

Annual Report
of
Accomplishments and Results
2001

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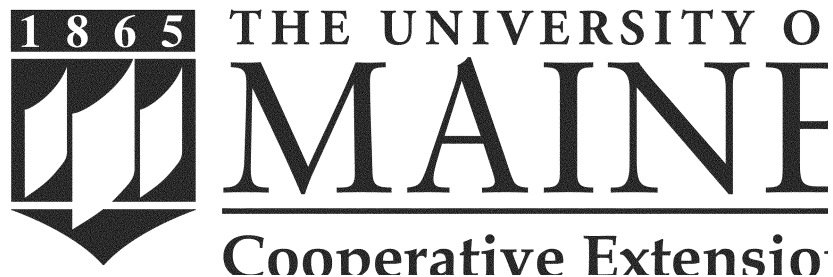


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Section A
Planned Programs

Goal 1

An Agricultural System That is Highly Competitive in the Global Economy

Goal 2

A Safe and Secure Food and Fiber System

Goal 3

A Healthy, Well-Nourished Population

Goal 4

Greater Harmony Between Agriculture and the Environment

Goal 5

Enhanced Economic Opportunity and Quality of Life for All Americans

CSREES Goal 1

An Agricultural System That is Highly Competitive in the Global Economy

Executive Summary

During 2001—our second year of the five year Plan of Work—the agricultural and natural resources based programs of University of Maine Cooperative Extension (UMCE) have continued to help agricultural producers develop more competitive and sustainable operations, through knowledge and skills improvements in finance, the environment, crop choices, risk management, farm management, pest management, crop/livestock integration, soil health, business and marketing.

Potato, dairy and livestock and production are the most important sectors of Maine agricultural industry. UMCE has introduced farmers to new opportunities and helped them find ways to reduce production costs. Due to the recent threats of foot-and-mouth disease and potato wart fungus, UMCE has focused additional emphasis on biosecurity education and practices at agricultural fairs and for livestock operations and the professionals who serve them.

Maine's wild blueberry crop is valued at more than \$75 million annually, ranking as Maine's fifth most valuable crop and a major contributor to Maine's economy. Thanks to new research on the health and nutritional benefits of blueberries, there is a growing demand for both fresh and processed wild blueberries in the U.S. and abroad. UMCE has worked with growers to analyze wild blueberry leaf samples for nutrients, allowing growers to reduce weed competition and minimize the level of herbicide needed to control weeds, as well as increase yield. Work is being done with the industry to minimize pesticide application, and encourage deployment of artificial bee nesting blocks around field perimeters to increase the presence of natural pollinators.

Ornamental horticulture is a growing agricultural industry in Maine. Due to the increasing complexity of a growing business, horticulturists need to learn how to operate most effectively. We work collaboratively to meet the educational needs of industry in the key areas of production, variety selection, marketing, crop issues and pesticide use.

The viability of Maine's agriculture industry was enhanced in 2001 by the success of products other than the traditional products of potatoes, blueberries and dairy. Over 750 acres of agricultural land were diversified due to the application of UMCE educational programs and applied research. Over 3,000 individual consultations and 236 workshops or events were held, disseminating educational information to producers of maple syrup, cheese, venison and natural beef; breeders of sheep, goats, fish and horses; and growers of canola, cranberries, mushrooms, herbs and fruit. We are continuing to adapt and introduce alternative crops such as triticale and malting barley to Maine growers .

New educational efforts this year include the creation of the Relief Milker Program, a project that recruits people interested in working part-time on dairy farms milking cows, offers them training and then links them through the Internet to dairy farmers needing

relief. Another new Internet service offered by UMCE this year is pesticide certification updating on the UMCE Web site. UMCE is also beginning a Farm Link program, which connects existing farm owners in Maine with people who want to work on farms and eventually own them.

Consolidated Plan of Work Performance Goals 1-1 through 1-3

OUTCOME INDICATORS: Behaviors and Impacts	
	Total Days: 1,934.1
Agricultural producers will practice resource conservation methods.	465
Agricultural producers will participate in community management initiatives.	438
Community members will teach others about marine resource issues.	15
Community groups will initiate marine resources conservation strategies.	0
Crop and livestock producers will increase integration of operations.	78
Producers will adopt alternative crops to reduce pesticide inputs, increase rotation length and increase soil organic matter.	686
Producers will use new technologies.	733
Producers will adopt sustainable animal husbandry practices.	594
Small farms will diversify.	255
Producers will evaluate soil health.	413
Farmers will implement sustainable agricultural practices.	1,251
Greenhouse industry will organize liaison group to speak on behalf of entire industry and conduct industry-wide projects.	1
Maine green industry members who attend New England Greenhouse Conference will increase by 10 percent each conference.	20
50 percent of growers consulted with one-on-one will implement sustainable techniques based on consultation.	374
General public will understand and support production agriculture.	8,202
Potato harvesters will screen for bruise damage, which will result in improved harvesting operations (individual machines).	0
Potato harvester bruise levels will be reduced by 10 percent.	0
Farmers will develop new markets.	764
Farmers will develop new agricultural products.	92
Farmers will implement farm management skills.	1,620
Individuals will be trained to be more productive and knowledgeable farm employees.	379
Small-scale producers will make changes as a result of UMCE programs.	314
Producers will form management teams.	23
Producers will identify yield-limiting factors.	748
Producers will use futures/options markets.	73
Agricultural producers will diversify crop production (acres).	753
Producers will attend an intensive potato storage, design and management course.	0
Percent of potato harvester injuries reduced from baseline 119 (1988).	n/a
Youth will demonstrate sustainable agricultural practices.	306

Youth will demonstrate an understanding of the basic scientific principles that affect sustainable agriculture.	301
OUTPUT INDICATORS	
Number of consultations.	3,075
Number of workshops/events.	236
Number of people attending the workshops/events.	54,821
Number of groups formed (ad hoc or formally organized).	23
Number of people involved in groups formed.	222
Number of volunteers trained.	15
Number of publications written.	11
Number of publications distributed.	2,469
Number of issues of newsletters written.	45
Number of people receiving newsletters within a year's time.	7,426
Number of audio visual resources developed (video, slides, displays).	50
Number of articles in news media.	52
Number of 1-hr radio programs delivered.	5
Circulation of articles in news media.	200,000

Source of Funding

Performance Goal	FTE Days	Funding Source			Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]	State Funds	
Goal 1-1	787.4	\$133,392	\$81,713	\$321,639	\$563,744
Goal 1-2	683.4	\$124,092		\$375,231	\$499,323
Goal 1-3	12.0	\$2,225		\$6,727	\$8,952
Goal 1 Total	1,482.2	\$259,708	\$81,713	\$703,597	\$1,045,018

Significant Program Accomplishments Corresponding to Key Themes

Key Themes: Agricultural Competitiveness, Agricultural Profitability, Organic Agriculture, Development of New Crops

Open Pollinated Corn Varieties as an Alternative to Standard Hybrids:

Corn growers in northern New England have few options for seed corn beyond standard hybrids produced by the chemical seed industry. One option is to plant open pollinated varieties and produce your own seed. For growers who market their crops as certified organic, as designated by the Maine Organic Farmers and Gardeners Association and USDA, this would eliminate the risk of genetically engineered seed getting mixed into commercially produced seed, and the resulting loss of organic certification. UMCE is conducting on-farm and Experiment Station evaluation trials on four open pollinated corn varieties as an alternative to standard hybrids, giving northern growers the ability to raise their own seed crops and maintain quality control.

Summary of Impact: Of the four varieties of open pollinated corn tested, one variety, tested in an on-farm trial by an organic grower, was found to have a yield equal to that of a similar length standard hybrid. This variety could expand the options of northern growers and help them become more competitive with growers in more temperate climates by growing their own seed, an average savings of \$80. This encouraging result has led to the planned expansion of trials to a five-state area with an anticipated Northeast Sustainable Agriculture Research and Extension grant.

Scope of Impact: Integrated Research and Extension

Key Themes: Agricultural Profitability, Small Farm Viability

Sweet Corn IPM for Increased Profitability: In order to improve the profitability of fresh sweet corn in Maine and reduce the environmental impact of its production, farmers need to understand and adopt integrated pest management (IPM) strategies to reduce costs by reducing pesticide use on their fields. During the 2000 growing season, 20 farms were regularly monitored for pest populations. Action thresholds were used to determine if and when pesticide applications were necessary. Over 100 farmers received management advice and weekly updates of the pest situation on these farms through a sweet corn IPM newsletter, a telephone hotline and an IPM Web page. Personal consultations were held on request.

Summary of Impacts: Post-season surveys indicate that 82 percent of growers receiving IPM information felt that using it improved the quality of their crop. Eighty-six percent of the growers receiving information modified their pest management programs by changing the number of sprays and altering spray timing according to pest monitoring results. More than half of the farmers found that the program improved the profitability of their crop this year by between \$8 and \$100 per acre through reduced pesticide application costs and/or improved numbers of marketable ears harvested. All of the farmers responding to the survey intend to continue using IPM information.

Scope of Impact: State-specific

The Maine Hay Directory was developed in 2000 and is maintained by UMCE to provide online information on hay inventories and to link producers who have hay

to livestock farms that need it. This was particularly important during 2001, as Maine experienced the lowest annual rain levels in more than 100 years and a severe outbreak of armyworm which devastated an estimated 25-30,000 acres of forage. Collectively this affected the availability of hay crops grown by livestock producers for their own use and necessitated finding new sources.

Summary of Impact: Currently fifty-one producers have feed for sale in the directory. A survey of last year's participants indicated that 72 percent of responding farms said that the directory aided them in selling their forage crop. An estimated 27,000 bales of feed were sold through the directory with a market value of approximately \$67,500.

Scope of Impact: State-specific

Key Themes: Adding Value to New and Old Agricultural Products, Agricultural Competitiveness, Agricultural Profitability, Diversified/Alternative Agriculture, Small Farm Viability

Techniques for Growing and Evaluating Malting Barley: UMCE has worked with individual potato growers and their supply and marketing cooperative, to expand the potential market for malting barley as a rotational crop. The use of barley as a rotational crop has the added benefit of improving soils and reducing pest and disease problems. UMCE offered programs to buying cooperatives on the evaluation of barley for malting as it comes into storage; we also taught farmers how to grow barley that meets the grading standards of malting houses. Additionally, Extension faculty provided information to all growers on combine harvesting of malting barley.

Summary of Impact: This year's crop has shown great success with approximately 90 percent of eligible acreage passing malting specifications. This represents an increase of approximately \$275,000 to growers in the value of malting barley over feed barley. Correcting combine adjustment has reduced yield losses by 5 to 10 bushels per acre, increasing yields 6 to 15 percent.

Scope of Impact: State-specific

Key Themes: Adding Value to New and Old Agricultural Products, Agricultural Profitability, Niche Market, Sustainable Agriculture

Developing New Markets for Maine Beef: Maine beef producers have had difficulty developing a consistent market for naturally raised beef. In response, UMCE; the Maine Department of Agriculture, Food and Rural Resources; and the Wolfe's Neck Farm Foundation have developed a branded natural beef program to increase the market for natural beef products. The product is produced by multiple small producers throughout the state and sold under the Wolfe's Neck label through a Boston based distributor. The natural component of the product is the requirement that all beef sold through the program have no growth implants, nor can the cattle be fed any antibiotics, ionophores or animal by-products. As a USDA source-verified program, the cattle must be identified and tracked from birth to slaughter. The program aims to expand the market for small producers of finished natural beef cattle and return a higher percentage of the retail dollar to producers.

Summary of Impact: Currently, two feedlots in northern Maine are suppliers of finished cattle for Wolfe's Neck Natural Beef. Two loads of cattle are shipped approximately every three weeks. The estimated average return above commodity

market prices is \$136 per head. If two loads are shipped from Maine every three weeks, this program could return an additional \$180,000 per year above commodity market prices to Maine beef producers.

Scope of Impact: State-specific

Key Themes: Agricultural Profitability, Managing Change in Horticulture, Small Farm Viability, Land Use, Sustainable Agriculture

Working Landscapes: The decline in the number of farms threatens the fabric of life in the Lower Kennebec Valley for its rural and community populations. Opening up land for development is changing the area from a working landscape to a commuting landscape. From 1960 to 1990, the outlying growth of towns in Maine experienced an increase in density of nearly 30 persons per square mile, according to the director of the Maine State Planning office. Land previously used for production is now increasingly used for retail development. UMCE, in partnership with the non-profit Coastal Enterprise Group's Maine Farms Project, created the Working Landscapes Project to assist farmers in the area. The goals of the project are to increase agricultural viability by giving focused technical assistance to area farms. This project was partially funded by a grant from the U.S. Environmental Protection Agency. Technical assistance varies according to the farmers' specific needs and includes integration of resources, business assistance, production information and marketing.

Summary of Impact: The project served 25 farms, of which 23 showed increased profits of between five and 20 percent over the past two years. One participant related that the access to research, specialists and new production information at the farm helped in making cropping decisions and improving grazing structure and milk yield. He reported that raising cow comfort has resulted in an annual increase of 1,000 pounds of milk per cow, a gross increase in income of \$158,000. This project served as a demonstration for an integrated approach to agricultural development.

Scope of Impact: State-specific

Key Themes: Niche Market, Adding Value to New & Old Agricultural Products

Advanced Cheese School: Based on a needs assessment from a previously offered introductory course, UMCE has coordinated the development and delivery of an advanced cheese school. Taught by a cheese maker from Scotland, the school taught the manufacture of a mature hard-pressed cheese, surface-ripened cheese, and the practical manufacture of blue cheese. Lectures were provided on milk supply, starters, ingredients and the importance of salt in ripening. Discussions were led on the storage and protection of cheese and a hands-on cheese grading workshop was conducted.

Summary of Impact: As a result, eight of the ten participants have already made a change in their own operations. Three have recently built or are now building new processing plants. Two of the new plants are already inspected and are producing cheese to market. Seven of the participants have developed new cheeses or new recipes for existing products.

Scope of Impact: State-specific

Key Themes: Agricultural Competitiveness, Agricultural Profitability

Ornamental Horticulture Council: Members of the ornamental horticulture industry in Maine are represented by four different trade associations. This situation fragments their efforts to work toward positive impacts in areas such as influencing legislation, addressing common issues and problems, impacting regulations and collaborating on professional education. UMCE worked with representatives of the trade associations to help them develop a liaison group called the Ornamental Horticulture Council (OHC).

Summary of Impact: The OHC has incorporated and this year represented the membership of all of Maine's trades associations to the state legislature, helping to elevate legislators' awareness of issues surrounding pending legislation. During the summer of 2001, the OHC established a research and Extension fund at UMaine and has started a campaign to raise money for that fund. This is the first organized effort by this industry to fund research or Extension projects.

Scope of Impact: State Specific

The New England Greenhouse Conference is sponsored by New England Floriculture, Inc., a group of grower representatives and Extension experts from each New England state. This biennial event is the largest educational event for the floriculture industry in New England, providing growers with knowledge about crop selection, crop production, business management, marketing and environmentally conscientious management of pesticides and fertilizers. UMCE participated as a conference organizer for the October 2000 event, moderated educational sessions and served on the educational program committee for the conference.

Summary of Impact: As a result of attending the educational sessions, 114 Maine growers indicated that they expected to reduce their business costs in the next year by an average of \$1,562 per grower, or \$178,068, and expected to increase their sales an average of \$5,258 per grower, or \$599,412, as a result of knowledge gained at educational sessions. They further indicated that they planned to add an average of nine new crops as a result of applied research and crop information disseminated at the conference.

Scope of Impact: Multistate Extension; ME, NH, VT, MA, CT, RI

Key Themes: Ornamental/Green Agriculture, Home Lawn and Gardening, Agriculture Profitability

New Plants for Maine's Green Industry: Maine's Green industry—including garden center, greenhouse, nursery and landscape operations—relies on new plant varieties to introduce novelty to their customers, encourage repeat customers and maintain a competitive edge over mass market retailers. During 2001, UMCE conducted field trials of new plants for the benefit of the industry and its customers, evaluating over 200 plant classifications. Field days, articles for industry members, tours, handouts for visitors and one-on-one consultations were developed. Seven field days or small meetings were conducted for a total of 191 individuals.

Summary of Impact: A representative group of greenhouse growers who attended an August field day reported that they planned to adopt an average of 19 of the new plants for the 2002 spring bedding plant season. They project that this increased production will average \$6,154 in revenue per operation, for a total potential impact of \$123,080 as a result of this one field day alone.

Scope of Impact: State-specific

Key Themes: Ornamental/Green Agriculture, Agriculture Profitability, Home Lawn and Gardening

GardenPro Answer Book: Maine garden center operators and workers need to increase their knowledge of marketing and garden practices in order to answer their customers' questions. The use of knowledge as a sales tool has been shown to give small garden centers an important competitive edge over large mass marketers. Garden center employees can deliver accurate and prompt information that helps their customers improve their gardening, protects the environment by disseminating good gardening practices, and attracts repeat customers, making their businesses more sustainable. The *GardenPro Answer Book* was created by a team of UMCE horticulture experts and distributed to 32 garden center professionals in fall 2000. This book contains nearly twenty pages of "lists" of quick reference items, including things like which plants that deer are less likely to eat; which plants are best suited to types of locations; and calculations of mulch and soil volumes. The laminated, sturdy book is sized to tuck in next to cash registers in retail sales areas, as a handy reference for specific, detailed information. Training was offered to garden center employees in the use of this valuable tool.

Summary of Impact: Ninety-five percent of participants who responded to an evaluation survey reported that they gained information that they could put to use in the garden center. An average personal sales increase of \$1,650 was reported during the 2001 season from use of the book, or as much as \$120,695 when extrapolated to include all participants.

Scope of Impact: State-specific

CSREES Goal 2

A Safe and Secure Food and Fiber System

Executive Summary

During the second year of the current five year Plan of Work, the Food Safety programs of University of Maine Cooperative Extension reached 2,500 Maine citizens through 50 workshops and events, and over 500 individuals through consultations designed to further understanding of the principles of Hazard Analysis and Critical Control Point (HACCP), reduce the potential of food-borne pathogens, apply proper food preparation handling skills and implement safe practices in food preservation. Extension faculty worked with meat producers to become certified in quality assurance techniques to help eliminate antibiotic residue, and to enable consumers to make informed decisions regarding the reduction or elimination of mercury-bearing wild fish from their diet. We distributed information to help people make informed decisions on food and nutrition issues. We distributed over 8,000 publications and newsletters to over 3,000 individuals. Educational outreach included over 1,600 lessons delivered to teach sound choices regarding food selection, purchasing, storage and safe handling. UMCE educators and aides were present at farmer's markets, community health fairs and WIC clinics throughout the state to offer food safety and nutrition information, coordinate and solicit participation in the Senior FarmShare Program, and calibrate dial pressure gauges on home food preservers. We have worked throughout the state with citizens, small food processors, food industry personnel and food science students to ensure a safe food system and encourage lifelong wellness for Maine citizens of all ages.

