

FY2005 Annual Report  
University of New Hampshire Cooperative Extension  
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## Introduction

The University of New Hampshire Cooperative Extension provides New Hampshire residents with research-based information, enhancing their ability to make informed decisions that strengthen youth, families and communities, sustain natural resources and improve the economy. As a University outreach program, our network of professional Extension staff resides in all 10 New Hampshire counties. County staff work with local volunteers and specialists on the University of New Hampshire (UNH) campus to design and conduct educational programs that meet societal, environmental and economic needs. While many of our programs are conducted locally, we also use current communication technologies including computer networking, computer-based courseware, phone, web and interactive video conferencing. As part of the national land-grant university system, we also access the knowledge and expertise of other state land-grant universities throughout the United States. Cooperative Extension derives its name from the partnership structure that combines federal, state and county funding. This “cooperative” effort ensures all people have local access to a public university and its knowledge and resources to address needs and problems. The University of New Hampshire serves the state as the principle land-grant university charged by Congress to conduct resident instruction, research, and outreach to people beyond the formal classroom. With a total state population of 1,299,000 people, Extension reaches a quarter of these individuals through educational programs.

UNH Cooperative Extension employs approximately 80 Extension Educators and additional program staff who plan, conduct and evaluate educational programs in two broad program areas - Communities, Families and Youth and Natural Resources. These areas are supported by staff in five program groups: 4-H Youth Development, Family and Consumer Resources, Agricultural Resources, Forestry and Wildlife, and Sea Grant and Water Resources. State Program Leaders manage each program group.

UNH Cooperative Extension commits to increased programs for underserved and underrepresented audiences. These individuals participate mainly through program efforts in Nutrition Connections and the Family Lifeskills Programs, part of the state’s welfare reform effort. 4-H camping and after school programs also involve a significant number of underserved families. Staff who work in these programs build trust and rapport with under-represented audiences and help Extension advisory councils understand the audience’s needs and circumstances. Issues for the underserved and underrepresented are incorporated into New Hampshire’s plan of work and accomplishments during FY2005 are highlighted in this report.

Program accomplishments in this report respond to high priority needs in New Hampshire identified through comprehensive statewide needs assessment conducted in 1999 and 2003. Extension advisory councils and stakeholders systematically analyzed data collected and identified the highest priority needs. These needs include:

Natural Resources Needs (includes land use, the environment, agriculture, forestry, wildlife, water and marine resources)

- Land use, land and water conservation and open space preservation

- Sustaining the economic value and impact of natural resources and natural resources-related industries
- Increasing the visibility and marketing of Extension’s expertise and assistance to support natural resources and natural resources-related industries

### Family and Youth Needs

- Strengthening families - balancing work, family and community roles, parent education/pre-parenting education, resiliency and family functioning
- Life skill development for youth - workforce preparation, character education and social responsibility
- Family resource management - time, money and other resources
- Wellness - healthy lifestyles including nutrition, physical activity and food safety

### Broad State Need

Community involvement and sustainability including community decision-making, educating elected officials, leadership development, community forums, balanced growth and user-friendly town government.

Based on the statewide needs assessment, analysis and ranking by the State Extension Advisory Council, the following goals served as the basis for the FY2000-2004 Plan of Work and the FY2005-2006 Plan of Work extension. These goals as well as the program logic models found at: <http://extension.unh.edu/AboutUs/UNHCEPOW.htm> provide the framework for the following FY2005 program accomplishments. Staff downsizing and changes resulted from increased costs and a lack of increase in state and federal funding. Program impacts for FY2005 resulting from these changes are noted in the executive summary for each goal.

## **A. Planned Programs**

### ***Goal 1 - An Agricultural System that is Highly Competitive in the Global Economy***

#### Executive Summary

Over 3,100 agricultural farms in New Hampshire generate nearly \$750 million in annual product value and manage approximately 445,000 acres in farm land. New Hampshire’s agricultural industry is principally comprised of small family farms offering a diverse selection of crop, livestock and specialty products. These family businesses are an integral part of the local community maintaining a working landscape and providing citizens with superior products as well as connections to farming and “rural” New Hampshire.

About half the state’s farmers consider farming their principal occupation. For these and many of the part-time farms, the family relies on agricultural activities to provide money for an adequate standard of living. New Hampshire’s farms need to be profitable to continue to exist. While many sources of assistance are available to small businesses, the unique needs of agricultural farms require assistance from organizations and professionals familiar with those needs such as UNH Cooperative Extension.

New Hampshire's population exceeds 1,299,000. Each year UNHCE receives thousands of requests from New Hampshire citizens for education on home lawn and gardening. UNHCE developed a variety of methods to meet this need and reduce the burden on Extension Educators. Using over 500 Master Gardeners who volunteered 11,000 hours in 100 communities in 2004, UNHCE expanded its impact. This included responding to over 10,000 phone inquiries, conducting more than 50 workshops in schools and communities and working on a diverse range projects that resulted in aesthetic, environmental and economic benefits for both New Hampshire citizens and volunteers.

Agricultural profitability and effectiveness, enhanced through workshops, conferences and producer visits resulted in growers and farmers improving their farm image and an increase in returns. Highlights for FY2005 include:

- 249 New Hampshire farmers enhanced their ability to manage farm production and marketing risks
- 245 New England farmers better understand business succession issues and estate planning options
- 116 New Hampshire agricultural professionals learned strategies to reduce production, marketing, legal and human resource risks
- 201 New England farmers better understand direct marketing options and strategies related to product, price, place and promotion
- 103 New Hampshire, Massachusetts and Vermont farmers learned how to assess the potential of value added products
- Somali and Sudanese immigrants harvested 1,200 pounds of produce from their Manchester community garden, lowering grocery bills, learning how to grow local crops and forming bonds with each other and their new homeland and integrating into their community as a model for other limited-income immigrant populations.
- With assistance from the UNHCE Aquaculture Program, one commercial fisherman began long-line production of blue mussels and anticipates harvesting over 35,000 pounds in spring.
- A former commercial fisherman in northern New Hampshire began construction of a hatchery and growout facility for largemouth bass, with plans to raise the first lot for stocking ponds in the fall.
- Over 50% of New Hampshire's dairy herds are enrolled in a Johnes control program to prevent the spread of disease and improve herd health and production per cow
- Milk quality and production has improved through modified barn lighting systems showing increases of two to five pounds per cow per day and compliance with state standards lowering somatic cell counts
- Three milking schools conducted with 45 farm employees resulted in better milking practices and reaching underserved Spanish speaking employees

Changes in staffing and programming for this goal during FY2005 included continued loss of one agricultural resources staff member. Due to reduced staffing over the last several years, key themes not reported on during FY2005 include Agricultural Profitability and Diversified/ Alternative Agriculture.

