate planning sessions that require stakeholder and community member input.

Results: Examples of success include:

- ◆ We worked with two neighboring coastal communities to identify community assets and concerns and summarize results at two community forums. Based on the results we led discussions to formation of an endowed

community fund managed on behalf of the communities to fund local organizations in support of community vitality. A follow-up community forum focused on the role the arts could play to stimulate the local economy.

- ◆ In one island community select-board members listened to citizens and local business owners speak about factors under town control that contributed to and detracted from business success. This helped town officials understand how to revise their comprehensive plans and zoning ordinances to remove barriers to business development.
- ◆ In another we helped the town council and town manager create a four-part strategic plan for stimulating the local economy and making local government services more effective and responsive to residents and businesses.

Effective Non-profit Community Organizations:

Well functioning non-profit community-based organizations address problems and create new opportunities to improve their communities. Each has potential to increase opportunities through effective program planning, improved decision-making, and improved financial sustainability. While organizations can build that capacity through internal expertise, others need help.

This year we worked with seventeen non-profit and community organizations in mid-coast Maine who participated in working sessions in which they reflected on their current capacities, articulated shared

visions, and devised work-plans and budgets to support agreed upon strategies to take them forward. The organizations ranged from those concerned with the arts, land conservation, food security, community health, housing and education.

Results: Participants reported feeling more confident that they understood their roles and that they had the tools to follow through on their plans. They have also reported it was vitally important to have an experienced and neutral facilitator to guide their work, creating a space for dialogue about and resolution of key organizational concerns and opportunities.

Planned Program: Standard Output Measures

Direct Contacts Adult	Indirect Contacts Adult	Direct Contacts Youth
4,558	14,242	77

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	527
General activities in support of Sustainable Community and Economic Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	302
Personal and Family Resource Management Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	10
Resource Development and Management for Sustainable Communities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	42
Small and Home Based Business Management Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	155
Tourism Economic Development Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	18
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	14,123
General activities in support of Sustainable Community and Economic Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	14,090
Resource Development and Management for Sustainable Communities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	4
Small and Home Based Business Management Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	4
Tourism Economic Development Education (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	25

State Defined Outcome Measures

Increase career aspirations & goal setting (Action)	755
Demonstrate civic engagement (Action)	3,986
Form/join citizen networks for citizen action and education (Action)	69
Engage positively in their community (Action)	2,845
Demonstrate practices that improve efficiency, reduce inputs, or increase profitability (Action)	64
Apply knowledge of risks to food safety (Action)	14,117
Increase life skills (healthy relationships, decision making, problem solving, parenting, lifespan development, communication, etc) (Action)	4,661
Demonstrate application of subject matter knowledge (Action)	3,938
Demonstrate application of leadership skills (Action)	893
Increase consumption of locally produced foods	44

(Action)	
Adopt sound business management practices (Action)	463
Increase profitability (Action)	43
Create jobs (Action)	98
Assess community needs and assets (Action)	245
Adopt effective community strategies (Action)	59
Mobilize community capacities, assets or resources (Action)	119
Demonstrate leadership skills (Action)	492

External factors which affected outcomes

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

Evaluation Studies Planned:

Evaluation initiatives measure behavioral changes that contribute to sustainable community and economic development in Maine. Methods include:

- ◆ Pre-, post-, and retrospective activity assessments
- ◆ Surveys
- ◆ Observations
- ◆ Case Studies

Evaluation Studies Completed:

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

Data Collection Methods:

X	Survey - Mail
X	Survey - Telephone
X	Survey - On-Site
X	Case Study
X	Observation
X	Other (Case Studies)

Planned Programs: Sustainable Youth, Families, and Communities

- ◆ *4-H Youth Development*
- ◆ *Parenting Education*
- ◆ *Human Development*
- ◆ *Senior Companion Program*



Extension's educational initiatives in youth, family, and community

development help participants learn skills that help build positive relationships, increase understanding about the lifespan, and encourage community engagement. This leads to healthy families, stronger communities, and increased skills and knowledge. As a result, the public benefits by a more informed, involved, and self-reliant citizenry, increased community engagement, and a state that values its people.

NIFA Knowledge Areas	
	Percentage
Healthy Lifestyle (724)	60
Community Resource Planning and Development (608)	20
Human Development and Family Well-Being (802)	15
Sociological and Technological Change Affecting Individuals, Families, and Communities (803)	5

Reported effort:	
Days (FTEs)	27.23
Integrated research days (FTEs)	1.07
Multistate days (FTEs)	0.37
Aides and Seasonal Number	177
Aides and Seasonal Hours	81,081
Volunteer number	2,626
Volunteer hours	149,217

USDA Formula Funds	University of Maine	Other
\$825,534	\$2,502,116	\$2,120,933

Activities and Participation

Activity (What was done?)