Consolidated Plan of Work Performance Goals 2-1 through 2-5

OUTCOME INDICATORS: Behaviors and Impacts	
Total Days:	300.5
Residents will adopt proper techniques for planning and purchasing of food.	54
Residents will adopt proper techniques for transporting food.	79
Residents will adopt proper techniques for storing food (method and temperature).	105
Residents will practice personal hygiene techniques related to food safety.	150
Residents will adopt proper thawing methods.	77
Residents will adopt proper cooking times and temperatures.	74
Residents will adopt proper techniques for holding and serving of food.	39
Residents will adopt proper procedures for cleaning and sanitizing work areas and equipment.	103
People will be making sound choices regarding food selection and purchasing.	361
People will be making sound choices regarding food safety labels on meat and poultry.	327
People will be making sound choices regarding proper thawing methods.	323

People will be making sound choices regarding proper food cooking, holding and serving procedures.	372
Consumers will adopt Extension recommendations for canning.	720
Consumers will adopt Extension recommendations for freezing.	660
Consumers will adopt Extension recommendations for drying.	28
Participants will reduce the risk of chemical contamination of food by following the residue avoidance program.	68
Participants will reduce the risk of chemical contamination of food by following the IPM program.	45
Participants will reduce the risk of chemical contamination of food by following the salmonella reduction program.	5
Participants will reduce the risk of chemical contamination of food by following the completing milk and dairy beef drug prevention protocol.	25
Participants will reduce the risk of microbiological contamination of food by understanding the principles of HACCP.	14
Participants will reduce the risk of microbiological contamination of food by using microbiological reduction program.	9
Participants will reduce the risk of microbiological contamination of food by implementing a sanitation program.	65
Participants will reduce the risk of microbiological contamination of food by implementing a routine testing/monitoring procedure.	20
Participants will reduce the risk of physical contamination of food by implementing a quality control program.	12
Consumers will adopt proper practices in planning for and purchasing of food.	78
Consumers will adopt proper practices in transporting food.	71
Consumers will adopt proper practices in food storage (method and temperature).	201
Consumers will adopt proper practices in personal hygiene.	210
Consumers will adopt proper practices in thawing frozen foods.	200
OUTPUT INDICATORS	
Number of consultations	529
Number of workshops/events	50
Number of people attending the workshops/events	2,502
Number of groups formed (ad hoc or formally organized)	0
Number of people involved in groups formed	0
Number of volunteers trained	164
Number of publications written	60
Number of publications distributed	8,258
Number of issues of newsletters written	28
Number of people receiving newsletters within a year's time	3,076
Number of audio visual resources developed (video, slides, displays)	4
Number of articles in news media	13

Number of 1-hour radio programs delivered	0
Circulation of articles in news media	672,000
Displays/exhibits	12
Times displays seen	36
Families receiving lessons	241
Frequency of workshops/events / year	8
Home visits by nutrition aides	157
Lessons taught	159
Phone inquiries	83
Web pages created	0
Web pages designed	0

Source of Funding

Performance Goal	FTE Days	Funding Source		State Funds	Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]		
Goal 2-1	28.8	\$4,570		\$13,818	\$18,388
Goal 2-2	80.0	\$16,655		\$50,362	\$67,018
Goal 2-3	52.0	\$8,832		\$26,706	\$35,538
Goal 2-4	74.5	\$19,309		\$58,388	\$77,697
Goal 2-5	5.0	\$707		\$2,137	\$2,844
Goal 2 Total	240.3	\$50,073	\$0	\$151,412	\$201,485

Significant Program Accomplishments Corresponding to Key Themes

Key Themes: Food Handling, Food Safety, HACCP

Cooking for a Crowd: This multi-day workshop is designed to teach proper food handling principles to non-professionals who are involved in the production of food for events such as large family gatherings, church suppers, service club meetings and community events. In addition to reducing the risk of food-borne illness in general, emphasis is given to two high-risk groups—the very young and the very old—who traditionally represent a large proportion of the attendees at these food events and have a greater vulnerability to illnesses. Between 3,000 and 6,000 meals are prepared and served monthly by the participants in these workshops.

Summary of Impact: Evaluations show that 85 percent of 35 participants believe the workshop was very valuable in gaining new knowledge, updating current knowledge and reinforcing good behaviors. Attendees documented the understanding of a number of good food handling skills and indicated that the most valuable things learned included the infection prevention principles of the HACCP program, the importance of temperature, the importance of washing hands for 20 seconds and other personal hygiene practices. No incidents of food poisoning have been reported among the trainees in our workshops this past year.

Scope of Impact: State Specific

Food Management and Safety for Targeted Audiences: Courses and workshops were offered to help people learn to manage food dollars and select, prepare and serve safe and wholesome food. Over 2,500 individuals attended workshops titled *Selecting and Preparing Safe and Wholesome Food*, *Safe and Good for You*, and *Quick Healthy Meals*. Two television shows were filmed, recorded and aired and will be available through the UMCE Food Safety Web site: *Holiday Cooking* and *Cleaning and Sanitizing Your Kitchen for Food Safety*. These shows demonstrate kitchen sanitation, proper handling of cooked meat and poultry, and the importance of using a meat thermometer. In addition to the general public, senior companions and 4-H leaders were among the target audiences of these programs.

Summary of Impact: Forty to 80 percent of those who returned evaluations for these programs documented changing their food handling behavior based on the information provided.

Scope of Impact: State Specific

Key Themes: Food Safety

The Maine Food Code: The U.S. Food and Drug Administration (FDA) publishes the *Food Code*, a reference that guides retail outlets such as restaurants, grocery stores and institutions in ways to prevent food-borne illness. Local, state and federal regulators use the FDA *Food Code* as a model to help develop or update their own food safety rules and to be consistent with national food regulatory policy. Under the leadership of UMCE, the FDA *Food Code* was reviewed and adjusted to the particular needs of the state of Maine, resulting in the *Maine Food Code*. The project was undertaken in collaboration with the Maine Department of Agriculture, Food and Rural Resources; the Maine Division of Health Engineering; the Maine Restaurant Association; the Maine Grocers Association; and the University of Maine Department of Food Science and Human Nutrition.

Summary of Impacts: The state of Maine held a public hearing in Augusta in September 2000 that led to the adoption of the *Maine Food Code*. This is the culmination of a long, concentrated effort by the Maine Department of Agriculture, Food and Rural Resources and the Maine Bureau of Health to gain recognition of the importance of food safety at the state level and implement food safety principles in a unified way. The Maine Food Code has resulted in uniform inspections and a better food service environment, reducing the risk of food-borne illness.

Scope of Impact: State Specific

Key Themes: Food-Borne Pathogen Protection, Food Quality and HACCP

Seafood HACCP: Extension faculty offered a series of three-day seafood HACCP courses for small food processors, food industry personnel and food science students at the University of Maine. Based on the FDA curriculum, participants were taught the seven principles of HACCP, new Sanitation Standards Operating Procedures and the federal and state food code.

Summary of Impact: Formal and informal inspections indicated that over 75 percent of seafood processors in Maine are either in compliance or very close to compliance with HACCP regulations.

Scope of Impact: State Specific

Key Themes: Food Safety, Food Resource Management

Quality Assurance for Table Egg Producers: Eggs are the third largest farm commodity crop in Maine by dollar value, with an annual production value of over \$70 million dollars. Consumer health is at risk when eggs become infected with salmonella enteritidis. Egg producers in Maine, New Hampshire and Vermont have participated in a quality assurance program since 1989 that is designed and operated by UMCE. This program focuses on risk reduction in laying flocks by providing producers with pest control support; monitoring of cleaning and disinfecting procedures; testing of breeding stocks; and the incorporation of an intensive vaccination program using established and newly-developed vaccines that enhance the resistance of birds to salmonella infection.

Summary of Impacts: For the last ten years Maine, New Hampshire and Vermont have enjoyed 100 percent participation in voluntary quality assurance programs for table egg producers. During this time, no egg-associated outbreaks of *salmonella enteritidis* food poisoning have been traced to any of the table egg producing farms in these three states.

Scope of Impact: Multistate Extension; ME, NH, VT

Pork Quality Assurance: Pork producers are concerned about transmission of diseases between farms and elimination of antibiotic residue in market-ready animals. UMCE and the National Pork Producers Council are certifiers for the Pork Quality Assurance (PQA) certification program and, working together, have offered the certification course to Maine hog producers. The course teaches producers how to implement procedures that help prevent the transmission of diseases among animals and prevent the contamination of slaughter animals with antibiotics. The certification is an assurance to consumers that the pork they are purchasing is healthy, wholesome meat. PQA certified producers are pursuing a special marketing niche for naturally-raised pork.

Summary of Impact: The National Pork Producers Council indicates that producers certified in PQA have reported savings of between two and three dollars per head in marketed animals because of decreased costs or improved efficiencies. Over 2,000 hogs were raised under PQA certification in Maine this year, resulting in a savings to producers of \$4,000 to \$6,000.

Scope of Impact: State Specific

CSREES Goal 3

A Healthy, Well-Nourished Population

Executive Summary

The educational outreach activities of University of Maine Cooperative Extension include efforts to improve the health of Maine citizens by addressing the quality of their diets, food and lifestyles. Health and nutrition education programs were delivered to the general public, as well as specific-need audiences, and reached nearly 13,000 people through workshops and events in the past year. Over 23,000 people received newsletters and more than 34,000 publications were distributed.

The Limited Income Nutrition Education Programs of UMCE consist of the Expanded Food and Nutrition Education Program (EFNEP) and the Maine Family Nutrition Education Program (MFNEP). There are 48 nutrition aides providing nutrition education to families, children and individual adults throughout the state. Some of this nutrition education is delivered in group settings but the majority of families, children and adults receive information in their homes, an environment that appears to be the most conducive to learning and change in behavior. Together, the nutrition aide and clients discuss and learn about health- and nutrition-related topics, including the purchase and preparation of nutritious foods and meals. Over 1,500 families and more than 4,000 individuals participated in these programs last year.

Poor nutrition practices, lack of physical activity, and tobacco abuse are the risk factors associated with 90 percent of morbidity and mortality. The Economic Research Service of the U.S. Department of Agriculture reports that 10.5 percent of Maine citizens, including one in four Maine children, live below the poverty line. Nearly 100,000 Maine citizens are considered to be food insecure and 48,000 Maine citizens are hungry. At the same time, many people in Maine rely on expensive take-out and ready-to-eat prepackaged meals for their nutritional needs. Food accessibility and public policy changes are needed to help solve this problem. To survive, people who are food insecure must be able to access nutritionally sound and safe food from food pantries, cupboards and kitchens, which all depend on donations. Gardeners in UMCE programs addressed this issue by growing garden produce for the Plant-A-Row for the Hungry (PAR) project, providing over 52,000 pounds of fresh produce to local facilities in 2001.

The Maine Bureau of Health reports that over half (56.3 percent in 2000) of Maine adults are overweight or obese. There has been a 61 percent increase in obesity during the last 10 years, giving Maine the highest obesity rate in New England. One quarter of Maine adults do not participate in physical activity and are considered sedentary. UMCE weight control education programs have reached over 2,100 people, who then took steps to achieve and maintain healthy weight through reduction of fat intake, increased physical activity and increased intake of fruit and vegetables. Educational programs developed and conducted by UMCE help Maine citizens to make dietary changes to reduce the risk of

chronic disease. Thirty-nine community groups were formed, affecting more than 1,400 participants who improved nutrient and food-composition intake to lower the risk of disease.

Consolidated Plan of Work Performance Goals 3-1 through 3-5

OUTCOME INDICATORS: Behaviors and Impacts	2001
Total Days:	674.5
Groups will be established to conduct community programs to reduce the risk of disease.	39
Participants will decrease saturated fat and total fat intake.	1,984
Participants will engage in community programs that enhance the health of seniors and other community members.	830
Participants will improve nutrient and food composition intake to lower the risk of disease.	2,399
Participants will increase food preparation skills.	1,693
Participants will increase food-buying skills.	1,180
Participants will increase intake of fruits and vegetables.	1,981
Participants will increase physical activity.	864
Participants will take steps to achieve and maintain healthy weight	2,183
Participants, at all life stages, will have knowledge, skills and ability to be well nourished.	4,846
People will be involved in public policy issues related to food recovery.	257
People will increase their food recovery, gleaning, and donations of food to food pantries.	97
People will increase their food supply from gardens and home production.	90
People will participate in programs organized to raise awareness about hunger and poverty at the community level.	588
Pounds of food donated to food pantries, food banks, and kitchens	3,600
Super Cupboards will be organized.	0
Value of food donated to food pantries, food banks, and kitchens	4,000
OUTPUT INDICATORS	
Number of consultations/home visits.	3,125
Number of workshops/events.	306
Number of people attending the workshops/events.	12,948
Number of groups formed (ad hoc or formally organized).	34
Number of people involved in groups formed.	51

Number of volunteers trained.	337
Number of publications written.	32
Number of publications distributed.	34,475
Number of issues of newsletters written.	59
Number of people receiving newsletters within a year's time.	23,830
Number of audio visual resources developed (video, slides, displays).	18
Number of articles in news media.	33
Circulation of articles in news media.	189,407

Source of Funding

Performance Goal	FTE Days	Funding Source			Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]	State Funds	
Goal 3-1	464.6	\$94,429	\$178,946	\$106,588	\$379,963
Goal 3-2	193.5	\$35,689	\$74,526	\$33,390	\$143,605
Goal 3-3	106.0	\$21,285	\$40,825	\$23,537	\$85,648
Goal 3-4	201.4	\$32,462	\$77,568	\$20,590	\$130,620
Goal 3-5	90.2	\$12,728	\$34,740	\$3,746	\$51,214
Goal 3 Total	1,055.7	\$196,592	\$406,606	\$187,851	\$791,049

Significant Program Accomplishments Corresponding to Key Themes

Key Themes: Human Health, Human Nutrition, Youth Development/4H

Sports Nutrition for Youth: Youth participating in athletic programs lack understanding of proper nutritional practices that will help them to maximize performance. UMCE faculty taught a four session course for a Washington County sixth grade class in which the student athletes learned the basics of a good diet using the Food Guide Pyramid. Students were taught about reading nutrition labels, the dangers of eating disorders including anorexia and bulimia, fat and salt intake limits and healthy snacks including sports bars, sports drinks and healthy snacks. They learned good foods to eat before musical or art events, as well as the value of eating a good breakfast to enhance academic performance. The students learned food preparation by cooking and sampled healthy snacks.

Summary of Impacts: Of the 23 students, 13 indicated that they had positively changed their eating habits as a result of the nutrition lessons.

Stated changes included the following:

- Four students indicated that they are eating healthier diets by not eating as much junk food.
- Four students indicated that they are now eating five fruits and vegetables every day.
- Two students indicated that they are drinking at least two more glasses of milk each day.
- Three students indicated that they have cut down their soda intake by 12 ounces each day.

Students were able to put the knowledge that they learned into practice. When the students were asked to bring at least two healthy snacks to school in a five-day period, all 23 students brought in two healthy snacks. The students also planned to implement the behavior change on a long-term basis, beginning in January, by bringing in at least one healthy snack per week.

Scope of Impact: State-specific

Key Themes: Human Health, Human Nutrition, Aging, Food Accessibility and Affordability, Agricultural Profitability

Senior FarmShare is a new program initiated by UMCE along with the Maine Department of Agriculture, Food and Rural Resources, the Department of Human Services, and the Maine Nutrition Network. The FarmShare program for seniors gives locally grown fruits, vegetables and herbs to qualifying seniors, helps promote healthy eating and increases the market for produce to supporting Maine farmers. The program aims to increase senior citizens' access to fresh produce and increase profitability through expanded markets for some Maine fruit and vegetable enterprises. Under this program, eligible senior citizens can receive a credit, or *share*, for \$100 worth of fresh fruit and vegetables at local farms or farmer's markets. UMCE also worked to promote good nutrition to participants through the Nutrition for Seniors program as a companion program to the Senior FarmShare program. Nutrition educators and aides staffed educational displays at farmer's markets throughout Maine. Nutrition education information was available on display panels, as well as take-away recipe sheets, food samples and food preservation information.

Summary of Impact: Over \$769,000 was disbursed to the 150 farms that participated in the program. Five thousand eligible seniors received shares, and 2,695 shares were disbursed to food pantries and senior food sites. It is estimated that more than 20,000 senior citizens received healthy, locally grown produce as a result of the program. UMCE distributed over 14,000 copies of nutrition publications to participating seniors.

Scope of Impact: State-specific

Key Themes: Human Health, Human Nutrition

Eat Well! A Newsletter for Healthy Eating is produced and published quarterly by the food and nutrition program of UMCE. The newsletter supports educators who work with current and recently graduated limited-income program families, and other mailing-list clients. During 2001, topics included a fall edition on the nutritional benefits of apples, a winter edition on healthy soups and a spring edition on weight management. The publication has a circulation of over 8,000.

Summary of Impacts: Of the 546 individuals responding to a recent evaluation, 78 percent increased their knowledge about one or more topics and 74 percent improved eating habits and food-buying skills as a result of reading the newsletter. Examples of changed behaviors include: eating well-balanced meals; staying away from too much fatty food; reading more labels at the store; and cooking differently, better and healthier.

Scope of Impact: State-specific

Key Themes: Human Health, Health Care

Low-Cost Dental Care Program: The high cost of dental care makes it difficult for many families in Maine to receive regular care. In Waldo county, Extension faculty convened a task force of interested agency personnel to establish a low-cost dental clinic. Grants to subsidize the cost of the care totaling \$90,000 were received from Eastern Maine Development Corporation, the Stephen and Tabitha King Foundation and the Davis Family Foundation. Originally, dentists volunteered one evening per month for the clinic. Now the dentists are providing services during their regular office hours, instead of volunteering evenings. They are being paid at the Medicaid rate.

Summary of Impacts: Over 600 visits have been provided for people who are unable to pay the full cost for dental services or dentures.

Scope of Impact: State-specific

Key Themes: Food Accessibility and Affordability, Urban Gardening, Food Security, Human Nutrition, Community Development

Plant-A-Row for the Hungry: In 2000 the UMCE home horticulture team adopted the Plant-A-Row for the Hungry (PAR) project as a statewide priority for the Master Gardener program. This year UMCE continued its partnerships with the Farm Services Agency, Good Shepherd Food Bank, Garden Writers of America and Johnny's Selected Seeds to provide publicity materials, obtain and distribute free seed for PAR gardeners, and set up the mechanisms for distributing food to homeless and hungry citizens of Maine. An additional effort was made in 2001 to provide Master Gardeners and other growers guidance in developing outlets for donated produce. Extension produced the bulletin *Donating Food to*

Food Pantries to inform participants how to avoid problems associated with donating fresh produce.

Summary of Impacts: The final tally of fresh produce that was donated during the 2001 season was 52,703 pounds, nearly 3,000 pounds more than last year. Using an estimate of four servings per pound, donated produce could provide over 210,000 servings. The Garden Writers of America estimates that the donated produce is worth \$1.48 per pound, or over \$78,000.