Total Expenditures: \$ 2,572,146

Funding: Federal Smith-Lever b&c - \$ 315,788

State Matching Funds - \$ 1,550,363  
County Funding - \$ 523,429  
Grant & Other External Funding - \$ 182,566

FTEs - 23

### **Adding Value to New and Old Agricultural Products - Mike Sciabarrasi and John Porter**

A. Situation: The proximity of New Hampshire farmers to markets and large numbers of consumers provide substantial opportunities for sales of agricultural products, related goods and services. Adding value to farm products through processing, packaging and services helps growers improve net income. Diversified and alternative agricultural practices create new markets for farmers and help establish product identity in the market place. Consumers are able to buy local products while tourists look for items distinctly from New Hampshire.

B. Program Description: Marketing efforts focus on helping farms increase profits through greater understanding of local markets and improved marketing strategies. Diversified and alternative agricultural practices are promoted among farmers either growing products for the first time or expanding existing markets.

Recent programs addressed how to sell products through direct markets such as farmers' markets, farm stands, and pick-your-own sales. Creative product alternatives were introduced by featuring farms growing these products at twilight meetings and in newsletters. New concepts were also included in regularly scheduled commodity meetings. Presentations and seminars were conducted at county programs, state meetings and expositions, and multi-state and New England conferences.

C. Impacts: Methods employed to assess impacts included seminar surveys, observations of seminar participants and requested assistance.

- 78 New Hampshire growers improved direct marketing skills related to merchandising and customer service
- 98 New Hampshire farmers learned the fundamentals of pricing farm products
- 25 New England growers better understand direct marketing options and opportunities
- 20 Massachusetts immigrant farmers were taught how to assess the potential of value added products
- 20 New Hampshire and Vermont small farms learned about growing high-value early potatoes for the fresh market
- 55 growers attended a shiitake mushroom clinic and learned how to generate income from their woodlot
- 5 New Hampshire goat producers learned more about raising meat goats and two expanded herds to cater to an ethnic market
- Organic products were offered as a production alternative and two new dairy farms were certified organic
- Farmers received squash and pumpkin seeds developed at UNH to achieve disease resistance, have early maturing varieties and improve flavor

- A New Hampshire grower converted cull sheep meat to sausage, tripling the return per animal
  - A New Hampshire wholesale apple grower developed a new market selling to schools
  - One farmers' market conducted a customer survey with Extension's assistance
- D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds
- E. Scope of Impact: Multi-state

### **Animal Health/Animal Production Efficiency - Pete Erickson**

A. Situation: Improving the health and efficiency of production are key components of maintaining a prosperous livestock industry in New Hampshire. Reducing costs by improving health of food producing animals also increases profits. Producing higher quality crops and using feed ingredients correctly can result in increased production per unit of feed fed or decrease costs per unit of food or fiber product produced. Improving animal health will improve profits due to decreased veterinary costs, reduced dumped milk, and better utilization of available feedstuffs, and better utilization of the cow's own hormonal system to stimulate production of milk.

B. Program Description: This program involves educating producers through farm visits, "schools" and individual consultation.

- Extension staff conducted three milking schools. The production of quality milk is essential for the following reasons: only grade A milk is purchased by handlers in New Hampshire, low somatic cell counts results in higher profits for the producer and mastitis is the largest disease cost incurred by the dairy producer. One "school" incorporated the publication of a notebook including a Spanish version. Another school was primarily designed for 4-H youth.
- A feeding ruminants short course was held in February and March at the NH Farm Museum in Milton, NH. Participants learned how to sample forage, interpret forage tests, the hows and whys of feeding ruminants and how to reduce feed costs through ration balancing.
- A study evaluating the practical application of photoperiod manipulation was conducted on three participating dairy farms. Research from around North America shows that maintaining 15-20 foot candles of light (normal room light) at the eye of a lactating cow for 16 hours will result in a 5-10 % increase in milk yield. Results are being collected.
- UNH is conducting a study to evaluate the addition of an enzyme-based preservative to wet brewers grains to reduce spoilage thus increasing shelf life. This allows smaller dairy producers to use this product and reduce costs of expensive protein supplements.
- Education on biosecurity practices related to control Johnes disease and overall herd health were conducted
- UNHCE cooperates with the New Hampshire Public Health Department, Dairy Division to maintain milk quality in the public supply. Milk sampling, testing equipment and management recommendations help farmers comply with quality standards
- Milk "schools" trained immigrant farm labor in proper milking techniques

C. Impacts:

- Approximately 30 farms were represented at the three milking schools. Participants agreed they would modify their procedure and they “will never look at milking in the same way.”
- Six producers attended the feeding ruminants short course
- Dairy producers have a better understanding of how milk is produced and will produce higher quality milk
- New livestock owners now understand the concepts behind ration balancing and nutrient analysis which should reduce production costs
- Over 50% of New Hampshire’s dairy herds are enrolled in a Johnes control program to prevent the spread of disease and improve herd health and production per cow
- Milk quality and production has improved through modified barn lighting systems showing increases of two to five pounds per cow per day
- New Hampshire is among the top ten states in the country for producing milk low in somatic cell counts
- Three milking schools conducted with 45 farm employees resulted in better milking practices and reaching underserved Spanish speaking employees

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

A. Scope of Impact: State specific

### **Aquaculture - J-J Newman**

A. Situation: Extension’s aquaculture program works with both existing and potential aquatic farmers to increase family income, provide employment options for struggling commercial fishermen, farm diversity, increased economic development in rural communities, and new uses for unproductive land and old buildings.