- ◆ Community Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Community Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ General Activities-Sustainable Youth, Family and Community Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ General Activities-Sustainable Youth, Family and Community Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Human Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Human Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)
- ◆ Parenting Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Parenting Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Senior Companion Program (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Youth Development Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)
- ◆ Youth Development Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)

Target Audience.

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> ◆ 4-H Volunteers (Adult) ◆ 4-H Youth (Youth) ◆ Community Leaders (Adult) ◆ County Executive Committee Members (Adult) ◆ Dairy Producers (Adult) ◆ Elders or Seniors (Adult) ◆ Volunteers (Adult) | <ul style="list-style-type: none"> ◆ Extension - staff (Adult) ◆ Extension Staff (Adult) ◆ Families (Adult) ◆ General Public (Adult) ◆ General Public (Youth) ◆ Master Gardener Volunteers (Adult) | <ul style="list-style-type: none"> ◆ Parent Educators (Adult) ◆ Parents (Adult) ◆ Senior Companion Program Volunteers (Adult) ◆ Teachers (Adult) |
|--|--|--|

Selected Program Accomplishments



4-H Youth Development in Maine: Research has shown that it is important for youth to be involved with positive development experiences both during the school day and during out of school time. Not only does positive development provide youth with multiple

chances to develop leadership and important life skills, it also helps to strengthen families and communities. Research also shows that youth who are participate in positive development opportunities are more likely to be involved in their communities and less likely to get into trouble or make choices that could negatively impact their lives.

For more than 90 years the Maine 4-H program has provided positive youth development experiences for kids. Maine youth who are involved in 4-H community clubs, 4-H afterschool, 4-H school enrichment, and 4-H camps benefit from a direct connection with the resources of the University of Maine which helps to further their learning and career explorations.

Results: In 2010 more than 31,500 youth participated in the Maine 4-H program. Their participation included attending 4-H camps, 4-H community clubs, and 4-H afterschool and 4-H school enrichment programs. There were more than 14,500 who participated in hands on experiential learning related to science, engineering and technology, engaging in numerous projects such as robotics, animal science, plant science, and environmental science. More than 3,600 youth engaged in citizenship projects and were actively involved in making a positive difference in their local communities. Examples included growing food for a local food pantry, helping to establish a community garden, supporting the families of deployed soldiers, and developing safer trails for recreational vehicles such as ATVs (all terrain vehicles). There were also 19,000 youth engaged in 4-H projects that focused on healthy lifestyles who learned about food and nutrition including how to grow their own food, and how to stay active to improve their health and minimize the risk of childhood obesity.



The Father's Role in Parenting Education:

The first five years of a child's life are a critical time for development. Recent

research has concluded that fathers play an important role in their child's development in these early years. Positive outcomes from involved fathers include educational, emotional, and social success. Unfortunately, the vast majority of programs that serve families with young children are often aimed almost exclusively at mothers.

Through the Maine Families Program of the UMaine Extension, parent education professionals have made

efforts to include first-time fathers in our parenting programs. New fathers are encouraged to participate in enrollment visits, goal setting, home safety assessments, and developmental screenings. Hands-on parent-child interactions are a vital part of each home visit and parenting session providing fathers opportunities to be actively involved.

Results: This year 331 first-time families were served in four Maine Counties. Our educators reported that 287 of those families had fathers in the home or involved in parenting. More than half of those fathers participated in home visits and 39 percent were fully involved in the parenting education experience. Through home visits these fathers were able to take an active role in parenting, receive information about child development, learn ways to interact positively with their child, and gain knowledge about the importance of their role in their child's development.

4-H Delivers Food Security to Maine Families: In our current distressed economy, many Maine families are struggling to put food on the table, and with tight budgets are unable to afford nutritious fresh produce. Lack of fresh produce contributes to poor health. The Coastal Clovers 4-H Club wanted to learn



gardening skills and help their struggling neighbors so created *Food for Families*, a project to grow and donate fresh produce to local food pantries.

Their goal was to donate at least a ton. Club members received generous support, including a grant from Cumberland Farms National 4-H Council Youth in

Action Grant. They constructed a makeshift greenhouse, started seedlings, and grew lots of nutritious food. The entire harvest was donated to local and statewide food pantries.

Results: Club members learned valuable life skills in agriculture, self-sufficiency, team-work, planning, and goal setting. This summer, through their hard work and over 1,000 hours of community service they harvested 6,600 pounds of fresh produce and fruit that was delivered to a local food pantry and a statewide Food Bank distribution network. The estimated value of their contribution was over \$18,000. Throughout the summer and early fall struggling Maine families were able to enjoy nutritious meals including fresh cabbage, zucchini, squash, cauliflower, peppers, broccoli, cucumbers, tomatoes, green beans, watermelon and cantaloupe – all carefully sown, tended, and harvested by young hands.