Scope of Impact: State-specific

CSREES Goal 4

Greater Harmony Between Agriculture and the Environment

Executive Summary

The University of Maine Cooperative Extension delivers natural resource-based programming to Maine's gardeners, horticulturists, agricultural, fishing and aquaculture producers. These programs provide Maine citizens with the skills they need to achieve their personal, family and business goals, while improving the long-term viability of the environment.

Maine has abundant surface and groundwater resources with over 5,000 lakes, many thousands of miles of streams and rivers, and approximately 4,500 miles of coastline. Threats to Maine's water quality include commercial and residential land development, timber harvesting, aquaculture, and agricultural activities, particularly nutrient and pesticide contamination. UMCE is teaching Maine landowners management practices that reduce the impact of timber harvesting and development on water quality. We are working closely with agricultural operations to improve nutrient and pest management practices. UMCE's Integrated Pest Management (IPM) program has been identified by the U.S. Department of Agriculture and growers as an extremely important educational program for the region. The program is vital in monitoring pest populations and biological organisms to minimize pesticide and insecticide use on Maine farms; conducting insect and plant disease identification for individuals and industry to be able to provide the safest and most efficient treatments, and; conducting pesticide applicator training and re-certification programs.

Composting plays a valuable role in the implementation of state nutrient management regulations for the agriculture industry and helps reduce the gap in overall reductions in the solid waste stream to meet state goals. Educational efforts to encourage the composting of residual organic materials are centered around two major programs. The Master Composter program focuses on home and backyard composting of leaf, food and yard waste, and the UMCE Compost School focuses on large scale and commercial composting for municipal, agricultural and private business operations.

Master Gardener and home horticulture programs expose Maine citizens to practical, sustainable, research-based horticultural practices. Local and regional workshops in 2001 included small fruit, pruning, gardening and landscaping workshops, and a career education series at the Maine State Prison Farm. Clients continue to request one-on-one consultations on a variety of horticultural topics and problems. Last year nearly 5,000 consultations occurred and over 11,000 publications were distributed as a result of consultations and requests. During 2001, 230 Master Gardener volunteers were trained and donated 9,600 hours to improvement projects and education in their communities. Master Gardener volunteers were again active in the Plant-A-Row project, producing over 52,000 pounds of food for pantries and kitchens. At least three food pantries started their own community gardens with the help of Master Gardener volunteers.

Working together, UMCE and Maine Sea Grant have been involved in educational programs, community development, and applied research projects in coastal counties related to fisheries, aquaculture, and ecosystem health issues. UMCE expertise ranges from fisheries and aquaculture technology to environmental monitoring. Statewide programs utilize volunteers for water quality monitoring, phytoplankton monitoring, lobster resource management, beach profiling, and work in collaboration with coastal communities and state agencies. Participation in aquaculture and fisheries-related programs includes applied research on assessment of Atlantic halibut stocks, increasing soft-shell clam survival and juvenile oyster disease.

Forests cover nearly 90 percent of Maine's land area. Forests and river ecosystems are central to the lives of Maine people. UMCE forestry workshops and educational events have reached nearly 5,000 Maine citizens, teaching small woodlot management, low-impact logging techniques, timber valuing, wreath making, urban forestry, backyard wildlife programs and mushroom cultivation. We provided individual consultations to 271 woodlot owners, and seventeen woodlot education volunteers received training.

UMCE delivered programs teaching approved wood measurement, hardwood log grading and scaling, maple syrup production and wildlife control. Our wood technology specialist wrote two in-depth articles on circular sawmill operation and maintenance, which were published in an international periodical with an estimated audience of 33,000. UMCE organized a portable sawmill demonstration by manufacturers and experts featuring 14 sawmills. Over 3,000 interested industry and non-industry spectators attended the session. We produced a television segment to educate homeowners in Maine about the dangers of burning green wood and the parameters for finding acceptable cured wood in the current market, particularly valuable work during the current drought year. Extension faculty conducted individual consultations including one intervention that corrected manufacturing errors by a Maine firm that manufactures piano parts. The action resulted in an immediate savings of \$32,000 for the company, and reducing waste of a valuable wood resource.

UMCE delivered hands-on, outdoor environmental education to Maine youth through its 4-H Earth Connections programs, which included school-based studies, residential and day camps, fairs and field trips. Many of these programs are offered in collaboration with schools, state agencies and non-profit organizations. Over 6,400 youth participated in direct hands-on natural resources learning experiences. Ninety-eight percent of participants demonstrated the adoption of environmental stewardship practices, knowledge of natural resources, knowledge of ecology, and an understanding of their connections with the Earth.

It should be noted that the Coverts Project referred to in performance goal 4-9 has been suspended during the current plan of work cycle because of staffing changes. The Coverts Project trains volunteers to promote wildlife habitat conservation and forest stewardship. It is our intention to reinstate the program in the future.

Consolidated Plan of Work Performance Goals 4-1 through 4-11

OUTCOME INDICATORS: Behaviors and Impacts	
Total Days:	5,704
Agricultural producers will reduce herbicide use with increased use of cultivation, cultural management, band spraying, or lower-rate products.	1,305
Producers will implement pesticide and nutrient Best Management Practices to protect surface water and groundwater systems.	2,854
Management plans will be written as a result of UMCE efforts.	653
Producers will reduce negative impacts of livestock on streams.	36
Producers will adopt testing strategies as a part of management practices and use results in their management process.	1,820
Crop producers will identify yield-limiting factors and increase long-term productivity.	1,309
Potato and blueberry producers will understand and use thresholds for pest treatment.	2,008
Producers will use strategic planning, record keeping, and prediction models in their management practices.	1,689
Agricultural producers will implement Integrated Pest Management programs in Maine.	2,454
Producers will maintain pesticide certification by attending pesticide re-certification programs.	1,240
Producers will change pesticide application techniques and attitudes using Pesticide Applicator Training practices.	699
Producers will evaluate non-chemical pest control methods because of the Pesticide Impact Assessment Program.	14
Poultry and aquaculture producers will adopt Integrated Pest Management practices.	45
Maine citizens will take action to protect Maine's natural resources, by becoming inland and costal watershed stewards.	288
Maine citizens will form weekend watershed conservation teams to take action to correct easily correctable problems with the assistance of UMCE staff.	13
Maine citizens will use appropriate home horticulture practices to protect water resources.	920
Maine citizens will complete lake watershed surveys.	41
Maine citizens will have increased awareness of the threats to drinking water.	15,353
Maine citizens will take action to protect shellfish resources.	180
Maine citizens will monitor phytoplankton for an early warning system for toxins affecting public health.	196
Community groups will be involved in watershed management initiatives.	18

Acres will be covered in watershed management initiatives.	75,290
Maine citizens will be involved in leadership training to protect natural resources.	30
Maine residents will protect wetland and riparian habitats.	196
Maine citizens will protect wildlife habitat in suburban and rural settings.	84
Farmers and homeowners within source water protection areas will assess and take action to prevent water contamination.	167
Maine citizens will conduct coastal watershed surveys.	15
Maine citizens will have increased awareness of threats to marine habitats.	350
Maine coastal groups will learn capacity building techniques to protect marine resources.	75
People will graduate from UMCE Compost School.	136
Agricultural producers will start composting.	38
Municipalities will start composting.	50
Private compost facilities will be established.	175
Households will start composting.	220
Volunteer hours will be given by Master Composters for community projects.	150
People will participate in Master Composter projects.	60
Master Composter projects will be created.	10
Private composters will attend programs.	67
Master Gardener Volunteers will be train in composting education.	104
Residents will attend home composting programs.	308
Master Composters will be trained.	18
People will recognize significant improvement in gardening skills through participation in public garden programs.	16,712
Volunteer hours will be given by Master Gardeners to provide horticulture information to the public and develop community horticulture projects.	9,636
Educational and community projects will be developed and/or run by Master Gardeners.	200
People will participate in Master Gardener educational events and community projects.	8,122
Master Gardeners will further their education through college classes or technical programs.	66
Master Gardeners will start a horticulture-based business.	17
Specimens will be collected.	1,064
People will start a garden.	241
Soil tests will be submitted.	2,253
People will expand their garden space.	88
Soil tests will be interpreted.	483
People will report reduced pesticide use.	763
People will donate vegetables to food pantries.	402
People will adopt ecologically sound landscape practices that enhance wildlife habitat.	102

Pounds of produce will be donated to food pantries.	14,696
Value (in dollars) of food will be donated to food pantries.	20,970
Responses will be made to public requests.	5,602
Horticultural therapy programs will be started.	2
People will use adaptive gardening techniques.	22
Youth will demonstrate environmental stewardship and/or sustainable natural resource practices.	6,356
Youth will demonstrate a knowledge of the laws of ecology and/or an understanding of their connections with the earth.	8,311
Number of producers using Integrated Pest Management practices in apples, potato, sweet corn, greenhouses and cranberries.	1,492
Number of producers changing pesticide application techniques and attitudes using pesticide application practices.	1,086
Number of producers evaluating non-chemical pest control methods because of the Pesticide Impact Assessment Program (PIAP).	3
The USDA receives accurate information on pesticide use in Maine. Information gathered through a PIAP survey of the agricultural community. Number of surveys conducted.	0
Number of Maine producers implementing pesticide best management practices to protect the environment.	217
Number of Maine citizens who become certified pesticide applicators.	113
Number of Maine citizens making an informed decision regarding a pesticide application.	4,562
Number of gardeners and others who understand the ecology of beneficial and pest organisms and/or pest issues related to a specific commodity, crop or household situation.	2,954
Number of Master Gardeners who are able to successfully identify beneficial and pest organisms and utilize appropriate management techniques.	427
Number of Maine citizens who address a pest management issue after consultation or diagnosis by Pest Management Office staff.	3,565
Maine citizens will access up-to-date information on the Pest Management Office website and UMCE web page (# of hits).	191,080
Number of individuals and groups who develop goals and objectives for their forest.	165
Number of individuals or groups who develop a forest management plan.	54
Number of acres of forest included in forest management plans.	14,262
Number of individuals who implement their forest management plan.	13
Number of environmentally appropriate forest management practices adopted and the number of acres affected.	46
Number of environmentally appropriate forest management practices adopted and the number of acres affected.	11,858
Number of participants who consider alternative income opportunities for their land.	137

Number of alternative income opportunities adopted.	56
Number of BMP's adopted and the number of acres affected.	24
Number of erosion control measures adopted and acres affected.	10
Total dollars saved or earned as a result of implementing management changes learned through UMCE programs to enhance economic viability.	0
Total dollars saved or earned as a direct result of implementing new management changes learned through UMCE programs to utilize forest products more effectively.	32,000
Number of manufactures adopting safety practices.	3
Number of manufacturers who can describe the relationship of production, economic and environmental variables in making management decisions.	22
Number of firms implementing strategies or practices to increase product value or dollars earned.	569
Total dollar value from value-added strategies to local communities.	128,000
Number of new or expanded market opportunities for forest products.	13
Number of firms incorporating strategic planning, record keeping and predictive models in their management practices.	6
Number of firms implementing changes in management as a result of developing strategic goals and objectives.	6
Number of municipalities who develop and implement components of comprehensive urban forest management plans.	0
Number of urban forest resource management plans developed and implemented.	0
Number of participants completing the Covert Projects training.	0
Number of volunteer hours given by Coverts Cooperators to provide wildlife and forest resource information to the public and develop community outreach projects.	0
Number of youth and adults participating in Coverts Project outreach efforts.	0
Number of acres affected as a result of Coverts Cooperator outreach projects.	0
Number of environmentally appropriate practices adopted as a result of Coverts Cooperator outreach projects.	0
Number of communities starting a public policy process involving wetlands, timber harvest, endangered species and other resource issues.	0
Number of acres protected and enhanced by implementing strategies acquired as a result of public policy educational programs on sustaining renewable natural resources.	500
Number of acres protected but not enhanced by implementing strategies acquired as a result of public policy educational programs on sustaining renewable natural resources.	0
Number of contact hours of continuing education instruction delivered by UMCE staff or in collaboration with partners.	991

Number of natural resource professionals, educators and service providers attending continuing education instruction delivered by UMCE staff or in collaboration with partners.	111
Number of natural resource professionals, educators and service providers incorporating new knowledge and adopting new practices in their work.	97
Number of acres affected by the adoption of current or new practices.	0
Number of natural resource professionals who obtain their apprentice wood scaling license as a result of attending UMCE programs.	40
Number of loggers attending safety workshops.	0
Number of loggers adopting safety practices.	0
Number of safety practices adopted.	0
Number of natural resource professionals and service providers implementing BMP's as a result of attending UMCE programs.	0
Dollars saved or earned as a result of implementing BMP's.	0
Acres affected as a result of implementing BMP's.	0
People will gather and organize information.	1,356
People will make informed decisions demonstrating environmental stewardship and sustainable marine resource practices.	1,493
People will take steps to achieve personal and community goals.	1,242
OUTPUT INDICATORS	
Number of consultations.	13,650
Number of workshops/events.	947
Number of people attending the workshops/events.	37,683
Number of groups formed (ad hoc or formally organized).	72
Number of people involved in groups formed (above).	1,556
Number of volunteers trained.	1,857
Number of publications written.	64
Number of publications distributed.	61,105
Number of issues of newsletters written.	123
Number of people receiving newsletters within a year's time.	34,440
Number of audio visual resources developed (video, slides, displays).	124
Number of articles in news media.	179
Number of visits to cranberry website.	0
Circulation of articles in news media.	2,442,887
Number of Master Gardener volunteers successfully completing training.	329
Number of people reached through Farmers Markets.	217
Number of radio program listeners.	9500
Number of radio programs produced.	6
Number of television segments produced.	35
Number of horticultural therapy adaptive gardening workshops/consultations.	21

Source of Funding

Performance Goal	FTE Days	Funding Source		State Funds	Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]		
Goal 4-1	762.2	\$136,233	\$111,702	\$300,242	\$548,177
Goal 4-2	370.5	\$47,808		\$144,561	\$192,368
Goal 4-3	229.8	\$44,252		\$133,811	\$178,064
Goal 4-4	973.0	\$149,317		\$451,507	\$600,825
Goal 4-5	402.0	\$63,222		\$191,172	\$254,394
Goal 4-6	1,454.2	\$204,161		\$617,346	\$821,508
Goal 4-7	230.1	\$42,395		\$128,196	\$170,591
Goal 4-8	120.0	\$19,194		\$58,038	\$77,231
Goal 4-9	23.3	\$4,613		\$13,947	\$18,560
Goal 4-10	23.0	\$3,559		\$10,762	\$14,321
Goal 4-11	626.0	\$78,922		\$238,647	\$317,569
Goal 4 Total	5,214.1	\$793,677	\$111,702	\$2,288,229	\$3,193,608

Significant Program Accomplishments Corresponding to Key Themes

Key Themes: Nutrient Management, Water Quality, Soil Quality

Comprehensive Nutrient Management Education Program: With the passage of recent legislation, Maine dairy and livestock producers are required to develop and implement Comprehensive Nutrient Management Plans (CNMP) which demonstrate how they use livestock manure on their farms in ways that prevent nitrate contamination of groundwater. UMCE has taken the lead role in training producers as certified planners, and in coordinating the development, testing and delivery of a computer program to assist producers in creating their own plans. Producers, agribusinesses and agency staff attended training sessions on the use of the computer programs. In support of producers, a UMCE educator serves on the Nutrient Management Review Board for Maine, which holds public meetings on appeals and variances and makes recommendations to the commissioner of agriculture. The board also helped facilitate the dispensation of 2.5 million dollars in grant funds for producers to construct manure storage facilities. UMCE has developed and distributed a record-keeping publication to 286 farms to help producers maintain their compliance with regulations by tracking manure applications.

Summary of Impacts: The computer CNMP was distributed to the Maine Department of Agriculture, Food and Rural Resources and each state office of the Natural Resource Conservation Service. Forty-five CD-ROMS were distributed to individual producers and agribusinesses for use in writing nutrient management plans. UMCE representation on the Nutrient Management Review Board has influenced the way farmers have used state funding to meet the requirements of the legislation. As of August 2001, nearly 300 CNMPs have been written by producers and certified by UMCE and the Maine Department of Agriculture, Food and Rural Resources, covering almost 70,000 acres of land, and 65 percent of the farms in Maine that require CNMPs. Seventy-one industry personnel have successfully met the requirements for commercial certification. Approximately 300 record-keeping publications have been distributed to producers.

Scope of Impact: State Specific

Pre-Sidedress Nitrogen Test (PSNT): Maine dairy and vegetable producers need to maximize the efficiency of their nutrient inputs for crop production, in order to decrease operating costs and reduce nutrient movement to the surface and groundwater. UMCE provided PSNTs to silage and sweet corn producers as a management tool, and during 2001 our educators analyzed PSNT values from 350 acres of corn. Four field research trials were established in three counties to assess stalk nitrate values. Stalk nitrates were collected and analyzed with the intent to provide a nitrogen management tool for vegetable and dairy producers for future seasons.

Summary of Impacts: As a result of the analysis only two fields required supplemental nitrogen fertilizer resulting in a minimum savings of \$7,200 and at least 26,000 pounds of applied nitrogen fertilizer that was not applied.

Scope of Impact: Joint Research and Extension

Key Theme: Integrated Pest Management

IPM Programs of UMCE: IPM programs are conducted in strawberries, blueberries, cranberries, sweet corn, apples, potatoes, greenhouses and for homeowners. Over 200 commercial growers are involved in IPM educational programs. Our pesticide education faculty have; conducted grower meetings to introduce farmers to lower rate materials and alternative pest control measures; facilitated programs to help farmers scout fields to identify pest problems; developed forecasting models to predict pest and disease outbreaks; conducted pesticide applicator training and re-certification programs; and conducted insect and plant disease identification for individuals and industry. Common armyworm was a serious problem for grass crops in the summer of 2001. Within days of identification of the problem, a fact sheet and web page were developed to inform the public of when and how to address the situation and avoid unnecessary and potentially polluting treatments.

Summary of Impacts: Approximately 250 individuals completed pesticide applicator training and over 450 individual pesticide re-certification credits were given to farmers attending UMCE pesticide education programs in 2001. IPM program efforts to monitor for aphids showed that populations were low and later than usual, saving potato growers at least one scheduled aphicide application, which equates to an industry savings of over \$1,000,000 in reduced pesticide costs and an approximate savings of 17,000 gallons of insecticide. This year cranberry growers estimated they saved in excess of \$175,000 in reduced insecticide costs. Over 7,000 people were helped directly with insect and plant disease diagnosis by UMCE staff, identifying pests as well as biological organisms. Nearly 200,000 visits were made to the Pest Management Web site to obtain information on pests.

Scope of Impact: State Specific

Alternative Fly Control: Organic milk producers have expressed a need for alternatives to pesticides in fly control that are environmentally friendly and adaptable for use in Maine. UMCE, in collaboration with the Maine Agricultural Center and the Maine Department of Agriculture, Food and Rural Resources, has conducted an on-farm demonstration project, initiated in 2001, on the use of biological fly control in dairy barns. Researchers used parasite releases of *Muscidifurax raptor* and *Muscidifurax raptorellus* in conjunction with each farmer's traditional methods of fly control. Fly populations and environmental conditions were monitored weekly. Programs for the Maine Organic Farmers and Gardeners Association were conducted during the fall dairy seminar and a publication on alternatives for fly control is in the process of being produced.