B. Program Description:

- Direct help to individual farmers in New Hampshire, Maine, Vermont and Massachusetts, in consultation with local Extension personnel
- Educational workshops and tours for a New England-wide audience on aquaculture topics
- Demonstration/research projects at university facilities and at private farms
- Connecting individuals, state aquaculture associations, and a local fishermen’s cooperative with university researchers

C. Impacts: FY2005 Aquaculture Program efforts concentrated on projects that will show impacts over a three to ten year period. Impacts this year include:

- With assistance from UNH, a local commercial fisherman seeded four, 600-foot submerged longlines with 0.75-inch blue mussels. The mussels are expected to be market size in the spring of 2006. This new farmer expects to harvest over 35,000 pounds of mussels from the four lines. If successful, he will add six more longlines next year.
- A former commercial fisherman in northern New Hampshire began construction on a hatchery and growout facility for largemouth bass. While the hatchery is not complete, enough of the growout facility is functional that during the 2006 growing season, this farmer

will buy feed-trained fingerlings and grow them for sale that same fall. The fish will be sold to the pond-stocking market. The demand for largemouth bass for pond stocking has grown to the point that the retail price for these fish is \$1 per inch of length, and buyers will take fish of any size.

- The fourth biennial Northeast Aquaculture Conference & Expo (NACE) was held in Manchester, NH December 2-4, 2004. UNHCE served on the executive committee for NACE and was both host and conference coordinator for the conference. This regional conference is a forum for knowledge building and networking for current and prospective aquaculturists and regional researchers. NACE is a unique aquaculture conference, in that the entire conference - from the speaker sessions, to the trade show, to the hands-on, technology-transfer sessions – is oriented to farmers and industry members, rather than the academic community. Over 200 people attended in 2004. One important result of the 2004 conference is that NACE now has industry members on the executive committee, and an advisory committee made up entirely of industry members. This is a sign that NACE is important to the industry.
- Joint farmer/university research on culture techniques for rainbow smelt continues to make progress. Work on larval feeding and training to artificial feed is nearly complete. It appears that local production of smelt for sale as bait should be entirely feasible within the next year.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

A. Scope of Impact: Multi-state and Integrated Research and Extension

### **Home Lawn and Gardening - Margaret Hagen**

A. Situation: New Hampshire's population now exceeds 1,299,000. Each year Extension receives thousands of requests from New Hampshire citizens for education on a wide range of topics including home gardening, wildlife, water quality, household pests, backyard livestock, food preparation and food safety, urban forestry, and many others. With only 12 full-time staff to respond to this demand, Extension developed a variety of methods to meet this need. Each contact with the public, homeowners, gardeners and municipalities provides the opportunity to teach people how to make changes in their surroundings that optimize the safe use of their properties while protecting the environment.

B. Program Description:

- 81 new volunteer Master Gardeners received 60-84 hours of training
- More than 500 active Master Gardeners contributed 14,000 hours to Extension programs in 100 communities
- On a toll-free Info Line, Master Gardeners responded to 6500-plus requests with scientifically-based information to help solve a wide array of gardening and household problems. Extension Educators in county offices responded to another 5,000 residents.
- 14 Master Gardener volunteers taught 21 workshops from the Family, Home and Garden Education Center. Master Gardeners and county Extension Educators delivered another 80-plus workshop by request to schools, libraries, civic groups and clubs around the state. Thirteen spring fruit-pruning workshops also were held.



- 750 people received an identification or diagnosis on an insect, disease or plant sample
- 800 home garden soil tests provided fertilizer recommendations for multiple crops
- 52 “Grow It Green” spots aired on Channel 9 (WMUR-TV, an ABC affiliate) on the Saturday and Tuesday news shows, generating 400 follow-up calls and reaching 38,000 households with each show
- Garden columns were written and distributed weekly, bi-weekly or monthly from most county Extension offices. Fifty-nine percent of adults read newspapers
- The North Country Garden Calendar was written and published in partnership with Maine and Vermont. New Hampshire sold almost 600 copies for a \$1,800 profit.

C. Impacts:

- Active Master Gardeners worked on projects with schools, communities and prisons, conducted workshops and wrote articles, worked with the elderly, camps and with garden clubs to teach new skills that provided economic and aesthetic benefits. More than 5,000 citizens gained skills that improved self-esteem and enabled them to grow and preserve crops, apply pesticides responsibly and/or protect their environment
- Municipal and county government saved more than \$30,000 by using Extension staff and volunteers as consultants on town landscapes, parks and athletic fields
- Somali and Sudanese immigrants harvested 1,200 pounds of produce from their Manchester community garden, lowering grocery bills, learning how to grow local crops and forming bonds with each other and their new homeland and integrating into their community as a model for other limited-income immigrant populations.

D. Source of funding: Smith-Lever 3bc, State matching funds, County funds

E. Scope of Impact: Multi-state

**Risk Management - Mike Sciabarrasi**

A. Situation: Nature, weather conditions, market changes, escalating asset values, funding, legislation, legal challenges, and personnel issues impact the viability of New Hampshire and Northeast farms. These factors pose considerable risk of economic loss and damage to the farm and family. Management tools and techniques to reduce, minimize and transfer production, marketing, financial, human resource, and legal risks can stabilize farm income and improve net worth.

B. Program Description:

- Production risk and the variability associated with yield or output
- Marketing risk that deals with price fluctuations and target market sales
- Financial risk that addresses how to secure business equity while meeting cash flow needs
- Human resource risk that focuses on the role of family members and employees in the firm
- Legal risk that considers business agreements and environmental issues

The 2005 program focused on providing farmers and agricultural professionals with information and training on assessing farm risks, understanding the tools to manage those risks, and developing risk management strategies. Delivery methods included farmer workshops and

seminars, training programs for agricultural professionals, online learning modules, updated web pages, participation in industry trade shows, and distributing news releases. Special efforts targeted small family farms, organic producers, apple growers and forage producers.

In addition, New England educational efforts related to “Transferring the Farm” programs continued in 2005. Transferring farm ownership to succeeding generations relies on balancing high start-up costs faced by the beginning farmer while ensuring financial security for the retiring farmer. Introductory estate planning workshops were conducted at locations in four states. In addition, advanced workshops on health care, retirement planning and legal structure were held at three sites.