Federal/University Partnership Benefits Seniors and the Economy of Maine: Maine is, per capita, the oldest state in the country, making caring for our aging population a pressing issue. State reduction of MaineCare (Medicare) costs are realized by keeping frail elderly at home as they desire rather than being placed in long-term care. Many Maine seniors are willing and able to be viable contributors to their community. The Senior

Companion Program offers an opportunity for volunteers with limited incomes to provide companionship and non-medical support to others who are homebound and/or isolated, helping to keep them independent and at home. The Program is supported with funding from the Corporation for National and Community Service, and the University of Maine.

Results: The Senior Companion Program provides opportunity for all participants to be as independent as possible given their life situation. A recent study through the University of Maine Economics Department showed that the Senior Companion Program was saving a minimum of \$4.6 million per year by helping homebound elderly remain in their home rather than going into long-term care.

Foundations of the Future; Parenting the next Generation: Society depends on parents to care for and educate the next generation. But from pre-birth to preschool, young children have complex and constantly changing needs, and what they learn during this stage lays the foundation for their future. When parents do not understand children's normal behavior, they cannot give their children the skills they will need as adults to contribute meaningfully and productively to society. Using the Parents as Teachers Born to Learn™ curriculum and the Brazelton Touchpoints Approach™, and in cooperation with the other Maine



Families home visiting programs, UMaine Parent Educators provided parenting information, support, and encouragement to over 3,000 families last year.

Results: Parent Educators answered families' questions about child development, health, literacy, nutrition, safety, and other topics. They

helped parents become good observers of their children, pointed out their strengths, and promoted their sense of competence as their children's first and most important teachers. According to Parents as Teachers™ research, parents who participate in a Born to Learn™ program show increased parenting knowledge, attitudes, and behaviors. As a local reflection of this research, 93 percent of the parents who responded to the program survey reported that

participation has caused a great or moderate increase in their confidence in their parenting skills. A full 100 percent would recommend this program to other first-time parents, which demonstrates the consensus that parents' sense of support and confidence, so essential to the successful achievement of their important task, is meaningfully promoted by the work of our parent education program.

Planned Program: Standard Output Measures

Direct Contacts Adult	Indirect Contacts Adult	Direct Contacts Youth	Indirect Contacts Youth
4,059	3,927	5,644	16,117

State Defined Output Measures

Delivery Method	Outputs
Direct; Club, Conference, Program, Consultation, Scholarship, or Training	3,764
Community Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	841
General Activities-Sustainable Youth, Family and Community Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	506
Human Development (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	10
Parenting Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	24
Parenting Education (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	2,220
Senior Companion Program (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	163
Indirect; Applied Research, Media, Internet, Publication, Resulting from Training	1,646
Community Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	24
General Activities-Sustainable Youth, Family and Community Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	17
Human Development (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	5
Youth Development Activities (Direct; Club, Conference, Program, Consultation, Scholarship, or Training)	1,539

Youth Development Activities (Indirect; Applied Research, Media, Internet, Publication, Resulting from Training)	61
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State Defined Outcome Measures

Demonstrate application of life skills (Action)	597
Demonstrate application of subject matter knowledge (Action)	4,109
Demonstrate civic engagement (Action)	3986
Engage positively in their community (Action)	2,820
Adopt healthy dietary practices (consume nutrient-rich foods, follow current Dietary Guidelines for Americans or DASH, etc) (Action)	14,103
Integrate regular physical activity into daily life (Action)	158
Increase life skills (healthy relationships, decision making, problem solving, parenting, lifespan development, communication, etc) (Action)	4,661
Increase career aspirations & goal setting (Action)	453

Reduce carbon footprint (Action)	133
Reduce waste (Action)	510
Adopt sustainable living practices (Action)	9,852
Train, support and mentor others in leadership roles (Action)	694
Demonstrate application of leadership skills (Action)	730
Assess community needs and assets (Action)	252
Strengthen community capacities, human capital, building partnerships (Action)	172
Adopt effective community strategies (Action)	12
Demonstrate leadership skills (Action)	492

External factors affecting outcomes.

<input checked="" type="checkbox"/>	Natural Disasters (drought, weather extremes, etc.)
<input checked="" type="checkbox"/>	Economy
<input checked="" type="checkbox"/>	Population changes (immigration, new cultural groupings, etc.)

Evaluation Studies Planned:

Evaluation initiatives measured knowledge gained and behavioral changes that contribute to sustainable youth, families, and communities in Maine. Methods include:

- Pre, post, and retrospective activity assessments
- Surveys
- Observations
- Case studies

Evaluation Studies Completed:

<input checked="" type="checkbox"/>	Retrospective (post program)
<input checked="" type="checkbox"/>	Before-After (before and after program)
<input checked="" type="checkbox"/>	During (during program)
<input checked="" type="checkbox"/>	Case Study

<input checked="" type="checkbox"/>	Survey - On-Site
<input checked="" type="checkbox"/>	Case Study
<input checked="" type="checkbox"/>	Observation
<input checked="" type="checkbox"/>	Tests