Summary of Impacts: The preliminary review of data shows that biological control is beneficial in general animal holding space, and more so in enclosed environments such as calf hutches. The new method of fly control reduced the number of organic-approved pyrethrin sprays by two sprays per farm, saving farmers an average of \$250. Parasitism increased, resulting in reduced fly activity. Conclusions are partially based on producer observations and their awareness of previous levels of fly populations, the general environment and the level of animal comfort. By sharing our work and demonstrating how biological controls can work on dairy farms, producers have gained understanding of the benefits of a multi-disciplinary approach to fly control. One participant in the demonstration project commented, "Those little parasites sure did work. We cleaned out our

bedding and there were no flies- it's the first time that ever happened in the summer." All of the participants are willing to try releasing parasites again next year.

Scope of Impact: Integrated Research and Extension

European Corn Borer: Since 1998 the European corn borer has become a major pest problem for potato growers in the state of Maine, some of whom have sustained substantial economic damage. In response, UMCE heightened its control efforts and surveillance of the European corn borer and began working with growers in the affected areas. Specialists and educators suggested management strategies to combat the pest and taught growers weather-based methods to predict moth flights and egg laying of this pest. During the past growing season the IPM program employed twenty-six insect scouts and employed special insect traps to assist growers in monitoring insect activity. A special effort was made to teach identification and scouting techniques for European corn borer to area chemical sales personnel.

Summary of Impacts: The European corn borer has significantly expanded its range causing significantly higher populations in 2001 than in 2000 and 1999. Several growers located outside of the historically infested area experienced significant populations and might have sustained substantial economic losses if IPM detection techniques had not been in use. The program served to alert growers to the new threat and helped them implement monitoring activities. Based on monitoring, growers were able to undertake a controlled response.

Scope of Impact: State Specific

Potato IPM: Potato IPM offers growers an alternative to calendar spray schedules, often saving them money and minimizing pesticides and insecticides in the environment. UMCE teaches potato producers how to better understand thresholds for treatments, and provides support to enable producers to implement IPM programs on their farms. We maintain approximately 150 small weather stations on farms across the state that monitor microclimatic conditions favorable to late blight outbreaks. The data is computer modeled and predictions are offered on the Late Blight Hotline, which was updated over 24 times during the 2001 growing season. Late blight alerts containing recommendations on spray intervals and timing, short-term weather forecasts, and additional chemical recommendations were given at least twice weekly during the season. The potato IPM program operated 130 grower/cooperator field sites, which were used to survey potato pest populations and teach growers how to scout fields, implement pest threshold information and understand disease forecasting strategies. The IPM staff employed several special insect traps to assist growers in monitoring insect activity, which showed that aphid populations in Maine were generally low for the 2001 potato-growing season, minimizing calendar sprays. The program also conducted a pilot IPM program with approximately 20 soybean and canola producers. Our potato IPM field staff were responsible for approximately 8,000 personal client contacts. Over 10,800 mail contacts and 1,200 contacts via the potato IPM Web site were made. As a result of the model forecasting project, the late blight hotline recorded in excess of 800 phone calls.

Summary of Impacts: One thousand eight hundred individual field scouting reports were completed with area potato growers and almost 500 customized late

blight and early blight forecasts were given to area growers. Sixteen grower-cooperators were trained to operate their own weather stations and produced disease forecasts for the growing season. As a result of the monitoring of environmental conditions and forecasting of potato late-blight outbreaks, growers saved an average of three fungicide applications equating to a savings of approximately \$30 per acre or \$2 million dollars, and reduced fungicide use by nearly 300,000 pounds.

Scope of Impact: State Specific

Key Themes: Agricultural Waste Management, Yard Waste/Composting

UMCE Compost School is a collaboration among UMCE, the University of Maine, the Maine State Planning Office; the Maine Department of Agriculture, Food and Rural Resources; and the Maine Department of Environmental Protection. The basic compost school program is a week-long, intensive training program for individuals to become qualified as compost facility managers and operators. Participants are taught the basics of establishing, managing and operating a compost facility through classroom, hands-on and field trip experiences. Advanced training programs are also offered to provide ongoing training to graduates. One program graduate has provided an accommodation for deaf people to participate in the program through eight videos accompanied by power point slides of the audio portion of each video. During 2001, 48 students completed the basic compost school program and 18 completed the advanced course in Maine. The course was also presented to 30 participants from North and South Carolina at the request of the Carolinas Composting Council.

Summary of Impacts: Two recent graduates, employed by the Presidio in California, part of the Golden Gate National Recreation Area and the national park system, established a goal to compost 100 percent of their organic residuals and use the compost to improve native plant survival rates. They are presently composting 40 percent of the park's organic residuals and utilizing this compost within the park. Estimated annual savings to the park at this time are \$40,000. Reaching the goal of 100 percent should save the Presidio \$100,000 annually. Two graduates from Norway have written a grant to obtain funding from their government to establish a training program in Norway modeled after the UMCE Compost School. Two graduates employed by a municipality in Canada have successfully started a large-scale compost facility, which handles 1,000 tons per month of leaf, yard, food and paper waste from the residential waste stream through curbside collection. Two other graduates have embarked on composting projects in developing countries. One is in Ecuador, where his goal is to promote sustainability in agricultural practices and establish waste management alternatives for the population. Another is consulting on composting and other sustainable practices in Haiti, Columbia, Peru, Ghana, Surinam, Ecuador and Mexico.

Scope of Impact: Multistate Extension: CA, CO, IL, MA, NY, WA, PA, WV, VT, TX, CT, ID, KS, VI, GA. International participation in 2000/2001: Canada, Mexico, Norway, Finland, Czech Republic, Puerto Rico

Key Themes: Ornamental/Green Agriculture, Home Lawn and Gardening

Master Gardener Training: The UMCE Master Gardener program trains Master Gardeners who, in return, commit to volunteer community outreach education in their communities and through UMCE Home Horticulture Education programs. Master Gardener volunteers in nine counties received a minimum of 40 hours each of classroom training in 2001. Some clients take the training to gain information beneficial to starting or expanding their own business. The program produces a quarterly newsletter used in part to continue the training of Master Gardeners through special technique articles such as how to conduct field trials in demonstration gardens and home gardens.

Summary of Impact: During 2001, 230 individuals completed Master Gardener training. Master Gardener volunteers donated over 9,600 hours to provide free horticulture information to the public and develop community horticulture projects, developing and running 45 new projects in Maine. Seventeen Master Gardeners began new horticulture-based businesses in 2001. There are at least 57 graduates who currently operate businesses that are new or expanded since completing Master Gardener training. At least 33 graduates are currently employed in horticultural businesses.

Scope of Impact: State Specific

Key Themes: Forest Crops, Forest Resource Management, Natural Resource Management

Forestry Programs of UMCE: The UMCE forestry program provides publications and programs on a wide range of topics, including growing Christmas trees, enhancing habitat for wildlife, and operating a portable sawmill. Forest owners need to know how to value forest land, how their forest grows and develops, how to interpret and characterize forest stand development, how to assess tree and forest health, and how to implement low impact logging practices. Twenty-one forestry workshops and educational events in 2001 attracted over 4,800 Maine residents. UMCE forestry specialists designed and implemented a multi-modal experiential learning program on landowner values, forest stand assessment and forest planning. In cooperation with the local chapter of the Small Woodland Owners Association of Maine, our specialist served as a resource person for a low impact forestry and logging field day, providing information about forest stand development and age/stage-appropriate forest improvement practices. Individual consultations were provided to 271 woodlot owners, and seventeen woodlot education volunteers received training. Two formal groups involving 113 members were formed as a result of UMCE educational efforts and we wrote and published twelve new publications.

Summary of Impacts: Fifteen landowners identified their personal goals for their forest, then mastered and applied the principles and practices of forest stand interpretation and assessment as part of their forest planning and management program. Another fifteen landowners learned how low impact forestry and logging practices are applied to forest stand improvements via age/stage-appropriate assessments of forest stand conditions and silvicultural prescriptions. In addition,

- 165 individuals and groups developed goals and objectives for their forest,
- 54 forest management plans were developed for a total of 14,262 acres,
- 13 forest management plans were implemented,

- 46 environmentally appropriate management practices were adopted for 11,858 acres,
- 137 participants considered alternative income opportunities for their land, and
- 56 alternative income opportunities were adopted.

Scope of Impact: State Specific

Key Themes: Forest Crops, Forest Resource Management, Natural Resource Management, Jobs/Employment, Workforce Preparation

Approved Wood Measurement Training Program: The state of Maine requires that any person scaling forest products for the purpose of providing payment for goods or services be licensed by the state. In order to receive a license, an applicant must serve a two-year apprenticeship under a currently-licensed professional scaler and pass a written examination. If the applicant completes an approved training program, the apprenticeship requirement is reduced to six months. UMCE, working with the Maine Division of Quality Assurance and Regulations, the UMaine office of professional development and the UMaine department of forest management, presented two courses designed to meet the approved training requirement. All phases of the wood measurement law were covered in detail and participants received hands-on experience in log scaling.

Summary of Impact: Forty natural resource professionals from northern New England and Canada completed the course in 2001 and were qualified for the reduced period of six-months in the apprenticeship program, expediting their ability to work independently or their opportunity to compete for higher paying positions that require a license.

Scope of Impact: Multistate Extension. ME, NH, VT, Canada

Key Themes: Natural Resources Management, Soil Erosion, Water Quality

Watershed Stewards Program: The number of New England lakes at risk is growing, with over half threatened by eutrophication. Non-point source pollution caused by increased lakefront development, intensification of agricultural production and soil erosion from a variety of land uses increases phosphorus levels in lakes, leading to algal blooms. People need to understand how to minimize their impact on lake water quality. Through the Watershed Stewards Program, UMCE works with lake associations and lakefront property owners to reduce non-point source pollution impacts to Maine lakes. The program is conducting watershed surveys in three Maine lakes, which have led to demonstrations of ways to prevent soil erosion involving utilization of riprap, road runoff diversions, and many other prevention measures to help maintain water quality. Work has begun on the Swan Lake buffer project with Master Gardeners working to plant a vegetated buffer. The Department of Transportation has also begun work on a project to improve roadside runoff as a result of watershed survey data on erosion problems. Day of service projects have been organized on two Maine lakes to teach people about the importance of lake protection while also accomplishing tasks that can have a positive impact on lake water quality.

Summary of Impacts: The Maine Department of Environmental Protection awarded \$12,500 to the Swan Lake Association and UMCE for an implementation and demonstration grant. Work began last spring. The Maine

Department of Environmental Protection awarded an additional \$2,500 to UMCE and the Lake St. George Association to conduct a watershed survey. One hundred and forty Unity College students and 20 volunteers worked on ten different service projects around Unity Pond in September and Lake St. George in October. Together these students and volunteers installed 1,200 ft. of stone waterway for the town of Unity to control erosion on Quaker Hill; repaired the boat launch and installed a plunge pool in Burnham; installed waterbars on four camp roads to control erosion; installed 400 feet of stone waterway on a camp road; and reseeded 2,000 feet of ditches in the town of Troy.

Scope of Impact: State Specific

Key Theme: Natural Resources Management, Marine Environmental Monitoring

Webhannet Watershed Non-point Source Pollution Investigation: Half the total area of productive clam flats in the Webhannet River estuary have remained long closed due to bacterial contamination from unidentified sources. A UMCE researcher worked with project staff from the Wells National Estuarine Research Reserve, Americorps, the University of New Hampshire and Jackson Estuarine Lab to implement a fecal coliform monitoring program and shoreline surveying program designed to collect samples that could be put through a microbial source tracking procedure in order to identify the source of the contamination. Nearly 40 community volunteers were involved in the effort.

Summary of Impacts: Although the microbial source tracking results are still pending, this project has provided a base for a very comprehensive study funded by a two-year \$194,000 grant from the Cooperative Institute for Coastal and Estuarine Environmental Technology at the University of New Hampshire to identify sources of fecal coliform bacteria in the Webhannet and Little River watersheds. The steering committee has used preliminary results to guide the development of an action plan for the Town of Wells, which includes the creation of a comprehensive storm water management plan for the town.

Scope of Impact: Multistate Integrated Research and Extension; ME, NH

The Maine Phytoplankton Monitoring Program: Harmful algae blooms have the potential to cause paralytic shellfish poisoning in shellfish consumers, a condition which can cause death. UMCE, Maine Sea Grant and the Maine Department of Marine Resources (DMR) collaborate to support the Maine Phytoplankton Monitoring Program. Coordinated and trained by a UMCE and Maine Sea Grant partnership, 30 volunteers monitor 37 sites, enabling the DMR biotoxin program staff to focus their efforts where biotoxins are most likely to accumulate. The Maine Phytoplankton Monitoring Program was presented with the Food and Drug Administration's Team Award in June 2001 in Washington, D.C. as a member of the FDA SeaPort Program Research and Development Team. The Director of the DMR said that "to be selected for special recognition should be most satisfying, since accomplishments such as yours impact the well-being of the public."

Summary of Impacts: The Maine phytoplankton monitoring program volunteers monitored the entire coast of Maine, approximately 4,000 miles and were able to alert the DMR of potential threats due to algae blooms and to the presence of the dinoflagellate *Alexandrium*, which infects mussels, causing them to be toxic to humans. The *Alexandrium* identification has resulted in two regions being tested for toxicity levels and subsequently closed to shellfish harvesting in 2001.

Scope of Impact: Integrated Research and Extension

Key Themes: Natural Resources Management, Marine Environmental Monitoring, Land Use, Soil Erosion, Wetlands Restoration and Protection

Beach Profile Monitoring: Many beaches in southern Maine are experiencing chronic erosion that threatens critical wildlife habitat and public and private property. Changes occurring on southern Maine sandy beaches are not well understood due to a lack of long-term data. A UMCE researcher is coordinating more than 120 volunteers who are monitoring the profiles of 15 sandy beaches in southern Maine as part of a collaboration between UMCE, Maine Sea Grant, the University of Maine Department of Geological Sciences, the Maine Coastal Program and Maine Geological Survey. The process is replicated once each month at low tide by using a simple surveying technique to measure the contour of the beaches. Five new beaches were added to the project between 2000 and 2001.

Summary of Impact: The data collected allowed a Maine Sea Grant-supported graduate student to identify significant trends on the monitored beaches. The data have proven to be a valuable tool to the Maine Geological Survey in reviewing permits for construction in sand dunes and for the development of a statewide policy on the processes involved with replenishing beach sand, known as beach nourishment.

Scope of Impact: Integrated Research and Extension

Southern Maine Beach Planning Process: Chronic erosion problems, heightened development pressures, increased demand for public access, higher rates of sea-level rise, and regulatory conflicts have recently focused attention on southern Maine's beaches. Stakeholder opinions differ widely as to how these issues should be addressed. From 1999 through 2001, regional beach planning committees in Saco Bay, Wells Bay, and Scarborough have been trying to reach agreements on new ways to protect Maine's beaches. These committees comprise local shorefront home and business owners, conservation commission members, non-profit environmental organization members, and representatives from the Maine Department of Environmental Protection and the Maine Department of Inland Fisheries and Wildlife. A UMCE professional provides educational materials to committee members, manages outreach efforts in local communities, assists with meeting facilitation, and serves as a member of the Public Access and Outreach subcommittee.

Summary of Impact: After a year and a half of facilitated deliberations and extreme divergence of opinion among beach planning committee members, a consensus-based beach management plan for Wells Bay was drafted by the committee in the spring of 2001. Agreement on the plan has made it possible for funding of a \$150,000 Army Corps of Engineers study on the impact of Wells jetties, revision of the Maine Department of Environmental Protection (DEP) sand dune rules to address concerns brought to light during committee deliberations, and a DEP methodology for addressing inconsistencies between shore land zoning and sand dune rules.

Scope of Impact: State Specific

Key Themes: Natural Resources Management

Relocation of Green Sea Urchins: Green sea urchins are over-fished in Maine, with landings declining over 66 percent since 1993. In response to poor landings, fishermen in Cobscook Bay moved 65,000 pounds of urchins, at an estimated cost of \$2,400 per move, from areas with high populations of poor quality urchins to areas where abundant food was available, to try to increase their numbers and quality. Fishermen were optimistic that the self-imposed management strategy had worked until they requested assistance in scientifically evaluating the next urchin relocation. UMCE, Maine Sea Grant, the Maine Department of Marine Resources and the Cobscook Bay Fishermen's Association initiated a project in which they evaluated 8,000 pounds of relocated urchins over a period of several months for changes in mortality, movement, and weight.

Summary of Impact: Initial findings of the study indicate that over 60 percent of the urchins perished within weeks after being moved. Participating fishermen were surprised by the high mortality rate and have decided to postpone further urchin relocation as a management strategy until studies in capture and handling techniques can be conducted and make the project cost effective. UMCE and Maine Sea Grant in partnership with Maine Department of Marine Resources and the Sea Urchin Zone Council facilitated industry-wide meetings to reach agreement on reductions in landings to encourage a sustainable industry.

Scope of Impact: Integrated Research and Extension

Sea Lice Control for Salmon Farms: Maine salmon farmers were experiencing economic hardship due to sea lice infestations. Loss to uncontrolled sea lice infestations of farmed salmon are estimated to cost the Maine salmon industry about 5-10 percent of the production value, or 5 to 10 million dollars annually (based on 2000 production). UMCE, Maine Sea Grant and participating aquaculture companies responded to this dilemma by establishing an integrated pest management program for sea lice control. Elements of the program include a coordinated monitoring effort for this salmon parasite and research into assessing prevention and treatment methods.

Summary of Impacts: Researchers found that the use of one drug, EXCIS cypermethrin, was 90 percent effective at controlling sea lice on farmed salmon stocks. The cost of the implementation of control measures to the industry is about 1 million dollars. The program has saved the industry between 4 and 9 million dollars. Farmers now routinely monitor the numbers of sea lice on their fish and impose treatment and prevention measures upon the advice of their veterinarian. Studies into further prevention and treatment methods are continuing.

Scope of Impact: Integrated Research and Extension

Key Themes: Natural Resources Management, Conflict Management

Informational Meetings Improve the Dialogue Between Maine's Aquaculture Industry and Communities: Marine aquaculture in Maine's inshore waters is a \$60 million industry with the potential to diversify our coastal economy and help meet the world's increasing demand for food from the sea. However, the aquaculture industry in Maine is meeting increased resistance from coastal communities concerned about the environmental and aesthetic effects of these businesses. The public debate is often emotional and lacking in factual, research-based information. UMCE and Maine Sea Grant have created a new public forum

to promote more factual and open dialogue between communities and aquaculture businesses applying for standard or experimental leases from the Maine DMR. Four meetings have been held in three municipalities and 75 people have participated.