C. Impacts: Methods employed to assess impacts included workshop and seminar surveys, observations of program participants, and follow-up assistance.

- 31 New Hampshire agricultural professionals improved understanding of human resource management
- 77 New Hampshire small family farm owners learned strategies for enhancing revenue and reducing market risks
- 47 New Hampshire organic producers enhanced their ability to manage production and marketing risks
- 61 New Hampshire forage producers learned how to reduce hay and haylage production risks
- 69 New Hampshire agricultural professionals learned more about revenue insurance and other risk reducing tools
- 249 New Hampshire growers better understand crop and revenue insurance options
- 16 New Hampshire agricultural professionals improved understanding of business structure choices
- 163 New England farmers learned techniques to minimize farm business succession risks
- 82 New England farmers better understand retirement planning and business structure choices

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grants

E. Scope of Impact: Multi-state

## ***Goal 2 - A safe and secure food and fiber system***

### Executive Summary

Foodborne illness is a great concern for public health experts and the food industry. Each year, as many as 76 million Americans experience foodborne illness, and an estimated 5,000 deaths are linked to tainted foods. Many mild cases of foodborne illness are never reported for a number of reasons. The victims pass off the symptoms as flu and don't seek medical attention, the illness is misdiagnosed as another problem with similar symptoms, the victim fails to recognize food as the source, or the physician doesn't report the illness to local health agencies. Diarrhea, nausea, abdominal pain or vomiting without fever or upper respiratory distress is often taken to be flu,

but people who experience such symptoms are highly likely to be suffering from foodborne illness.

The Safety Awareness in the Food Environment (SAFE) program provides food workers with practical information about food safety and sanitation. As consumers increasingly rely on others to prepare food, the importance of a knowledgeable and skilled work force for all food outlets will be critical in preventing foodborne illness.

- Thirty two SAFE programs were conducted reaching 512 food workers.
- 69% of participants scored 92% or greater on the post-workshop knowledge questionnaire.
- Of seven follow-up phone surveys, 86% of food managers in establishments sponsoring a SAFE program reported food safety practices changes in their employees as a result of the program.

As produce consumption increases, so has the number of associated foodborne illnesses. Good Agricultural Practices (GAP) are recommended food safety and sanitation practices that can help commercial and home produce growers minimize foodborne pathogen contamination.

- With funding from a USDA/CSREES grant, five New England states assessed the food safety knowledge of home gardeners. A mail survey was designed and distributed to 3000 random households of gardeners. 762 respondents answered 56 knowledge questions.
- Using 89% as a proficient, 41% met the standard. Low scoring topics included use of fresh manure/compost, safety of organically grown produce, cleaning produce, water safety and home canning.

Food insecurity occurs whenever the availability of nutritionally adequate and safe food, or the ability to acquire acceptable foods in socially acceptable ways, is limited or uncertain. Hunger is defined as the uneasy or painful sensation caused by a recurrent or involuntary lack of food and is a potential, although not necessary, consequence of food insecurity. Hunger may result in malnutrition. The percent of households in New Hampshire that are food insecure is 6.4%, which represents 31,744 households. Of these food insecure households, 33% experience hunger. The percent of all households that are food insecure with hunger is 2.1%, which represents 10,416 households. Extension food security program highlights in New Hampshire this year include:

- Three farmers' markets participated in increasing accessibility of fresh produce to food stamp recipients by implementing measures to facilitate the use of Electronic Benefit Transfer (EBT) cards at the markets.
- Promoting the markets was conducted with local agencies and by statewide newsletters to inform food stamp recipients on where they could use their EBT cards. Over \$1,200 was redeemed using the cards, up from \$808 last year.
- Nutrition Connections staff worked with families to identify nutrition and food related community resources. Thirty percent of participants ran out of food less often before the end of the month.

Total Expenditures: \$ 1,326,141

Funding: Federal Smith-Lever 3b&c - \$ 164,759

State Matching Funds - \$ 808,885

County Funding - \$ 273,093

Grants, Contracts, Other - \$ 79,404

### **Food Handling - Catherine Violette**

A. Situation: As consumers increasingly rely on others to prepare food, the importance of a knowledgeable and skilled work force for all food outlets such as restaurants, grocery stores, schools, hospitals and nursing homes is critical in preventing foodborne illnesses.

B. Program Description: The Safety Awareness in the Food Environment (SAFE) program provides food workers with practical information about food safety and sanitation. As consumers increasingly rely on others to prepare food, the importance of a knowledgeable and skilled work force for all food outlets such as restaurants, grocery stores, schools, hospitals, and nursing homes is critical in preventing foodborne illnesses. SAFE is a two-hour program that focuses on personal hygiene, cross contamination, and basic food handling principles. For food managers and workers desiring a more in-depth food safety and sanitation certification program, the ServSafe™ program sponsored by the National Restaurant Association Educational Foundation also was implemented.

UNH Cooperative Extension's food safety programs targeting food workers reached both male (41%) and female (59%) participants. Programs delivered in FY2005 reached 23 participants from minority groups. In New Hampshire, food workers are in the top 25 occupations by number employed in the state but in the bottom 25 New Hampshire occupations by mean wage. National profiles indicate that restaurant food workers are 57% female, 71% are high school graduates or have less formal education, and 57% are under age 30. Test readers were provided for ServSafe program participants with literacy and/or learning disabilities.

C. Impacts: Thirty-two SAFE programs reached 512 food workers. Post workshop questionnaires were completed by 94% of the workshop participants. For these food workers who completed the questionnaire, 69% scored 92% or greater. Participants' responses to knowledge and food safety practice questions are highlighted below.