Summary of Impact: These meetings have fostered an improved understanding of the aquaculture industry within these municipalities and a resolution of some of the public's site-specific concerns about aquaculture operations. One meeting empowered several shoreline property owners in Saint George, Maine to change the state statute defining requirements for public notification by aquaculture lease applicants, via their local legislator. Both the aquaculture industry and the coastal communities are benefiting from these meetings.

Scope of Impact: State Specific

Facilitation & Conflict Resolution: Marine Worm vs. Clam Harvesters: Marine worm and clam harvesters have combined landings that produce over \$20 million in annual income for the 3,000 to 4,000 fishermen harvesting these two species. There is a long history of conflict between marine worm harvesters and soft-shell clam harvesters on Maine's intertidal flats, reducing the productivity of both fisheries as well as income to harvesters and dealers. Restrictive legislation written and promoted by regional shellfish committees was strongly opposed by worm harvesters. This legislation would have provoked more intense conflict on the flats and in the legislative process. UMCE and Maine Sea Grant, working with Maine Department of Marine Resources and the Maine Soft-shell Clam Advisory Council, initiated and facilitated a meeting last summer between town shellfish committees and marine worm buyers and harvesters to explore ways to reduce or eliminate the conflicts.

Summary of Impact: As a result of the meeting, the shellfish committees withdrew the controversial legislation and a written agreement of cooperation between the two fisheries was drafted. The groups will meet early in 2002 to evaluate the success of the agreement and decide on further action. "This agreement could begin much-needed cooperation and improved relations between the two fisheries," said Stan Fairservice, a marine worm buyer in Alna, Maine.

Scope of Impact: State Specific

Key Theme: Youth Development/4-H

Penobscot River and Bay Institute: The Penobscot River and Bay Institute is an organization dedicated to teaching school-aged youth to understand the complex ecological relationships within the Penobscot River watershed. UMCE engaged the Institute Board of Directors in a review of their by-laws and then led them through "results planning," goal setting and curriculum development sessions.

Summary of Impact: The board revised and approved its by-laws and moved forward with a new sense of purpose. A curriculum was developed and presented to 1,181 children from 18 schools. Ten sessions were conducted beside the river, six on the river and three with combined sessions. Approximately 650 children learned about the ecological relationships within the Penobscot River watershed, the history of the logging industry or forestry.

Scope of impact: State-specific

Key Themes: Youth Development/4-H, Environmental Education, Communication Skills, Character/Ethics Education

Tanglewood 4-H Camp and Learning Center is a creative partnership between UMCE, the Maine Department of Conservation's Bureau of Parks and Lands, and the non-profit Tanglewood Camp and Learning Center, that directly addresses UMCE's goal that Maine youth acquire the knowledge and skills to protect the natural environment and conserve natural resources. At Tanglewood, people learn to live responsibly and in balance with the earth. The camp is on the Ducktrap River in a forested 940-acre section of the Camden Hills State Park. There are 45 rustic buildings, including a dining hall with modern kitchen, a nature center, sleeping cabins, wash buildings, swimming area and playing fields. Hiking and cross-country ski trails meander through the forest and along brooks and streams. Trails lead to nearby mountaintops, which offer vistas of Penobscot Bay and the islands. During the 2001 program year more than 2,900 youth and adults participated in educationally enriching and fun-filled environmental education experiences through summer youth camps, school programs and Elderhostel.

Summary of Impacts: This year, 470 boys and girls, ages 8 through 4, participated in either one- or two-week summer residential camps. In these programs youth developed a sense of community, lasting friendships, an awareness of the natural world and skills in nature study, wildlife, gardening, art, drama, outdoor living, watershed ecology, pond study, field sports, creative art projects, woodworking, musical instruction, cooking or swimming. Fifty-seven campers, ages 6–8, participated in one- and two-week day camp sessions. Day campers acquired a sensitivity to and awareness of the beauty and wonder of nature through hands-on explorations of nature. In working together they learned skills of cooperation, making friends, quiet observation and respect for all life. Through crafts and artwork they discovered the joy of making something from nature with their own hands. Seventy-three boys and girls ages 10–12 participated in weeklong discovery trips that featured camping on coastal islands, living on an organic farm, backpacking on the Appalachian Trail, canoeing on inland ponds, eating outdoors and sleeping in tents. Campers learned about the natural systems of the earth, about the five basic needs of all living things, and about low-impact camping and outdoor living skills. Thirty-two boys and 27 girls ages 14–17 attended the two-week Leadership 1 and three-week Leadership 2 programs. All leadership graduates acquired skills in backpacking, canoeing, resolving conflicts, solving problems, improving communications and working together to achieve a common goal. Back at camp, participants were immersed in leadership training classes and practiced what they learned by leading activities with younger campers. Leadership campers reported that they learned how to be responsible and get along in a group setting, about the importance of having patience and tolerance and that “teamwork, friendship and having fun are crucial to everything.”

Scope of Impact: Multistate Extension; ME, NH, MA, RI, FL, CT, NY, HI, CA, VA, MD, OK

Tanglewood Garden Project: Tanglewood 4-H Camp and Learning Center summer campers have joined with master gardener volunteers trained by UCME to learn about gardening and grow food for the summer camp. The organic garden produced much of the camp's lettuce, peas, beans, squash, tomatoes, cucumbers

and other vegetables. This summer, approximately 50 campers participated in the "garden focus" program at Tanglewood's week-long residential summer camp.

Summary of Impacts: As a result of their participation, summer campers acquired knowledge and skills in organic gardening. Campers learned about growing food organically and the life cycles of pests through skits and hands-on activities.

Campers also learn how to compost food wastes by managing the camp's compost bin. Tanglewood has incorporated food education into the meal service of spring and fall school programs. Extra food is given to local food pantries and distributed to local individuals in need. This year 100 pounds of produce was donated to the needy.

Scope of Impact: Multistate Extension; ME, NH, MA, RI, FL, CT, NY, HI, CA, VA, MD, OK

CSREES Goal 5

Enhanced Economic Opportunity and Quality of Life for All Americans

Executive Summary

During the past year, UMCE has taught potential and existing small and home-based business owners in Maine. The focus has been on access and evaluation of reliable business resources and research-based information to improve their business management practices and decision-making skills. Our new Web-based Virtual Resource Library expands access to resources for Maine people linking them to small business management topics, business-assist organizations, trade associations, demographic and economic data, UMCE fact sheets, and the UMCE calendar of business education events. More than 3,000 Maine people have benefited from our workshops, business clinics, radio programs, individual consultations, publications and information. Maine people learned how to evaluate, start and grow their own small and home-based businesses through UMCE's small business clinics. We partnered with other business assistance providers to participate in resource sharing roundtables and workshops focused on increasing the visibility and accessibility of the many resources available in Maine. Business clinic participants learned a variety of management techniques including how to write business plans, conduct market research, identify new markets, network and evaluate the feasibility of their business ideas. We also cooperated with researchers at the University of Maine in several important economic development-related research-outreach projects. We initiated or participated in over 100 collaborative and/or cooperative efforts with other business-assist organizations, small business owners and researchers that resulted in more than 180 outreach activities, including:

- Mid-Coast Home-Based Business Conference
- Piscataquis County Cultural Heritage Project
- Business-Assist Resource-Sharing Roundtables
- Incubator Without Walls Entrepreneurship Programs
- Entrepreneurship Policy Academies
- Business Education Workshops
- Piscataquis County Micro-Enterprise Survey
- Calais Trade Area Analysis Workshop
- Business Outreach on Community Radio

During the past year, UMCE was a member of the USDA's National Home-Based Business and Micro-Business Design Team. Team members developed an evaluation instrument for UMCE educators who work with home-based and micro businesses. UMCE also conducted a survey of 72-home-based and retirement career small business owners in western Maine, evaluating the changing face of rural entrepreneurship due to in-migration of wealthy retirees. The survey has implications for community economic development and viability planning by rural municipalities. The study's findings are being disseminated to municipal and economic development groups in western Maine as background data for municipal efforts to attract and retain small business owners who can help revitalize local economies and civic participation. Our efforts promise to enhance economic opportunities for thousands of Maine people.

UMCE quality of life improving programs are highly diverse and cover the life span. More than 3,500 people participated in diverse programs including family team-building, women's growth and leadership, aging and elder care-giving, the Senior Companion Program, and nutrition education. One thousand sixty-eight volunteers were trained this year and 25 new family education publications were written and distributed. UMCE presented 98 parenting workshops for over 1,500 people, focusing on family dynamics, violence and issues unique to young parents. In addition, educators provided 2,734 individual consultations with parents and helped form 18 new parenting groups. Parents in Maine were supported by 11 new parent education publications and 32 newsletters distributed to nearly 5,800 people. Parent educators made 1,367 home visits to parents, and nutrition educators incorporated parent education material into their nutrition programs and home visits.

For the last seven years, UMCE has incorporated leadership and group management workshops as primary components of support for parent educators and parent educator trainers in Maine. Emphasis has been on teaching new leadership and group management skills, increasing educators' awareness of how they lead groups, and exploring the group dynamics of effective adult learning. We strive to incorporate multiple approaches and theories. Of the 244 parent educators attending 17 workshops, 213 reported adopting at least one new practice or skill in leading parenting education classes or groups, and 199 of these parent educators adopted at least one new skill or practice in working directly with parents. Two hundred eighteen child care providers reported adopting a new skill or practice enhancing their ability to care for children and/or work with parents. UMCE staff held 110 consultations with parent educators.

UMCE's youth programs help young people reach their full potential to become responsible citizens and effective leaders. Our programs help youth set and reach goals and widen their aspirations horizons, as well as broaden their experiences. Our programs give Maine youth skills with lifelong applications including: conflict management, leadership, decision-making, problem-solving, communication, employment and entrepreneurship. We teach Maine youth to treat themselves and each other with respect, to accept and understand differences, to practice good nutrition, and to help create a safe environment in which to live and grow. We teach them to accept each other peacefully by reducing violent ways of interacting with each other. We involve them in community service projects that help them to understand their value in developing healthy communities.

Consolidated Plan of Work Performance Goals 5-1 through 5-15

OUTCOME INDICATORS: Behaviors and Impacts	
Total Days:	6,178.1
People will contact business-assist organizations.	612
People will take part in networking opportunities.	879
People will report ease in understanding and accessing small business educational resources.	614
Enterprises will be retained/expanded.	198
New enterprises will be created.	160
Non-viable business will not be started.	40
Enterprises will transition to closure.	6
Enterprises will report increased revenues and/or decreased costs.	30
Jobs will be created.	102
People will write business plans.	239
People will write marketing plans.	159
People will write customer service plans.	52
People will develop record keeping systems.	174
People will adopt one or more business management practices (e.g. developing a pricing strategy, etc.).	1,531
Cooperative groups will be formed.	39
Collaborative groups will be formed.	19
Educational activities resulting from cooperative/collaborative efforts.	182
People will report mentoring other business owners.	70
People will present/facilitate educational activities at conferences, etc.	155
People will increased their confidence and participate in organizational or community affairs related to small business.	153
People will report increased understanding of personal leadership skills.	221
People will report increased understanding of others' leadership skills.	166
People will use leadership skills to bring about change in their business and those with whom they interact.	99
People will use leadership skills to enhance small or home-based businesses in Maine.	114
People will be involved in public policy issues affecting small or home-based businesses in Maine.	9
Parent educators will adopt at least one new practice or skill in leading parenting classes or groups.	213
Parent educators will adopt at least one new practice or skill in working with parents.	199
Child care providers will adopt at least one new practice or skill that enhances their ability to care for children and/or work with parents.	218
Adults will adopt at least one new parenting skill.	1,647

Adults will incorporate new information that enhances a child's development.	2,234
Child care providers will adopt at least one new parenting skill.	265
Child care providers will incorporate new information that enhances a child's development.	338
UMCE nutrition aides and educators will incorporate parent education materials into their programs.	50
The number of UMCE parent educators incorporating nutrition education materials into their programs.	5
The number of coalitions with UMCE involvement that support healthy child development and position parenting skills.	34
Adults will adopt a least one new growth-enhancing skill.	2,227
Adults will develop strategies to strengthen family and other important relationships.	1,840
The number of adults enhancing their knowledge and/or skills to provide necessary care for aging family members.	1,881
With UMCE involvement, coalitions that facilitate building systems needed for adults will engage in positive, growth-enhancing behaviors.	48
Youth will demonstrate and document workplace skills and competencies.	965
Youth will organize and maintain appropriate personal financial information.	966
Youth will make informed financial decisions.	1,082
Youth will take steps to achieve personal financial goals.	868
Youth will demonstrate and document the ability to work in diverse settings.	877
Youth will demonstrate the qualities necessary to run a successful business.	672
Youth will demonstrate the skills necessary to run a successful business.	628
Youth will demonstrate character development (self-discipline, managing feelings, self-responsibility, self esteem, integrity, honesty, reliability, loyalty).	4,061
Youth will demonstrate their ability to resolve conflict through peaceful means.	1,464
Youth will make appropriate decisions and resolve problems effectively in their daily lives.	2,939
Youth will demonstrate tolerance and acceptance of differences (peaceful conflict resolution, social skills, cooperation, courtesy, communication, respect, fairness and justice).	2,651
Youth will volunteer in their communities.	2,412
Youth will demonstrate responsible citizenship (self-motivation, teamwork, contributions to group effort, community service/volunteering and accountability).	4,016
Youth will demonstrate empathy and concern for others (nurturing relationships, sharing, charity).	3,943

Youth will demonstrate their ability to lead others.	2,612
Youth will set appropriate and reasonable goals for themselves and others.	2,358
Youth will serve effectively on teams with peers and adults.	2,405
Youth will make healthy lifestyle choices.	2,662
Youth will use peaceful means to resolve disputes with others.	1,904
Youth will develop and use safe and peaceful means to resolve disputes in their communities (town, neighborhood, and school).	1,824
Youth will develop mutually caring relationships with peers.	2,447
Youth will value differences in their peers.	2,353
Youth will engage others in being supportive in their communities.	1,839
Youth will help their communities embrace diversity.	1,771
Adults will participate in community-based efforts to reduce violence.	1,248
Youth will practice appropriate safety procedures in home, work, or recreational activities.	1,496
Adults/older youth will use developmentally appropriate hands-on, experiential educational methods.	2,119
Adults/older youth will demonstrate that they are responsible, contributing members of their community.	1,966
Adults/older youth will demonstrate essential communications skills.	1,889
Adults/older youth will teach peaceful conflict resolution skills.	1,142
Adults/older youth will teach essential communication skills.	1,411
Adults/older youth will demonstrate peaceful conflict resolution skills.	1,082
Adults/older youth will teach acceptance of differences.	1,333
Adults/older youth will demonstrate acceptance of differences.	1,486
Adults/older youth will demonstrate fairness and equity.	1,290
Number of adults/older youth who teach fairness and equity.	1,098
Number of adults/older youth who demonstrate leadership.	1,657
Number of adults/older youth who teach leadership.	1,242
Youth will identify personal goals, values and aspirations.	3,197
Youth will engage in activities related to their short-and long- term goals.	3,730
People gathering/organizing personal, financial information.	284
People making informed decisions.	51
People taking steps to achieve personal and goals.	58
Participants will increase in contacts to community, social, or educational agencies to access needed resources or skills.	113
Participants will initiate job training/job seeking/literacy skills.	79
Participants will attain a driver's license, business license or other bridge to employment opportunities.	57
Participants will cease/decrease unhealthy or anti-social behavior, addiction or lifestyle pattern, including necessary or desirable weight reduction or weight gain.	98
Participants will express positive goals (aspirations) for the future.	104
Participants will reduce debt or saving money.	91

Participants will demonstrate increasing order, organization or cleanliness in the home environment.	111
Participants will report or demonstrate increased positive communication in the home.	56
Participants will report or demonstrate increased positive feeding relationship with children (e.g., applied knowledge of children's serving sizes, improved mealtime atmosphere, family eating together, children assisting with cooking or food shopping, etc.).	78
Participants will increase network of support persons/resources.	90
Participants will increase participation in school, church or community programs, events and opportunities, including volunteer efforts.	52
Participants will increase attempts to address needs and solve problems through use of community resources.	65
Participants will demonstrate positive reading habits by increasingly having books visible in the home.	52
Participants will demonstrate positive reading habits by increasingly having general reading materials (newspapers, magazines, etc.) in the home.	45
Participants will demonstrate positive reading habits by reporting increasing visits to a local library.	25
Participants will demonstrate positive reading habits by describing increasing reading activities (reading, finger rhymes, talking about books, etc.) with child/children.	38
Participants will demonstrate positive reading habits by describing increasing reading for self.	35
Participants will demonstrate positive reading habits by expressing increased enthusiasm for reading and ideas found in books.	37
Participants will demonstrate positive reading habits by describing/demonstrating increased positive family relationships through reading and reading related activities.	37
Participants will demonstrate positive reading habits by contacting an agency to access literacy assistance for self.	4
OUTPUT INDICATORS	
Number of consultations.	8,341
Number of workshops/events.	1,428
Number of people attending the workshops/events.	24,756
Number of workshops/events (for the aides).	7
Number of people attending the workshops/events (for the aides).	102
Number of small business clinics held.	138
Number of UMCE-sponsored networking programs held.	41
Number of people attending UMCE-sponsored networking programs.	404
Number of people attending small business clinics.	197

Number of existing small business owners participating in UMCE educational programs.	1198
Number of potential small business owners participating in UMCE educational programs.	494
Number of groups formed (ad hoc or formally organized).	426
Number of people involved in groups formed.	4,666
Number of cooperative efforts initiated.	76
Number of individuals participating in collaborative efforts.	201
Number of individuals participating in cooperative efforts.	656
Number of organizations involved in collaborative efforts.	95
Number of organizations involved in cooperative efforts.	144
Number of people cooperatively and collaboratively planning educational events.	357
Number of individuals participating in collaborative efforts.	201
Number of individuals participating in cooperative efforts.	656
Number of small and home-based business owners participating in collaborative efforts.	219
Number of small and home-based business owners participating in cooperative efforts.	635
Number of volunteers trained.	2,461
Number of publications written.	87
Number of publications distributed.	63,779
Number of issues of newsletters/calendars written.	582
Number of people receiving newsletters/calendars within a year's time.	37,627
Number of articles in news media.	367
Circulation of articles in news media.	1,716,102
Number of educational radio, TV & internet programs given.	12
Estimated audience involved in broadcast.	36,000
Number of promotional/informational articles written.	20
Number of promotional/informational articles distributed.	10,000
Number of economic reports disseminated.	279
Number of enterprises assisted.	745
Number of home budget plans written.	4
Number of home visits.	1,060
Number of home visits by parent educators.	1367
Number of individual consultations held.	353
Number of people requesting business-related information.	927
Number of people requesting home budgeting information.	21
Number of resources loaned.	485
Number of Trade Area Analyses conducted.	3

Source of Funding

Performance Goal	FTE Days	Funding Source		State Funds	Total Funding per Performance Goal
		Smith/Lever [b] & [c]	Smith/Lever [d]		
Goal 5-1	169.2	\$32,361		\$97,855	\$130,216
Goal 5-2	299.7	\$62,006		\$187,493	\$249,499
Goal 5-3	190.0	\$35,726		\$108,028	\$143,753
Goal 5- 5	194.3	\$36,559		\$110,548	\$147,107
Goal 5-5	18.7	\$3,363		\$10,168	\$13,530
Goal 5-6	95.6	\$14,652		\$44,305	\$58,957
Goal 5-7	835.6	\$112,860		\$341,267	\$454,127
Goal 5-8	481.7	\$84,198		\$254,598	\$338,796
Goal 5-9	267.5	\$49,866		\$150,786	\$200,652
Goal 5-10	289.8	\$47,686		\$144,193	\$191,878
Goal 5-11	184.0	\$30,589		\$92,496	\$123,085
Goal 5-12	454.3	\$71,589		\$216,473	\$288,063
Goal 5-13	206.1	\$35,958		\$108,729	\$144,687
Goal 5-14	32.6	\$5,357		\$16,200	\$21,557
Goal 5-15	89.5	\$10,005		\$30,253	\$40,258
Goal 5 Total	3,803.3	\$632,774	\$0	\$1,913,391	\$2,546,166

Significant Program Accomplishments Corresponding to Key Themes

Key Themes: Home-Based Business Education, Jobs/Employment

Strengthening Maine's Entrepreneurial Capacity: UMCE helped more than 3,000 Maine people last year through business clinics, workshops, individual consultations, publications and responses to information requests. Nearly 1,300 people attended 120 business-related workshops that were conducted across the state, including *Pricing Your Products and Services; Starting a Home-Based Business; Plan Before You Plant, Understanding Financial Statements; Marketing Tips for Business Success; and Conducting Business on the Internet*. Seventy-five percent of the business owners we worked with were female and about half were new to UMCE programs. UMCE faculty wrote and distributed approximately 26 business-related newsletters and 1,500 UMCE business publications were distributed throughout the state. UMCE connected 500 Maine people to useful business resources through business clinics and individual consultations.

Summary of Impacts: Long-term program evaluations show that 90 percent of those attending UMCE's small and home-based business education programs acquired new knowledge and improved their decision-making skills as a result. Last year, approximately 240 program participants wrote business plans, 160 wrote marketing plans, 50 wrote customer service plans, and 175 developed or improved a record-keeping system. Fifteen hundred program participants reported adopting one or more business management practices. UMCE faculty taught more than 600 existing business owners how to access, understand and evaluate reliable information in order to make better business decisions. Our programs have helped 350 Maine people start or grow a small business during the past year, adding 100 new jobs to the Maine economy. We have participated in the evaluation of business ideas by 40 individuals who have decided, based on the analysis, that their ideas were not viable. One decorative herbal wreath business has grown from a husband and wife hobby to an operation with three full-time and seven part-time employees. A home-based craft owner making a small quantity of handmade items has expanded into a full-time business partnership with her husband and several part-time sewers. This remarkable home-based entrepreneur recently achieved business distinction and leadership recognition at the U.S. Small Business Administration's Awards Conference in Maine, receiving their "Women in Business Advocate Award" for 2001. In her acceptance speech, she particularly noted the beneficial impact that UMCE's small and home-based business education program had on advancing and expanding her business.

Scope of Impact: State Specific

Small Business Clinic Program and Small and Home-Based Business

Consultations : UMCE's highly successful small business clinic program continued to meet the business education needs of our customers. Business clinics were conducted through local county Extension offices. Consultations allowed customers to meet individually and confidentially with a UMCE business and

economics specialist and/or educator for assistance. We provided information on planning, pricing, marketing, organization, business structure, feasibility analysis, customer service, and balancing home and business. In many cases, new knowledge and newly acquired skills led to practice changes such as business plan development, new market research, or a new pricing strategy. Nearly 200 people attended small business clinics around the state, and more than 350 people sought individual consultations with UMCE's small business faculty about starting or growing a small business in Maine.

Summary of Impacts: Our program evaluations indicate that 95 percent, or 190 of the 200 clinic participants, improved their knowledge and decision-making skills as a result of attending a clinic and reported making practice changes. Some of the practice changes included starting a value-added agriculture business, expanding a small forest products business, raising prices to a profitable level, writing a business plan, hiring an employee, writing a job description for a new employee, obtaining a business loan from a bank, deciding not to start a business, and marketing food products through the Internet. Here are a few specific examples and outcomes of our small business consultations:

- An individual sought technical assistance from UMCE in starting a value-added agricultural business in an economically depressed region of the state. A UMCE educator provided the initial expertise as well as follow-up support, assisting with business plan development. The entrepreneur was eventually able to sell the business at a profit.
- A commercial bank referred an individual to UMCE to learn how to write a business plan for a custom home improvement business. After receiving help with business plan development from a UMCE educator, the client was able to obtain the necessary bank funding to start his business, which employed 1 to 2 people as needed.
- A UMCE educator trained a client in business plan development, so she could seek funding to build rental units for low- to moderate-income residents in a rural area of the state. During the training she learned how to evaluate the economic viability of a business idea, and as a result she chose not to proceed.
- A UMCE educator provided technical assistance to a Native American entrepreneur who makes jewelry and sells it through various outlets in Maine. The entrepreneur was not generating enough income to realize a profit. After the educator helped her review her business operation and pricing structure, she decided to raise her prices by approximately 30 percent. The business now operates at a profit.

Scope of Impact: State Specific

Hancock County Growth Symposium: The Hancock County Growth Symposium was the first county-wide forum designed to engage town officials, business people, developers, planners and state agencies to consider the directions of coastal region growth, and assess the choices they have in planning for their future. Three major growth issues emerged at the symposium: business development and retention; land use and the environment; and transportation. Over 100 Hancock County residents in community leadership positions attended the event. Staff from the Maine Rural Development Council, an affiliate program of UMCE, provided decisive technical assistance in mobilizing communities; clarifying and focusing local issues strategically; facilitating debate and

discussion among community interest groups, external service providers and resource providers; and building a viable multi-community coalition.

Summary of Impacts: Symposium participants clearly articulated a regional vision and successfully identified specific strategic action steps for each of the three issue areas. Strategic action steps were then prioritized for implementation by local groups. Local citizens are now using these priority action steps to chart “planning for prosperity” initiatives for the region.

Scope of Impact: State Specific

Key Themes: Home-Based Business Education, Promoting Business Programs

Business Outreach on Community Radio: Doing Business is a one-hour live radio show, produced monthly and hosted by a UMCE educator, that focuses on issues for small and home-based business owners in Maine. The program offers a forum for listeners to ask questions and discuss their issues with small business owners willing to share their knowledge, experience and insight with the listening audience while enhancing their personal leadership through their involvement. The program addresses diverse small business topics such as accessing business resources, evaluating information to aid in decision-making, and methods of business management. A resource packet, containing business-related information and resources, is available to listeners upon request. The program has an estimated audience of 3,000.

Summary of Impacts: In a 6-month survey of listeners who requested resource packets, 91 percent of respondents said the information presented on the radio show made them more knowledgeable in managing their business. The survey also found that among the respondents,

- forty-five percent reported that they had reduced business management risks,
- sixty-four percent had worked on a business plan,
- fifty-five percent had enrolled in or had taken a business management workshop,
- fifty-five percent now keep records more regularly ,
- one hundred percent now keep better records,
- seventy-three percent are setting goals, and
- forty-five percent felt they were more in control of their business.

Scope of Impact: State Specific

Key Themes: Home-Based Business Education, Community Development

Schoodic Naval Base Closure Transition Project: Seven coastal towns in Downeast Maine decided to engage in regional strategic planning for their collective futures following the closure of the U.S. Naval Security Group at Schoodic Naval Base. Significant social, environmental and economic issues are confronting them collectively, such as the future of the navel base property, positive and negative effects of tourism, and the escalating costs of coastal land. These issues are driving dramatic changes affecting how and where residents live and work and were addressed by UMCE, though our partnership with the Maine Rural Development Council, in specific breakout sessions at a workshop presented titled, *Where Community, Nature, and the Economy Meet: The Future of the Schoodic Region*. The workshop was attended by local and regional policymakers, the director of the state planning office and a U.S. Congressional representative. The critical issues addressed were:

- building local community capacity for asset-based development grounded in strategic visioning of its future and possibilities;
- playing a critical role in helping the communities examine the issues collectively and the strategies around the role of development and the future of the region;
- facilitating the collective efforts of local residents to understand the connection between communities, natural resources, and the economy;
- supporting local efforts in their successful formulation of a collective vision for the future of the region;
- helping develop an action agenda in support of that vision;
- building common ground among diverse perspectives on how to move such an agenda forward; and
- producing and disseminating workshop proceedings and report to participants and municipalities and the press as a public policy education tool.

Summary of Impacts: As a result of our efforts, a regional coalition for strategic planning and follow-up action plans are now in place. The latter include local strategies in four major issue areas: tourism, recreation, natural resources and community economic renewal; living and livelihood; transportation, communication and energy; education, youth and culture and workforce.

Scope of Impact: State Specific

Piscataquis County Economic Development Initiative: Piscataquis County workers are paid the lowest wages in the state, an average weekly pay rate of \$514 per week. The unemployment rate is 3.7 points higher than the state rate of 4.0 percent and as of December 2000, there were only 514 employers in the county. Over the past several years a UMCE educator, along with community leaders, have engaged in field research and educational activities in support of the Piscataquis County Economic Development Council. All have worked together to enhance economic opportunities for Piscataquis county residents. UMCE organized two rural economic development tours, provided leadership and support to the council's cultural heritage initiative, and assisted the council in assessing its organizational capacity.

Summary of Impacts: As a result of these activities, the council has implemented new organizational capacity-building guidelines that have improved their communications and quarterly board meetings. The council formed a non-profit

leadership institute to help its members and others develop leadership skills and build organizational capacity within the county. Rural economic development tours were conducted with the goal of diversifying the local tax base and increasing business opportunities in the county. As a direct result of the tours, an entrepreneurs association has formed and is actively developing a cultural heritage center, and employment opportunities through a retail arts and crafts outlet, a marketing cooperative, and a shipping services center.

Scope of Impact: State Specific

Maine Entrepreneurship Working Group: During the past year, UMCE worked with the Maine Department of Agriculture, Food and Rural Resources; the Maine Department of Economic and Community Development; and the U.S. Small Business Administration, by teaming up as the Maine Entrepreneurship Working Group. The group's primary objective was to develop policy recommendations that can strengthen Maine's support infrastructure for entrepreneurship, and be considered as part of the Governor's next biennial budget. The group participated in two Kauffman Foundation entrepreneurship policy academies organized by the Maine Rural Development Council, and completed a report outlining policy recommendations. The final report was published by the Maine Department of Economic and Community Development and distributed to the Governor, policy makers and other stakeholders in August 2001.

Summary of Impacts: The Working Group produced a final report outlining policy recommendations that have been adopted and will strengthen the entrepreneurship infrastructure in Maine. Some of the recommendations in the report were incorporated into the Governor's 2002-2003 biennial budget. The Department of Economic and Community Development, following up on the working group recommendations, recently funded a comprehensive study of small business services in Maine.

Scope of Impact: State Specific

Key Themes: Parenting, Children, Youth and Families at Risk

Positive Parenting; Alternatives to Physical Punishment: UMCE faculty presented a workshop to professional parent educators to increase skill levels and awareness of positive parenting and alternatives to physical punishment of children. Based on the positive results of the workshop for professionals, two UMCE educators are now offering the program to local parents. *Family Issues*, a newsletter disseminating current research on family topics to Maine educators, is published three times a year. Two of this year's issues focused on violence, exploring the social and cultural roots of violence, and the roles shame and humiliation play as precursors of violent behavior. Each of these newsletters was distributed to all school guidance counselors throughout the state, as well as regular subscribers. Many schools and several police departments requested additional copies of the newsletter or permission to photocopy it for use in school staff development. One hundred copies of each issue were provided for an annual regional conference on violence prevention.

Summary of Impact: All respondents to follow-up evaluations reported that we accomplished our goal of providing more research and support for them as they went out to teach non-violent discipline, and that they have incorporated the information from the training into their lives, either personally or professionally.

One-hundred percent of participants indicated frequent or occasional use of newly-learned skills such as catching kids being good, talking positively about the day at bedtime, offering choices instead of commands, using time-out less often and using better thought-out consequences more often. Seventy-five percent reported improved relationships with their children, and 50 percent noted positive changes in the overall atmosphere of their home or daycare. Information was shared in parenting classes and individual sessions; guidelines learned were used in groups, and specific alternatives were given. Ten participants felt supported in teaching alternatives to physical punishment.

Scope of Impact: State Specific.

Key Themes: Parenting, Children, Youth And Families At Risk, Child Development

Parenting Education: UMCE offers a variety of workshops and resources on child development and parenting education. Methodologies include one-on-one parent-educator interactions, group workshops and programs, and newsletters. Topics in 2001 included stress and terrorism, brain development, child safety, motor development, non-physical discipline, the feeding relationship, literacy, lead poisoning, and child abuse prevention for parents, foster parents, child care providers, and nutrition aides.

Summary of Impacts: Evaluations from one-on-one parent education interactions measured that clients have

- gained an understanding of why home childproofing is important and how to childproof their homes;
- increased their knowledge of child development and developmental needs, and as a result gained increased confidence in their parenting skills;
- decreased abusive or negative parent-child interactions;
- found support for teen parents to finish high school and continue their education beyond high school;
- increased their understanding of lead poisoning and how it occurs;
- increased their patience with their children; and
- reduced their use of spanking as punishment.

Evaluations from brain development education indicated that

- clients' better understanding of the feeding relationship led to positive behaviors before, during and after meals;
- eighty-seven percent of clients increased their understanding of child development;
- fifty percent indicated that they would increase stimulation and interaction with their infants; and
- one-hundred percent of the parents indicated that they would increase parent-child interaction, decrease TV viewing, and increase parent-child reading time.

Scope of Impact: State Specific

Key Themes: Parenting, Children, Youth And Families At Risk, Birth Weight, Infant Mortality

Teen and Young Parent Program: The teen and young parent program helps to improve the lives of parents between the ages of 14 and 19, and their children through parenting education, mentoring by a trained, caring volunteer, and by efforts to

create a responsive community that will meet the needs of its youngest and most vulnerable parents and their children. In 2001, three parent educators made 235 home visits to 78 parents, including 28 new parents, who are parenting 71 children. The program supports 13 volunteers as young parent mentors. Over 190 parents and children have participated in playgroups held weekly during the past year. Five hundred and thirty copies of *Young Parent News* have been distributed. Parents have received information to help them understand their child's development and learn parenting skills. Three hundred and three books have been shared during home visits to support the cognitive and language development of children as well as literacy in families. A governing board composed of citizen volunteers raised almost \$32,000 to support this parent education program in their communities.

Summary of Impacts: Thirty percent of the young parents are high school graduates and seven percent are currently enrolled in high school or its equivalent and working towards graduation. Ninety-five percent have set personal goals and aspirations and have taken steps toward achieving them by finding and keeping jobs, safe housing and reliable transportation. Twenty-seven percent of moms and 50 percent of dads have held a job for more than 6 months. Nearly 90 percent of families involved in the program have had no documented open case with child protective services. During the last 18 months, 100 percent of babies were born healthy, and 98 percent of children were current with the Center for Disease Control recommended immunizations schedule and wellness check-ups by age one. Eighty-seven percent of parents can identify how they are changing their behavior to meet their child's safety, physical, social, emotional and intellectual needs.

Scope of Impact: State Specific.

Key Themes: Literacy, Parenting

Born to Read: The *Born to Read* program is a collaboration of UMCE and the Maine Humanities Council, a group dedicated to community literacy. The program objective is to make reading a regular lifelong activity for all Maine people. Nutrition aides in eight counties participate in this program, providing new books at no cost to the children of clients enrolled in low-income nutrition education programs. The books have food and nutrition themes and have become an integral part of the nutrition curriculum. The nutrition aides often read the books to the children and encourage the adults to read to their children, so that in the process they may develop regular reading habits themselves. The *Born to Read* books have become tools for getting messages across about good food and reinforcing the lessons of nutrition aides. Last year 102 families (298 adults and children) received 273 new books through this program.

Summary of Impacts: Since participating in the *Born to Read* program, clients have demonstrated these increases in positive reading habits: 31 percent have books visible in the home, 22 percent have general reading materials in the home, 20 percent now read with their child and 20 percent have begun reading for self-enjoyment.

Scope of Impact: State Specific.

**Key Themes: Youth Development/4-H, Jobs/Employment, Workforce Preparation—
Youth and Adult**

Youth Entrepreneurship: Helping youth prepare for a vibrant successful future is a primary goal of the youth development programs of UMCE. By looking to the future, youth can identify their goals, interests and aspirations. Many youth have expressed a desire to own their own business as a long-term goal. Youth entrepreneurship education provides an option for future work and career decisions. UMCE, with funding from the Kauffman Foundation, offers *Mini-Society*, an entrepreneurship program for 8-12 year olds. Children participate in *Mini-Society* to create an "ideal" society that is fueled by the market economy of the businesses they create. One training for teachers was conducted in collaboration with the New England Cooperative Extension Task Force on Workforce Preparation in Nashua, New Hampshire with participants from Maine, New Hampshire, Massachusetts, and Rhode Island.

Summary of Impacts: Over 600 youth demonstrated the skills and qualities to operate successful businesses. Nearly a thousand youth demonstrated workplace skills and competency, and organized appropriate personal financial information. Nearly 1,100 are making informed financial decisions about effective money management as a lifelong skill and 866 have taken the first steps to achieving personal financial goals. One parent said, "Prior to my daughter's participation in *Mini-Society*, she never seemed to be interested in our family business. Now she wants to compare notes all the time."

Scope of Impact: Multistate Extension; ME, NH, MA, RI

Key Themes: Youth Development/4-H, Character/Ethics Education, Communication Skills, Conflict Management, Leadership Training and Development

Youth Leadership, Citizenship and Character Education: UMCE is helping youth deal with violence, bullying, teasing and self-abuse issues through self-awareness and learn-by-doing exercises and activities. Character education programs such as Reaching Out for Teen Awareness, Ethnic Festival, Food Fitness and Fun, are designed to help youth accept themselves and respect each other. Leadership and citizenship are two important program areas for UMCE's youth development program. Skill attainment in these areas is a key to becoming informed, involved and responsible adults. Building on the 4-H "learn by doing" philosophy, youth can attain skills, broaden horizons, and learn to solve problems through programs such as Global Education; Teen Summit; Barnyard Bash; 4-H Awareness Day; the National 4-H Conference; Vest-A-Dog; Character Counts; and the Gender Project, and activities such as interactive theatre, babysitting courses, horse camps, and community service.

Summary of Impacts:

- 4,016 youth demonstrated responsible citizenship (self-motivation, teamwork, contributions to group effort, community service/volunteer and accountability).
- 3,943 youth demonstrated empathy and concern for others (nurturing relationships, sharing charity).
- 2,612 youth demonstrated their ability to lead others.
- Over 1,600 youth in the Oxford Hills area have increased their understanding of character education and the six pillars of character.