- 98% correctly identified recommended hand washing procedures
- 94% correctly identified the food temperature danger zone
- 68% correctly identified the maximum amount of time food can stay in the temperature danger zone
- 94% correctly identified how to prevent cross contamination
- 74% correctly identified when to clean and sanitize food contact surfaces

Seven follow-up phone surveys of food managers in food service establishments sponsoring SAFE programs were completed. Eighty-six percent of food managers reported an increased awareness of key principles covered in the SAFE program and described observed changes in food handling practices such as:

- Greater compliance with completing time and temperature records
- Increased hand washing while singing the *Happy Birthday* song
- Using thermometers more often
- Noticing a faulty thermometer and notifying management it was in need of repair
- Storage containers were always clean

- Meat was stored separately
- Food was prepared in smaller batches.

To provide baseline data, SAFE participants indicated how often they implement currently recommended food safety and sanitation practices before the program. Listed below are the two lowest and two highest scoring practices implemented 75% or more of the time as reported by participants:

- 75% wash hands before and after working with food
- 79% check cooking and holding temperatures with a calibrated thermometer
- 94% use recommended hand washing techniques
- 94% keep potentially hazardous foods at  $\leq 41^{\circ}$  F. or  $\geq 140^{\circ}$  F.

ServSafe® programs reached 258 food managers and workers. Two hundred and twelve participants passed the examination with a grade of 75% or greater yielding a pass rate of 82%. Three hundred and fifteen participants passed the examination with a score of  $\geq 90\%$ .

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

E. Scope of Impact: State specific

### **Food Safety - Catherine Violette**

A. Situation: As produce consumption increases, so has the number of associated foodborne illnesses. The New England region is characterized by small agribusinesses with a diversity of crop varieties, most marketed locally. Good Agricultural Practices (GAP) are recommended food safety and sanitation practices that help produce growers minimize foodborne pathogen contamination.

B. Program Description: The New England Extension Food Safety Consortium received two USDA/CSREES grants. The first was to develop and test three educational approaches to enhance the voluntary adoption of GAP recommendations by commercial produce growers and the second was to adopt GAP guidelines to food production by home gardeners.

The Good Agricultural Practices for Home Gardeners mail survey was mailed to 3000 randomly selected households of home gardeners in New England to ensure no distribution biased occurred. Of the 762 surveys returned, 66% of the respondents were 50 years of age or older. Forty-three percent of the respondents were male and 57% were female. Respondents represented all income categories - from less than \$20,000 to over \$80,000 per year.

C. Impacts: UNH Cooperative Extension GAP Impacts:

- Fourteen New Hampshire fruit and vegetable producers received an in-depth, on-site GAP audit conducted by teams of UNH Cooperative Extension Family and Consumer Resources and Agricultural Resources Educators. Evaluations showed 57% made a change in one or more farm practice as a result of the GAP audit. Specific changes included using more drip

irrigation, providing employee education on hygiene, ensuring packers wear single-use gloves, and cleaning equipment better and more often

- Microbial analysis of produce samples from six New Hampshire farms (two strawberry, two lettuce and two apple) pre and post GAP audit showed no detectable pathogens
- Approximately 270 fruit and vegetable growers increased their awareness of food safety and sanitation at selected steps throughout their production, harvesting, and sale of product while attending GAP presentations
- Anecdotally, growers indicated a variety of changes made to enhance food safety, such as installing a hand washing station for customers or in employee work areas, installing two new thermometers in food storage coolers, and sealing food storage areas to exclude rodents

The GAP program for home gardeners extends to a new audience:

- A survey to assess food safety knowledge and attitudes was mailed to 3000 random households of gardeners in five New England states. Survey questions focused on food safety topics for all aspects of gardening and post-harvest handling.
- 762 respondents answered 56 knowledge questions. These questions were assessed using five gardening timeline categories (e.g. soil preparation, planting) and four content categories (e.g. sanitation, water quality).
- Mean percent correct ranged from .60 - .71 for timeline and .59 - .74 for content areas. Using 80% as a “passing level,” only 41% met the standard.
- Low scoring topics included use of fresh manure/compost, safety of organically grown produce, cleaning produce, water safety, and home canning.
- To probe low scoring content areas, 19 structured interviews were conducted by trained master gardeners with home gardeners.

Preliminary data analysis was conducted by project directors from each of the five New England states. Results are not yet available.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

E. Scope of Impact: Multi-state

### **Food Security, Accessibility and Affordability – Deborah Luppold**

A. Situation: Over 96,000 New Hampshire people live below the federal poverty threshold. Many rely on a combination of government food assistance programs and emergency food providers to get enough to eat. By the end of 2004, the New Hampshire Food Bank distributed about four million pounds of food, a million pounds more than last year. Increasingly, food banks, soup kitchens and food pantries are asked to meet their food and nutritional needs.

B. Program Description: Along with UNHCE’s Food Security Coordinator, Extension Nutrition Connections staff conducted nutrition interventions to benefit low-income families throughout the state. To increase access to fresh foods the use of the Electronic Benefit Transfer debit card at Farmers’ Markets was available again this year.

C. Impacts: Three Farmers' Markets increased accessibility of fresh produce to food stamp recipients by implementing measures to facilitate the use of Electronic Benefit Transfer (EBT) cards at the markets. Promotion about the markets was conducted with local agencies and statewide newsletters to inform food stamp recipients of the use of their card. Over \$1200 was redeemed using EBT cards, up from \$808 last year. Over 495 people participated in nutrition demonstrations showing how to use produce from the farmers' market. One customer stated, "I'm disabled and live across the street and can't drive. I love being able to walk over here and buy food because there is no good source of fresh vegetables nearby." Another customer said, "...I want to stock up. I am going to freeze the berries, cook a stew and freeze it into small portions and cook the corn and freeze what I don't eat right away."

Nutrition Connections staff work with families in a series of lessons to teach food and nutrition and to identify nutrition and food related community resources. As a result of programming, pre/post data and survey data show 30% of participants ran out of food less often before the end of the month. One participant said, "As of today I have about \$48 in food stamps left out of the \$266 which is excellent because by now I would have had none." Another participant noted, "My food stamps are lasting longer so I don't run out of food and I know where I can go to get food if I do run out."

D. Source of Funding: Smith-Lever 3b,c&d State matching funds, County funds, grant funds

E. Scope of impact: State specific

### ***Goal 3 - A healthy, well-nourished population***

#### Executive Summary

More than half of New Hampshire residents describe themselves as overweight or obese. Twenty-two percent of the state's school-age boys and 17 percent of girls are overweight, with another 20 percent at risk for overweight. This year's highlights in human health include:

- Of the 986 adults completing a series of lessons, 28% increased the time they devote to physical activity on a daily basis
- 19 participants of "Lighten Up" group programs indicated an increase in knowledge of overweight and obesity trends, risks and consequences of obesity and a healthy body mass index
- UNHCE has taken the lead to involve many agencies and organizations in a statewide initiative called *Lighten Up New Hampshire!* designed to assist NH citizens to maintain and lose weight and to increase physical activity. Learning outcomes show the need for more staff resources and funding to move ahead with this initiative.

Nutrition plays a vital role in overall health. Research shows inadequate diet and physical activity are associated with the leading causes of death, many of which are preventable, from heart disease, diabetes, obesity to several types of cancer. Cardiovascular disease and cancer together account for almost two-thirds of all deaths in the United States. Despite the importance of diet, Americans fail to achieve recommendations of the Dietary Guidelines that lower the risk

of disease. Of particular interest are the results of the 2004 New Hampshire Food Stamp Recipient telephone survey conducted with 402 randomly selected recipients. In the survey, food stamp recipients described the quality of both their general health and the nutritional quality of their diet. Over time, respondents continually and consistently described their overall health less favorably than the general New Hampshire population. In 2004, 42% described the overall nutritional quality of their diet as excellent or very good, an increase of 11 points since the 2003 study. By comparison, according to the 2000 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey, 63% of New Hampshire residents described their health as excellent or very good, and only 10% described their health as fair or poor. When Food Stamp recipients described how interested they were in improving the nutritional quality of their overall diet, 73% said they were either very or moderately interested an increase of eight-points since the 2003 study.

Human nutrition highlights this year include:

- Of 1,264 families (986 graduates) 88% did a better job of eating the recommended servings from the food pyramid
- 85% of graduates showed improvement in one or more nutrition practices by planning meals, making healthy food choices, preparing foods without adding salt, reading nutrition labels or having their children eat breakfast
- 71% of graduates showed improvement in one or more food resource practices by planning meals, comparing prices, not running out of food or using a grocery list. For the limited resource audience, saving money at the grocery store enables them to extend their purchasing power.
- The Nutrition Connections program involved 379 volunteers this year who helped with nutrition education programs which equals 1.5 FTEs valued at \$30,000.

Total Expenditures: \$ 3,669,381

Funding: Federal Smith-Lever 3b&c funds - \$ 288,329

Federal Smith-Lever 3d - \$ 229,183

State matching funds - \$ 1,415,549

County funding - \$ 477,913

Grants, Contracts, Other - \$ 1,258,407

FTEs - 21

## **Human Health – Deborah Luppold and Collette Janson-Sand**

A. Situation: Preventable deaths, disease, disability and disparities in health status continue to affect the health of many New Hampshire citizens. Many causes of death are potentially preventable through nutrition and exercise. Given rising rates of obesity, UNH Cooperative Extension is committed to looking at ways to optimize health by reducing risk factors through education to improve physical exercise and lifestyle choices. Individual, group, and community coalitions are all ways to get important messages and education to the public.



B. Program Description: The Nutrition Connections Program implements the majority of nutrition and health programming in New Hampshire. Family & Consumer Resources Educators, 4-H Youth Development Educators, and the Family Lifeskills program staff provide programming as well. Activities target physical activity, strength training, community involvement, and obesity awareness and prevention.

C. Impacts: Nutrition Connections and Family Lifeskills Program staff statewide include physical activity education in programming with adults. Adults receiving TANF are referred directly from the State of NH Health and Human Services while others are self-referred limited income adults or are food stamp recipients. Programming is evaluated with a pre/post survey. Of the 986 adults completing a series of lessons, 28% increased the time they devote to physical activity on a daily basis.

Due to rising rates of obesity, a collaborative was formed as part of the Advocates for Healthy Youth. One learning outcome of this collaborative is that many agencies, including UNH Cooperative Extension, are participating in a research study to determine how a community can provide better, more engaging, and enriching out-of-school-time activities for children, including work on obesity. As a result, 19 participants of “Lighten Up” group programs indicated an increase in knowledge of overweight and obesity trends, risks and consequences of obesity and a healthy body mass index. In addition participants listed behaviors they intend to change including cut portions, exercise regularly and eat five a day fruits and vegetables, measure food portions and plan foods ahead of time, read labels more carefully, walk more and cut 100 calories each day and target my waist area for exercise.

The Family Lifeskills staff and many participants walk daily for three weeks the classes meet and some continue on their own. One Extension staff member said, “Angela role models excellent... exercise habits to her children...She prepares healthy meals for her family and walks daily with her grandmother.” A participant commented, “I found the walking part a little hard because of my weight. I never felt embarrassed if I need to sit down before everyone else; if anything I was able to drop nine pounds because of it.” One staff member noted, “Stacie one of the changes you have made the last two weeks is to start an exercise program, you have learned that it improves fitness and reduces stress.” Finally, one participant said, “Although I wasn’t so thrilled about taking walks in the cold, I enjoy what I get out of them. I plan to continue walking with my son every day.”

Given the increase in obesity rates, UNH Cooperative Extension has taken the lead to involve many agencies and organizations in the statewide initiative called *Lighten Up New Hampshire!* This initiative helps New Hampshire citizens maintain and lose weight and to increase their physical activity. Learning outcomes show the need for more staff resources and funding to move forward with this initiative.

D. Source of Funding: Smith-Lever 3b,c&d State matching funds, County funds, grant funds

E. Scope of impact: State specific

## **Human Nutrition – Deborah Luppold**

A. Situation: Dietary factors interrelated with patterns of physical inactivity are associated with leading causes of death in the United States. Four categories of factors seem to influence food consumption: consumer's income, food prices and costs of other products and services, knowledge of health and nutrition, and consumer's tastes and preferences. The development, maintenance and change of eating patterns are determined not only by individual factors, but also by many social, cultural and environmental influences.