- The Gender Project at Lake Street Elementary School involved 28 people who reported that the program raised awareness and helped them increase mutual respect and kindness.
- 140 middle school youth acquired leadership skills in a Healthy Lifestyles program. Teams from two of the participating schools wrote grants and received funds to conduct projects addressing respect.
- 112 students from ten schools participated in leadership and self-esteem building programs by completing a ropes course, which allows students to work together in teams to overcome difficult and risky physical challenges. The process encourages trust, support, empathy and personal accomplishment. A team of 10 from Woolwich Central School returned home to build a ropes course.
- 4,061 youth demonstrated character development (self-discipline, managing feelings, self-responsibility, self esteem, integrity, honesty, reliability, loyalty).
- 2,651 youth demonstrated tolerance and acceptance of differences (peaceful conflict resolution, social skills, cooperation, courtesy, communication, respect, fairness and justice).

Scope of Impact: State Specific

Section B

Stakeholder Input Process

The University of Maine Cooperative Extension's established process for stakeholder input includes stakeholders' input in development and assessment of research and Extension programs. In many instances this takes the form of project planning and implementing with stakeholders serving as partners and key members of focus groups, county boards, and advisory groups. These selected examples illustrate our public input process:

- Each of Maine's county offices has a County Executive Committee made up of county citizens to provide advice and direction on priority programs. County educators meet with their County Executive Committee at least six times a year to evaluate and review programs and discuss current and future public issues, needs and programming.
- The University of Maine Board of Agriculture continues to provide council and advice to UMCE on our agricultural priorities. The board represents commodity groups, organizations, state government and related industries. During 2001, the board met four times and provided specific recommendations to the University regarding staffing in support of agriculture in Maine.
- The Wild Blueberry Commission of Maine serves the needs of Maine's wild blueberry growers and processors, and administers a state wild blueberry tax of over \$800,000 per year. The Commission employs a full-time executive director and appoints the Wild Blueberry Advisory Committee that is composed of six growers and/or processors who define research priorities and make research recommendations. The committee also evaluates proposals on the special CSREES research grant of \$254,000 per year and recommends funding based on priority needs of the wild blueberry industry. UMCE's blueberry specialist meets with the Wild Blueberry Commission multiple times each year and works with the Commission to distribute the Wild Blueberry Newsletter.
- UMCE continues to offer Pesticide Applicator Training (PAT) for applicator licenses and re-licensing credits for private and commercial applicators. Our activities are directed by the PAT Advisory Committee, a group that includes state agencies, pesticide distributors, professional applicators, educators, and farmers. Approximately 250 individuals completed PAT training and over 450 individual pesticide re-certification credits were given to farmers attending UMCE pesticide education programs in 2001.
- UMCE staff organized, facilitated and documented a January 2001 meeting of shellfish aquaculturists, researchers, and agency members to discuss the data gaps and research needs of shellfish aquaculture in Maine. The meeting was sponsored by UMCE, the University of Maine Sea Grant Program, the Maine Aquaculture Association, and the Maine Department of Marine Resources. Approximately 40 people attended the meeting, producing the document

Priorities for Maine Shellfish Growers: Research and Other Needs, which was published by UMCE and distributed to 150 interested parties.

- The Forest Resources Advisory Committee (FRAC) includes representatives of forest resource agencies, organizations and businesses, and advises the forestry and wildlife departments of the UMaine College of Natural Resources, Forestry, and Agriculture, with an emphasis on research and outreach. UMCE faculty are actively pursuing opportunities to enhance programming through collaboration as a result of recommendations and input from FRAC.
- The Pine Tree State 4-H Foundation works in partnership with UMCE to enrich youth experiences through the Maine 4-H Youth Development program and shares input received from funding recipients, stakeholders and supporters with UMCE staff. Foundation priorities are set by a board of trustees consisting of community and business leaders, 4-H volunteers and youth, all of whom have a strong commitment to youth development and the success of 4-H. The staff and trustees of the 4-H Foundation are actively engaged in joint work with UMCE through various planning committees and task forces.
- The UMCE Senior Companion Program (SCP) Statewide Advisory Board gives advice and assistance to UMCE staff with the goal of moving SCP toward continued growth. The board consists of between 20 and 25 representatives from various health and aging agencies and public and private social service agencies, as well as elected officials, religious leaders, community leaders, business leaders, educators and senior companions. The board supports the program director in forming statewide policy, as well as planning and developing operational procedures and practices consistent with program policies. Additionally the board seeks input to share with SCP from local advisory committees and SCP representatives.
- The UMCE Senior Companion Program (SCP) Statewide Advisory Board gives advice and assistance to UMCE staff with the goal of moving SCP toward continued growth. The board supports the program director in forming statewide policy, as well as planning and developing operational procedures and practices consistent with program policies. Additionally the board seeks input to share with SCP from local advisory committees and SCP representatives.
- The Maine Rural Development Council (MRDC), an affiliate program of UMCE, regularly sponsors listening forums and community visitation field trips to provide an opportunity for citizens, stakeholders and programmers to work together, listen and respond to each other's needs. In 2001, MRDC forums and field trips involved community leaders and representatives of Coastal Enterprises, Inc.; Eastern Maine Development Corporation; the Island Institute; Maine Centers for Women; Work, and Community; the Maine Community Foundation; the Maine Department of Economic and Community Development; the Maine Department of Transportation; the Maine State Housing Authority; USDA Rural Development; and the U.S. Small Business Administration. Community action agencies from coastal counties and members of the Maine State Legislature were also part of the visiting delegations. MRDC also addressed public issues and needs by visiting

Maine's four Native American tribal councils and four isolated island communities.

- The Maine Sea Grant Policy Advisory Committee helps to set research priorities through the creation of guidelines for project funding and review of project proposals. The committee is made up of representatives from marine industry associations, state agencies, research institutions and educators.
- UMCE staff regularly meets with the Maine Potato Board, composed principally of potato farmers, to discuss priority issues and needs for Maine's potato growers. The Maine Potato Board education and research committee often supports UMCE research and Extension activities. In 2001 the Maine Potato Board provided funding for both a UMCE-produced growers newsletter and a UMCE project that teaches the use of small grains as rotational crops.
- The Maine Board of Pesticide Control is a group of seven individuals appointed by the governor to provide guidance for and input into UMCE's Pesticide Applicator Training program and our efforts in school and homeowner IPM programs. The board is made up of representatives from the forestry and medical industries, a commercial pesticide applicator, a private applicator (farmer/grower), a University of Maine faculty with a knowledge of IPM, and two citizens with a background in the environment.

UMCE learns directly and indirectly about stakeholders' issues and needs by collaborating with other agencies and organizations. Here are some of UMCE's collaborative efforts:

- The Maine Agricultural Center (MAC) is a partnership between UMCE and the Maine Agricultural and Forest Experiment Station whose function is to promote, coordinate and manage joint faculty positions that support agriculture in Maine. MAC awards funds for faculty projects in Extension education and applied research that address the high priority needs of Maine agriculture. To date, over \$90,000 has been awarded. MAC leadership serves as staff to the University of Maine Board of Agriculture. This board is legislatively empowered to advise the Chancellor of the University of Maine System and the President of the University of Maine regarding the University's support of Maine agriculture.
- The Coalition for a Maine Aging Initiative (CMAI) is a collaborative public policy education effort designed to address the short- and long-term policy implications of Maine's shifting demographics as they relate to the state's elderly and aging citizens. Members of CMAI include UMCE, the Maine Alzheimer's Association, Maine Area Agencies on Aging, the Maine Hospital Association, the Maine Rural Development Council, the Maine State Housing Authority, the Maine State Planning Office, the Margaret Chase Smith Center for Public Policy and the University of New England Geriatric/Gerontology Education Center.
CMAI goals are achieved through regional focus groups and listening sessions, a policy round table, legislative briefings, and a policy report, published in January 2001, titled *Getting Old in Maine*. CMAI has engaged seniors, caregivers, policy makers and service providers from all parts of the

state in debate and discussion about issues and needs confronting the elderly in Maine.

- UMCE, in partnership with the non-profit Coastal Enterprise, Inc. Maine Farms Project created the *Working Landscapes* project to help farmers increase agricultural viability by giving focused technical assistance to area farms. Assistance varies according to the farmers' specific needs and includes integration of resources, business assistance, production information and marketing.
- UMCE, the USDA Animal Plant Health Inspection Service and the Maine Department of Agriculture, Food and Rural Resources worked together to increase awareness of the symptoms of foot-and-mouth disease, the ways in which it spreads and the biosecurity practices that can prevent disease transferal.
- A UMCE educator serves on the state of Maine's Nutrient Management Review Board, which holds public meetings on appeals and variances to the recently enacted state law requiring a comprehensive nutrient management plan for all Maine dairy and livestock producers. The board makes recommendations to the commissioner of agriculture and helped facilitate the dispensation of 2.5 million dollars in grant funds for producers to construct manure storage facilities. UMCE has taken the lead role in training producers as certified planners, and in coordinating the development, testing and delivery of a computer program to assist producers in creating their own plans.
- UMCE worked with representatives of the state's four ornamental horticulture industry trade associations to develop a liaison group called the Ornamental Horticulture Council. The council has incorporated and this year represented the membership of all of Maine's trades associations to the state legislature, helping to elevate legislators' awareness of issues surrounding pending legislation.
- Under the leadership of UMCE, the FDA *Food Code* was reviewed and adjusted to the particular needs of the state of Maine, resulting in the *Maine Food Code*. The project was undertaken in collaboration with the Maine Department of Agriculture, Food and Rural Resources; the Maine Division of Health Engineering; the Maine Restaurant Association; the Maine Grocers Association; and the University of Maine Department of Food Science and Human Nutrition.
- UMCE worked to promote good nutrition and the viability of small vegetable farms by initiating the Senior FarmShare program. The program gives locally grown fruit, vegetables and herbs to qualifying seniors, helps promote healthy eating and increases the produce market for supporting Maine farmers. FarmShare is a collaboration of UMCE, the Maine Department of Agriculture, Food and Rural Resources; the Maine Department of Human Services; and the Maine Nutrition Network.
- UMCE, in cooperation with the Maine Nutrition Network and the Maine Coalition for Food Security, conducted three *Welfare Simulation* events to help participants experience what it is like to live in a low-income family, and how poverty affects month-to-month survival. Participants explored their

stereotypes of poverty and gained an understanding of poverty and related issues.

- The UMCE small and home-based business team initiated and participated in many collaborative efforts and cooperative partnerships with other business-assist and research organizations in Maine. In many instances, small and home-based business owners participated in these efforts. We worked in partnership with the following organizations:
 - Eastern Maine Development Corporation
 - Kauffman Foundation
 - Kennebec Valley Council of Governments
 - Maine Centers for Women, Work and Community
 - Maine Department of Agriculture, Food and Rural Resources
 - Maine Department of Economic & Community Development
 - Maine Small Business Development Centers
 - Penquis Community Action Agency
 - Piscataquis County Economic Development Council
 - Service Corps of Retired Executives
 - U.S. Department of Agriculture
 - U.S. Small Business Administration
 - UMaine Department of Industrial Cooperation
 - UMaine Department of Resource Economics & Policy
 - Washington-Hancock Community Action Agency
- UMCE and the University of Maine Sea Grant, along with the Maine Department of Marine Resources (DMR), co-sponsored a series of research priority workshops that addressed statewide needs with regard to key marine species. Eight sessions were held in several locations throughout the state, focusing on lobsters, soft-shell clams, urchins, shrimp and scallops. Several members of the Marine Extension Team helped organize, facilitate and document the discussions. The outcome was the creation of a Marine Research Agenda for Maine, which is now being written under contract with DMR.
- Extension staff, in partnership with Maine DMR, play a critical role in the design and delivery of training and educational materials to improve participation in and effectiveness of the state lobster zone management system. Each participating staff member attends regular meetings, assists with facilitation and helps encourage greater participation by the industry, including lobstermen. Representatives of the lobster industry are elected by their peers to serve in their zone.

UMCE often responds to legislated educational needs in priority populations and subject areas:

- The Maine state legislature addressed the issue of domestic animal welfare in Maine during 2001 with the creation of a study group. UMCE faculty specializing in livestock served as part of this group, which made recommendations that led to legislative action. A UMCE faculty member has been appointed to the Animal Welfare Commission, that was created by this legislation.

- In 1997 the Maine state legislature mandated minimum reliance on pesticides through Integrated Pest Management (IPM). During 2001, over 200 commercial growers were involved in UMCE's IPM educational programs on strawberries, blueberries, cranberries, sweet corn, apples, potatoes and greenhouses, as well as for homeowners.
- Certification of organic farmers was again conducted by UMCE in 2001 in partnership with the Maine Organic Farmers and Gardeners Association, after a collaborative assessment of educational needs.
- UMCE, along with Department of Agriculture, Food and Rural Resources, offers semi-annual Wood Measurement Workshops to enable participants to obtain Apprentice Wood Scaler's Licenses.
- During 2001 UMCE faculty addressed public health needs as members of the state government task forces on West Nile virus and foot-and-mouth disease.

Many other stakeholders have been included in our programs and processes, including the following (listed alphabetically):

Acadia National Park
Agricultural Council of Maine (AGCOM)
Androscoggin County Commissioners
Androscoggin County Extension Association
Androscoggin Healthy Families
Aroostook County Commissioners
Aroostook County Community Action Program
Aroostook County Extension Association
Bangor State Fair Administration and Board
Bigelow Laboratory for Ocean Sciences
Blue Hill Heritage Trust
Bureau of Elderly and Adult Services
Casco Bay Estuary Program
Center for Marine Conservation
Central Maine Sheep Breeders Association
Chewonki Foundation
Coastal Conservation Association
Coastal Economic Development
Cobscook Bay Fishermen's Association
Cobscook Bay Resource Center
Communities for Children
Conservation Law Foundation
Craig Brook National Fish Hatchery
Cumberland County Commissioners
Cumberland County Extension Association
Darling Marine Center
Downeast Institute for Applied Marine Research
and Education
Downeast Lobsterman's Association
Franklin County Commissioners
Franklin County Extension Association
Friends of Acadia
Friends of Casco Bay
Good Shepherd Food Bank
Gulf of Maine Aquarium
Gulf Of Maine Council on the Marine Environment
Gulf of Maine Ocean Observing System
Hancock County Commissioners
Hancock County Extension Association
Healthy Families Maine Network
Islesboro Island Trust
Kennebec County Commissioners
Kennebec County Extension Association
Knox County Children's Services
Knox County Commissioners
Knox County Extension Association
Laudholm Trust
Lincoln County Commissioners

Lincoln County Extension Association
Lobster Conservancy
Lobster Zone Management Council
Maine Agricultural Center
Maine Alternative Poultry Association
Maine Aquaculture Innovation Center
Maine Beef Industry Council
Maine Beef Producers Association
Maine Beef Producers Council
Maine Bureau of Mental Health
Maine Bureau of Parks and Lands
Maine Children's Task Force
Maine Coalition on Aging Initiative
Maine Coastal Program
Maine Correctional Center
Maine Cranberry Growers Association
Maine Dairy and Nutrition Council
Maine Dairy Industry Association
Maine Dairy Promotion Board
Maine Deer and Elk Producers Association
Maine Department of Professional and Financial
Regulation
Maine Department of Conservation
Maine Department of Education
Maine Department of Environmental Protection
Maine Department of Human Services
Maine Department of Inland Fish and Wildlife
Maine Department of Labor
Maine Division of Quality Assurance and
Regulations
Maine Environmental Education Association
Maine Fair Association
Maine Farm Bureau
Maine Forest Service
Maine Geological Survey
Maine Greenhouse Industry Growers
Maine Humanities Council
Maine Island Trail Association
Maine Landscape and Nursery Association
Maine Lobsterman's Association
Maine Maple Producers Association
Maine Marine Trades Association
Maine Math and Science Alliance
Maine Parent Federation
Maine Science and Technology Foundation
Maine Soft-shell Clam Advisory Council
Maine State Department of Inland Fisheries and
Wildlife

Maine State Florists and Growers Association
Maine State Legislature
Maine State Planning Office
Maine State Pomological Society
Maine State Prison Farm
Maine Tele-Medicine Service
Maine Urchin Harvester's Association
Maine Vegetable & Small Fruit Growers
Association
Marine Conservation Center
Marine Explorers Club
Mount Desert Island Biological Laboratory
Natural Resources Conservation Service
Nature Conservancy
New England Floriculture, Inc.
New England Vegetable and Berry Growers
Association
North Atlantic Marine Alliance
Northeast Loggers' Association
Oxford County Commissioners
Oxford County Extension Association
Partners for Ending Hunger
Penobscot Bay Marine Volunteers
Penobscot Bay Stewards
Penobscot County Commissioners
Penobscot County Extension Association
Penobscot River and Bay Institute
Penobscot River Keepers
Piscataquis County Commissioners

Piscataquis County Extension Association
Sagadahoc County Commissioners
Sagadahoc County Extension Association
Sea Urchin Zone Council
Shore Stewards Collaborative
Small Woodland Owners Association of Maine
Somerset County Commissioners
Somerset County Extension Association
Southern Kennebec Child Development
Corporation
Stonington Fisheries Alliance
Sustainable Agriculture Society
UMaine Agricultural and Forest Experiment Station
United Way of Maine
Waldo County Commissioners
Waldo County Extension Association
Walker Trust Foundation
Washington County Commissioners
Washington County Extension Association
Wells National Estuarine Research Reserve
Western Maine Community Action
Western Mountains Alliance
Wild Blueberry Growers Association
Wolfe's Neck Farm Foundation
Women's Agricultural Network
York County Commissioners
York County Extension Association
York Cumberland Housing
York Wellness Council

Section C

Program Review Process

There have been no changes to the Program Review Process for the 2000–2004 Plan of Work. The process, named *Merit Review Process* in the Plan of Work, is excerpted and updated here:

UMCE will institute a merit review process that is based on the relevance, uniqueness, potential impacts and quality of our individual programs. The process will include reviewers such as outside experts with in-depth expertise in the program area, as well as agencies, advisory groups, stakeholders, county executive committees, collaborators, staff and clientele. We will use this review to gain a wide variety of viewpoints to incorporate into future planning and program change. Many of the stakeholders, partners and collaborators named in our input process will also be involved in the review process.

In addition, the six directors of the New England states have agreed to share all state plans with one another and cross-assess one another's plans to advise on opportunities to strengthen and collaborate. The value of this effort was apparent in 2001 where Maine, Massachusetts, New Hampshire and Rhode Island worked together to strengthen youth entrepreneurship through collaborations in the *Mini-society* program.

As part of our regularly scheduled faculty performance review process, we request a sample of our partners and program participants to provide letters addressing the quality and impact of our educational programs. Such letters assess our faculty's responsiveness to addressing priority public needs and effectiveness in attaining desired impacts through their programs and community collaborations.

We will also share our plans with the University of Maine Provost and Executive Vice President of Academic Affairs, the Vice President of Research, the Director of the Agricultural and Forest Experiment Station and the Director of the Maine Agricultural Center.

The quality of our work will be improved because the reviewers are individuals who actively participate in the businesses, agricultural commodities and communities that UMCE will be addressing through its POW. Based on personal experience, the reviewers have the ability to determine that our programming is relevant, timely and will address the priority issues of Maine. The reviewers will evaluate our POW to determine that we are addressing the challenges and opportunities facing Maine's agricultural industries, communities and families. The reviewers will not only examine what we are planning to do, but also how we intend to accomplish our work. Initial feedback indicates that UMCE is expected to be efficient, avoid program duplication, collaborate with others whenever possible and create measurable outcomes of our work. This process requires thorough program planning with a focus on producing measurable impacts in a cost-effective manner.

The quality of our work will improve as we are able to show that we are achieving the goals set forth in our plan. The plan is also a springboard for future change. We intend to continue the review and feedback process throughout the multi-year POW cycle. We expect that our programs will change and improve as a result of these reviews: as new needs emerge, we will develop new methods of working with our audiences.

In summary, the review of the UMCE Plan of Work by stakeholders, program partners, elected officials and others is an ongoing method of quality control that ensures the relevancy of our plan to the citizens of Maine.

Section D

Evaluation of Multistate, Multi-Institutional, Multidisciplinary and Joint Research and Extension Activities

To increase our efficiencies and expand our potential to address the needs of Maine citizens, UMCE conducts programs in collaboration with other institutions and out-of-state partners. Many needs are best addressed through a combination of traditional disciplines. We also participate in outreach efforts that provide a direct connection between practical, usable information and the research that helped produce it. Most of the programs discussed here are described in greater detail in Section A of this report.

Multistate Extension

The New England Greenhouse Conference: UMCE participated as a conference organizer for the October 2000 New England Greenhouse Conference sponsored by New England Floriculture, Inc., a group of grower representatives and Extension experts from each New England state. The conference provided growers across New England with knowledge about crop selection, crop production, business management, marketing and environmentally conscientious management of pesticides and fertilizers. Evaluation results indicated acquisition of specific knowledge of how to reduce costs and improve merchandising. We also moderated educational sessions and served on the educational program committee for the conference. More information is available on page 8.

Organic Berry Production: UMCE presented a workshop on blueberry and raspberry production to the Northeast Organic Farming Association conference in Massachusetts, focusing on the potential for profitable production of organic berries. Over 90 people attended the workshop from Maine, Connecticut, Massachusetts, New Hampshire, New York and Vermont.

Quality Assurance for Table Egg Producers: Since 1989, egg producers in Maine, New Hampshire and Vermont have participated in a quality assurance program that is designed and operated by UMCE. The program teaches risk reduction in laying flocks and provides producers with pest control support; monitoring of cleaning and disinfection procedures; and testing of breeding stocks. The program also incorporates an intensive vaccination program using established and newly developed vaccines that enhance the resistance of birds to salmonella infection. One hundred percent of Maine, New Hampshire and Vermont table egg producers voluntarily participate in the program, which helps maintain the quality required to produce higher profit eggs. More information is available on page 14.

Pesticide Applicator Training: UMCE provides the educational portion of the EPA-regulated Pesticide Applicator Training (PAT) program via educational manuals and on-site training. We offer both certification and re-certification options. Topics include worker protection standards, reading and integrating pesticide labels, pesticide handling, record keeping and general agricultural instruction. Over 4,500 people from Maine, New Hampshire and Vermont have attended PAT programs in the past year.

UMCE Compost School is a collaboration between UMCE, the Maine State Planning Office; the Maine Department of Agriculture, Food and Rural Resources; and the Maine Department of Environmental Protection. During 2001, 96 students from 17 states and seven countries completed the basic or advanced compost school program in Maine and North Carolina to become qualified as compost facility managers and operators for medium and large-scale composting operations. To reinforce and illustrate the principles taught in the classes, seven commercial and community composting sites were visited by the students. At each site, the operators freely share their information and answer the questions the students may have. More information is available on page 33.

Habitat Restoration Workshop: UMCE serves on the steering and implementation committees of the Gulf of Maine Council on the Marine Environment, a collaborative organization created by the governors of Maine, Massachusetts and New Hampshire, and the premiers of New Brunswick and Nova Scotia. The council works to protect Gulf of Maine habitats, promote sustainable development of marine and coastal resources, raise public awareness of the gulf and foster local stewardship. With support from UMCE, Maine Sea Grant, NOAA's National Marine Fisheries Service, and regional partners from New Hampshire and Massachusetts, the council held a gulf-wide workshop that was attended by nearly 80 practitioners to provide a forum for dialogue and restoration planning.

Youth Entrepreneurship Educator Training: In collaboration with the New England Cooperative Extension Task Force on Workforce Preparation, UMCE offered *Mini-Society* youth entrepreneurship training for 23 educators in Nashua, New Hampshire with participants from Maine, New Hampshire, Massachusetts, and Rhode Island. More information is available on page 57.

Multistate Extension and Multi-Institutional Extension

Producer Workshop on Farm Management: UMCE organized and conducted a workshop in collaboration with the University of Vermont Extension to help dairy producers increase profitability by reducing the risks associated with farming. Three major areas were addressed: risks involved with farm transfers to the next generation, risks to the environment and risks in the marketplace. The use of futures and options as a

protection against marketplace risk was explained. Most of the 44 participants in the workshop learned new management skills to increase profitability in their farm businesses. Two participants have already started to purchase dairy options as a result of information gathered at the workshop. Based on positive responses from participants, additional workshops are being planned.

Certified Crop Advisor Training: UMCE conducted a certified crop advisor training program in Portsmouth, New Hampshire in February 2001, providing 12 re-certification credits in the area of pest management, soil and water conservation, crop production and soil fertility for participants from Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. Participants heard speakers from the University of Maine, the University of Connecticut, the University of New Hampshire, the University of Vermont, and USDA Natural Resources Conservation Service.

Multistate Extension, Multi-Institutional and Joint Research and Extension

Webhannet Watershed Nonpoint Source Pollution Investigation: A UMCE researcher worked with project staff from the Wells National Estuarine Research Reserve, Americorps, the University of New Hampshire and Jackson Estuarine Lab to implement a fecal coliform monitoring and shoreline surveying program. Staff collected samples to put through a microbial source tracking procedure to identify the source of the contamination. Nearly 40 community volunteers were involved in the effort. More information is available on page 36.

Quality Assurance and Quality Control for the Maine Phytoplankton Monitoring Program: UMCE and Maine Sea Grant, working with the University of Rhode Island, developed new protocols for emerging toxic phytoplankton and cell count methodology. The protocols developed in Maine are being piloted in New Hampshire. Funding for the course and the protocol development was awarded through the Gulf Of Maine Council on the Marine Environment and the Department of Marine Resources.

Multi-Institutional Extension

The Maine Phytoplankton Program: This year UMCE—collaborating with the Maine Department of Marine Resources—conducted a Phytoplankton Monitoring Course with presenters from the Bigelow Laboratory for the Ocean Sciences and the University of Southern Maine. This program provided 26 volunteer monitors training to improve their sample techniques and identification skills. As a result, the volunteers are better able to report their data accurately to the Maine Department of Marine Resources. More information is available on page 36.

Joint Research and Extension

Open Pollinated Corn Varieties as an Alternative to Standard Hybrids: UMCE is collaborating with the Maine Agricultural and Forest Experiment Station in on-farm evaluation trials on four open pollinated corn varieties as alternatives to standard hybrids. Successful open pollinated varieties would give northern latitude growers the ability to raise their own seed crops and maintain quality control. This could expand options for growers and help them become more competitive with growers in more temperate climates by creating an average savings of \$80 per acre in purchased seed. More information on page 5.

Improving Soils For Long Term Profitability: UMCE has conducted two studies to help potato growers improve soils: one evaluated the effect of solid manure on potato yield and quality, and a second evaluated the use of Paper Fiber Residual (PFR) materials and composts to conserve soil moisture and build soil organic matter. These techniques were demonstrated to growers at an agricultural field day held in collaboration with MAFES, resulting in several producers using PFR residual as a source of organic matter and lime. The practice is saving these growers nearly \$35 per acre on liming costs while also building soil organic matter.

Pre-Sidedress Nitrogen Test (PSNT): UMCE provided PSNTs to silage and sweet corn producers to evaluate nutrient inputs, analyzing values from tests on 350 acres of sweet and silage corn. The analysis revealed that only two fields required supplemental nitrogen fertilizer. The suspension of nitrogen fertilizer applications on the remaining fields resulted in a minimum savings of at least 26,000 pounds of applied nitrogen fertilizer, worth \$7,200. Four field research trials were established in Knox, Lincoln and Waldo counties to assess stalk nitrate values. Stalk nitrates were collected and were analyzed in late 2001 with the intent to provide a nitrogen management tool for vegetable and dairy producers for future seasons. More information is available on page 30.

Alternative Fly Control: UMCE, in collaboration with the Maine Agricultural Center and the Maine Department of Agriculture, Food and Rural Resources, conducted an on-farm demonstration project in 2001 on the use of biological fly control in dairy barns. Researchers used parasite releases in conjunction with each farmer's traditional methods of fly control. Programs for the Maine Organic Farmers and Gardeners Association were conducted during the fall dairy seminar and a publication on *Integrated Pest Management for Flies in Dairy Barns* was written. The new method of fly control reduced the number of organic-approved pyrethrin sprays by two sprays per farm, saving farmers an average of \$250. More information is available on page 31.

Irrigation Investment in Lowbush Blueberries: UMCE and MAFES calculated investment costs for two types of irrigation systems on three different field sizes. A spreadsheet was developed and made available to blueberry producers which factors recurrent costs and allows them to input well and impoundment costs for their unique situation. This project will be followed up by a research publication and wild blueberry irrigation fact sheet, which will be presented to growers in the spring of 2002.

Evaluation & Demonstration of Blueberry Stand Establishment on Former Potato Fields: UMCE and the MAFES are collaborating on a demonstration of currently available methods of establishing lowbush blueberry stands on suitable sites in former potato fields. Methods include encouraging indigenous blueberries through weed management, mulching and pruning. Sites were prepared and tissue culture wild blueberry plants were planted in the towns of Caribou and Hamlin, Maine. A comparison planting was done at commercial blueberry farms in Jonesboro and Wesley, Maine. Results showed that all plants survived at the Wesley and Hamlin sites. There was 20 percent mortality at the Jonesboro site and 100 percent mortality at the Caribou site. It was determined that the Jonesboro site plants died as a result of desiccation. The Caribou site had a high soil pH, which enabled weed growth that deprived the blueberry plants of necessary sunlight. Results and techniques were demonstrated at grower field days in 2000 and 2001. The project will be continuing over the next four years and will be used to demonstrate the feasibility of inter-cropping tissue culture wild blueberry plants.

Juvenile Oyster Mortality: UMCE and the MAFES are working together in a new effort to address Juvenile Oyster Mortality (JOM), a disease that, in some years, has resulted in greater than 90 percent loss of a given year class in oysters on the East Coast. During the past year, we worked with the oyster harvesting industry, the Maine Aquaculture Association and the Maine Aquaculture Innovation Center to organize and facilitate meetings at the Darling Marine Center, and to produce and distribute written outreach materials concerning JOM. Experiment Station researchers are investigating ways to control JOM either by the use of a pro-biotic bacterium or by interfering with the bacteria's natural colonization process.

Beach Profile Monitoring: A UMCE researcher, as part of a collaboration with Maine Sea Grant, the University of Maine Department of Sciences, the Maine Coastal Program and Maine Geological Survey, is coordinating more than 120 volunteers who are monitoring the profiles of 15 sandy beaches in southern Maine to determine changes from chronic erosion that threaten critical wildlife habitat and public and private property. The process is replicated once each month at low tide using a simple surveying technique to measure the contour of the beaches. The data collected is helping to identify significant trends on the monitored beaches.

Relocation of Green Sea Urchins: UMCE, Maine Sea Grant, the Maine Department of Marine Resources and the Cobscook Bay Fishermen's Association worked together to evaluate the success of the relocation of poor quality urchins by local fishermen to areas where abundant food was available and the urchins might thrive. The evaluation determined that over 60 percent of the urchins perished within weeks of being moved, suggesting that the strategy would not be successful enough to justify the cost. More information is available on page 38.

Sea Lice Control for Salmon Farms: UMCE, Maine Sea Grant and participating aquaculture companies responded to sea lice infestations in farmed salmon by establishing an integrated pest management program. Elements of the program include a coordinated monitoring effort for this salmon parasite and research into prevention and treatment. Researchers found that the use of drug therapy was effective at controlling sea lice on farmed salmon. More information is available on page 38.

Management Alternatives for Corn Earworm on Sweet Corn: Sweet corn is the most important retail vegetable crop in Maine, with a net value of between \$1.25 million and \$2.5 million annually. Current management methods for corn earworm require diligent monitoring and judicious use of pesticides. UMCE and MAFES examined alternative methods of control for organic farmers. Five organic treatments were applied with the outcome showing that these treatments did not result in marketable corn. The research data were shared at statewide meetings, New England growers meetings, field days and through a statewide newsletter.

Folic Acid Research and Education: UMCE is conducting a project funded by a March of Dimes grant to support folic acid consumption research and nutrition education with the EFNEP audience in Maine. The objectives of the *Folic Acid Now!* project are to assess the knowledge, behaviors and dietary intake of at least 100 lower-income women of childbearing age in Cumberland County, and to increase current and potential EFNEP participants' knowledge of how folic acid can prevent neural tube defects. Preliminary evaluations showed that over 50% of the 500 low-income women in the program have increased their daily intake of the five food groups, as well as multi-vitamins. A workshop was presented at the New England Regional EFNEP Conference, and the National Extension Association of Family and Consumer Sciences presented the *Excellence in Research* award to the UMCE educator who developed this research program.

Multistate Extension and Joint Research and Extension

New England Fruit Meeting: UMCE's tree fruit specialist gave a presentation on growing consistent pear crops from year to year at the 2001 New England Fruit Meeting,

hosted by the Massachusetts Fruit Growers Association in Sturbridge. Nearly 400 New England growers attended, including many pear growers from southern New England. The presentation gave growers the information they need to make management decisions about improving fruit set and yield in years with poor weather. Apple varieties from evaluation trials were also displayed so that growers could get a first-hand look at fruit quality and determine which varieties best suit their operation.

Multidisciplinary Extension

Nutrition and Gardening for Youth: By working as a team, UMCE nutrition aides and Master Gardener volunteers combined nutrition education with gardening expertise in a program for 45 youth, ranging in age from 6 to 12, at three housing projects and one community garden in Portland. The program ran from May through September and was supported by the Portland Housing Authority, who provided funds to offset the cost of seeds, seedlings and soil amendments that helped ensure the success of this summer gardening program.

Understanding Poverty Through Welfare Simulation: UMCE, in cooperation with the Maine Nutrition Network and the Maine Coalition for Food Security, conducted three *Welfare Simulation* events as part of the *Food with Dignity* conference. The program brought together UMCE staff who work in aging, parenting, limited income food and nutrition, agriculture, food and nutrition and community development to help participants experience what it is like to live in a low-income family, and how poverty affects month-to-month survival. Nearly 200 Maine citizens participated in the program and 48 were trained before the event to participate in conducting the program.

Maine Herb Grower Course: Over the last three years, UMCE has received a noticeable number of inquiries from potential or existing entrepreneurs about starting herb businesses. In response to this need, UMCE horticulture and small business faculty created a thirteen-week course for entrepreneurs who were interested in learning how to successfully grow, process and market herbs as a business. The course focused on herb production and processing techniques (including culinary, medicinal and ornamental herbs); developing a business plan; and marketing strategies. Sixty-six people have successfully completed the course in the last two years.

Senior FarmShare: Along with the Maine Department of Agriculture, Food and Rural Resources; the Department of Human Services; and the Maine Nutrition Network; UMCE coordinates the Senior FarmShare program. FarmShare helps promote healthy eating by giving locally-grown fruits, vegetables and herbs to low-income qualifying seniors. The program also seeks to increase profitability through expanded markets for some Maine fruit and vegetable growers. Eligible senior citizens receive a credit for fresh

fruit and vegetables at local farms or farmer's markets, and participate in the Nutrition for Seniors program as a companion program. It is estimated that more than 20,000 senior citizens received healthy, locally-grown produce as a result of the program. More information is available on page 19.

Project Food, Land and People: UMCE participated with Maine Agriculture in the Classroom as well as the Maine Department of Agriculture, Food and Rural Resources to present a curriculum training called *Project Food, Land and People* for community educators in Maine. This curriculum included activities and resources teaching nutrition, food and fiber production, and land use, in order to heighten public awareness of the contribution that a viable agricultural industry makes to the people of Maine. The training was a train-the-trainer model in which participants learned to apply the curriculum materials to their specific educational situation. A tour provided participants with firsthand experiences at two local farms, the Maine Organic Farmers and Gardeners Association, Belfast Farmers Market and Highmoor Farm Agricultural Research Station.

PowerUp Project: Together with a local school district and CyberSeniors.org (a nonprofit organization dedicated to connecting senior citizens to the Internet), UMCE is part of an effort to "bridge the technology divide" and provide computer access to senior citizens and others who do not have access to the Internet. Oxford County Extension applied for and was awarded a PowerUp site technology grant that included 20 new Gateway[®] computers and funded the development of a community computer lab at the school. The project teaches youth development skills in a community development format by giving volunteer teens the opportunity to teaching computer skills and improve the lives of senior citizens.

Section E
Multi-State Extension Activities

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multi-State Extension Activities and Integrated Activities
(Attach Brief Summaries)
Institution The University of Maine Cooperative Extension
State Maine

Check one: **Multi-State Extension Activities**
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Actual Expenditures

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>New England Consortium Activities:</u>					
<u>-Faculty/ Staff Time in New England Activities</u>	<u>\$40,383</u>	<u>\$60,381</u>			
<u>-Additional Staff Time on New England Projects</u>	<u>\$20,825</u>				
<u>Additional Staff Time in Multi-State Activities</u>	<u>\$93,178</u>	<u>\$136,936</u>			
<u>Total Multi-State Activity Paid from Smith/Lever</u>	<u>\$154,386</u>	<u>\$197,317</u>			

Lavon L. Bartel
Director

February 28, 2001
Date

Section F
Integrated Research and Extension Activities

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multi-State Extension Activities and Integrated Activities
(Attach Brief Summaries)

Institution The University of Maine Cooperative Extension
State Maine

Check one: Multi-State Extension Activities
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Actual Expenditures

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>Contribution to Maine Agricultural Center</u>	<u>\$ 20,000</u>	<u>\$25,000</u>	_____	_____	_____
<u>Faculty with Joint Extension Research Appointments</u>	<u>\$129,718</u>	<u>\$179,596</u>	_____	_____	_____
<u>Total Integrated Activity Paid from Smith/Lever</u>	<u>\$149,718</u>	<u>\$204,596</u>	_____	_____	_____

Layon L. Bartel February 28, 2001
Director Date