B. Program Description: Nutrition education activities in New Hampshire are based on the revised Dietary Guidelines and the Food Guide Pyramid. Educational interventions are typically planned based on the needs of individuals and groups.

C. Impacts: Through combined statewide efforts, 1,264 families participated in nutrition education lessons, with 986 graduating from a series. Results showed:

- Eighty-eight percent graduated with a positive change in any food group, meaning they did a better job of approaching the recommended servings from the food guide pyramid
- Eighty-five percent of graduates showed improvement in one or more nutrition practices by planning meals, making healthy food choices, preparing foods without adding salt, reading nutrition labels or having their children eat breakfast
- Families learned to improve nutrition practices through hands-on interactive lessons designed to practice what they have learned. One participant stated, "I check labels on cereal boxes and can read them instead of just throwing them in the shopping cart. I feel better about myself knowing that my son is eating healthy." "Serving sizes are much smaller than I thought." "I don't drink soda anymore and I eat healthier." "My serving sizes were out of control. I took some corrective measures that led to a 60 pound weight loss over the last year and one half. Our weekly meetings helped me stay on track." One staff member notes, "Shirley made many healthful changes during our lessons. Ten months later, she has lost 12 pounds and continues to eat whole grains, use 1% milk and reduced fat cheese and eat more fruits and vegetables."
- Seventy-one percent of graduates showed improvement in one or more food resource practices by planning meals, comparing prices, not running out of food, or using a grocery list.
- For the limited resource audience, saving money at the grocery store helped extend their purchasing power. One participant stated, "I really didn't think writing down what I'll eat everyday would help me save money but it did. I no longer go to the store and just grab whatever I thought I needed by going down every aisle. As of today I have about \$48 in food stamps left out of the \$266 which is excellent because by now I would have had none."
- Reaching people through social marketing is one way to increase an educational intervention. The Nutrition Connections program developed and distributed three issues of the "Smart Choices" newsletters to 22,000 food stamp households. Each issue focused on increasing the consumption of fruits and vegetables and other healthy foods. Over 800 households requested more information about a nutrition concern or signing up for nutrition related programs.
- Three thousand four hundred seventy youth participated in a series of nutrition interventions: 75% now eat a variety of foods, 86% increased their knowledge of the essentials of human

nutrition, 87% increased their ability to select low cost nutritious foods and 89% improved practices in food preparation and safety. Youth are reached through classes at school, in after-school programs, and summer gardening projects.

UNH Cooperative Extension is committed to work with the limited resource audience, particularly the food stamp program recipients. Close to \$744,255 in grant funding awarded to New Hampshire this year went to this specific audience. Nutrition Connections had a total of 379 volunteers who helped with nutrition programming which accounted for 1.5 FTE at a value of \$30,000.

D. Source of Funding: Smith-Lever 3b,c&d State matching funds, County funds, grant funds

E. Scope of Impact: State specific

### ***Goal 4 - Greater harmony between agriculture and the environment***

#### Executive Summary

This goal encompassed a large part of the UNH Cooperative Extension work in FY2005. The natural environment and the state's natural resources are highly valued by New Hampshire residents. Protecting and preserving the environment are among Extension's highest priorities. This includes the preservation of land and open space, and minimizing the impact of chemicals, erosion and pollution. Programs also focus on land and forest management and stewardship to help maintain the environment and quality of life for all residents.

UNH Cooperative Extension motivates landowners to actively manage their land for long-term stewardship of natural resources. Programs in forestry and wildlife, agriculture and water resources bring a comprehensive approach to solving problems and protecting resources through an extensive network of partners within the natural resources and agricultural communities. Long-term memoranda with the NH Division of Forests and Lands and NH Fish and Game recognize our lead role in programming. The Society for the Protection of New Hampshire Forests, Audubon Society of New Hampshire, NH Timberland Owners Association, Natural Resources Conservation Service, Farm Service Agency, U.S. Forest Service, NH Office of State Planning, Conservation Districts, NH Department of Environmental Services, regional planning commissions and county governments all are active partners.

Extension's accomplishments for this goal are reflected in agricultural waste management, nutrient management, forest resource management, Integrated Pest Management, land use education, pesticide application training, water quality and wildlife management. Extension is well-known in New Hampshire for expertise and educational programs in these areas. One major role for Extension includes educating citizens to make informed natural resources decisions by providing technical assistance, promoting forest and land stewardship and increasing knowledge and skills in natural resources protection and management. The Community Conservation Assistance Program helps communities and conservation commissions with land and water conservation planning projects.

In the past five years, New Hampshire communities approved \$125 million for land conservation measures. This year, 33 towns and conservation groups involving 1,578 participants received help from Extension in developing natural resource inventories, conservation plans, and land acquisition.

Cooperative Extension's Forestry & Wildlife program focuses on sustaining forests that support the state's \$2 billion forest industry. Highlights this year include:

- Extension provided on-site forest management assistance to 1,400 landowners influencing management decisions on over 44,300 acres of land
- Extension offered over 330 natural resource related seminars, workshops and programs throughout the state – the equivalent if nearly one program every day of the year - reaching over 10,000 attendees with resource information and education
- UNH Cooperative Extension co-coordinated with NH Fish and Game a two-year effort to develop a comprehensive Wildlife Action Plan. This effort provides strategies to ensure the conservation of our state's wildlife resource we into the future
- Through the NH Coverts Program, UNH Cooperative Extension coordinates 268 natural resources volunteers who own or manage over 30,000 acres of wildlife habitat. As a result of this program, we ensure that wildlife are managed appropriately, and volunteers have contributed to a major \$120-million land conservation thrust in recent years
- The UNH Cooperative Extension's wildlife program trained over 650 natural resource professionals in the past year, targeting areas of conservation need expressed by the professionals themselves. As a result, these natural resource professionals are better able to reach their clientele with sound stewardship of our state's natural resources

Several efforts focused specifically on agricultural producers:

- The Integrated Pest Management program addressed a major flight of corn earworms with monitoring and information delivery resulting in roughly \$100,000 in saving for NH sweet corn growers. Also, this year alone, apple growers reduced spraying by over \$100 per acre
- The nutrient management program continues to collaborate with Agricultural Research Service researchers and staff involved with the National Phosphorous Research Project (NPRP). A research and education greenhouse facility was established for nutrient management research. New nitrogen management tools including chlorophyll meters and a corn stalk nitrate test are being evaluated to determine their appropriateness in replacing the PSNT (soil nitrate test). The PSNT was lost when the UNH Analytical Services Soils Lab closed
- Extension supports the NH Pesticide Applicator Program by training commercial and private pesticide applicators for certification and recertification by the state. In FY2005, 250 applicators were certified and over 610 applicators worked towards recertification.
- Assistance was provided to a county dairy facility was assisted in designing a sediment tank system to lower the organic matter entering the municipal waste treatment system from the milk-room, serving as a model for other dairy practices in the state
- Through the New Hampshire Agricultural Engineering Project a consultant worked four times during the year with seven farms to design manure storage facilities to improve the environment and better use manure for crop production that saved producers over \$25,000 in construction errors

- The New Hampshire Agricultural Engineering Project developed strong inter-agency ties with the Farm Service Agency, Natural Resources Conservation Service and UNHCE that resolved five years of turmoil around a farm conservation project. The producer received cost sharing for a new dairy cattle housing facility that cleaned up an environmental problem, made the farm more efficient and results in the next generation staying on the farm

New Hampshire currently leads all New England states in the rate of new development and redevelopment. The long-term consequences of the resulting pressure and demands on the state's precious water resources remain unknown. Of particular concern is increasing non-point source pollutant loading due to watershed development and land use activities. Local citizens, lake/watershed associations and local decision-makers need additional information for intelligent management of water resources. Limited financial resources don't allow for adequate monitoring of these waters by state or federal agencies, and the increased development and recreational use require a more accurate assessment of the water quality of our estuaries, lakes, ponds, rivers and streams. Highlights from this year's water quality work include:

- Development and use of community-based environmental assessment tools and expanded use of GIS led to improved decision-making capability at the local level to protect water resources throughout New England
- Rural communities reduced water quality risks from onsite wastewater disposal via the development, demonstration and dissemination of research-based, comprehensive, cost-effective approaches.
- Volunteer monitoring programs worked with local, state, and federal agencies to provide monitoring data in support of local protection efforts, watershed assessment reports, and the state water resources impairment list.

Four agricultural resources positions, two forestry and wildlife positions and one water resources position were vacated because of staff retirements and budget reductions in this goal area in FY2004. This downsizing as well as leaving positions open awaiting employee hire, reduced the impacts reported in this goal area.

Total Expenditures: \$ 4,836,001

Funding: Federal Smith-Lever 3b&c - \$ 247,139  
 Federal Smith-Lever 3d - \$ 126,531  
 State matching funds - \$ 1,213,327  
 County funding - \$ 409,640  
 Grants, Contracts, Other - \$ 2,839,364

FTEs – 18

### **Agricultural Waste Management - John Porter**

A. Situation: Many New Hampshire livestock and dairy enterprises are near urban areas. Concern about properly storing manure to avoid environmental, odor and water quality problems drives the manure management program in the state. Manure storage also allows for improved timing of land application to maximize the use of nutrients for crops. Backyard operations with

horses, sheep, goats, and other livestock are under pressure from neighbors and town officials to properly handle animal wastes. Extension collaborated with the Natural Resources Conservation Service (NRCS) and the NH Department of Agriculture, Markets, and Food in working with farmers to comply with best management practices. Extension received a grant to hire a consulting agricultural engineer to help plan waste management systems.

B. Program Description: The waste management program in New Hampshire is primarily carried out with individual visits to farms requesting help. A team approach is used, usually consisting of the local Extension Educator, State Dairy Specialist, hired agricultural engineering consultant and area NRCS technician. Several systems are cost-shared with the Environmental Quality Incentive Program or with small grants from the NH Department of Agriculture, Markets and Food. Systems are designed that are environmentally sound, easy to operate, labor saving and cost effective.

C Impacts: Extension staff visited seven dairy farms with a consulting agricultural engineer as part of the stateside Agricultural Engineering Program to deal with manure storage problems. As a result:

- A farm received help in designing a waste water system for a small dairy operation, and a settling tank was added to collect sediment and prevent early failure of the leach field.
- Recommendations were given to a farm to locate a waste water system to handle the effluent of the present facility, and to serve a proposed new complex.
- A producer was advised on how to properly bridge a brook with a large culvert to avoid manure contamination and provide an efficient way to move the manure from the barn to the storage facility.
- A large dairy farm was given advice on how to create a new cross channel in the barn to better handle the manure flow and avoid spill-over from manure flowing in from an adjacent barn.
- A county dairy facility received assistance in designing a sediment tank system to lower the organic matter entering the municipal waste treatment system from the milk-room, serving as a model for other dairy practices in the state.
- A dairy producer was assisted in designing a low cost manure storage facility that helped him apply for a DES grant.
- A dairy producer, machinery sales representative, and engineering consultant worked together to design a way to put alley scrapers in a greenhouse barn to save labor and channel the manure into the reception pit to minimize run-off.

D Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

E Scope of Impact: Multi-state

### **Forest Resource Management - Karen Bennett**

A. Situation: Forest landowners hold the key to protecting New Hampshire's environment. Over three quarters of the land in New Hampshire is forested. Most of New Hampshire's forest,

70% or approximately 3.2 million acres, is in non-industrial private ownership. The average size woodlot is just under 40 acres with these small, family forests defining our state.

The state depends on private forest lands to protect water quality, provide wildlife habitat, contribute to the economy, and enhance quality of life. Yet the USDA Forest Service reports that without technical forestry assistance, many of these privately owned lands are subject to poor resource management practices. In addition, New Hampshire is experiencing rapid population growth resulting in increased development. Thirteen thousand acres of farm and forest land are lost to development each year.

B. Program Description: Extension's Forestry and Wildlife Program provides technical assistance and educational programming to landowners, natural resource professionals, volunteers, and others to increase the adoption of sustainable forest management practices and to improve the health and productivity of NH's forests. Approximately 84,000 landowners and 300 licensed foresters are the target audience.

Extension has a professional forester in each of the 10 counties as well as forestry, wildlife, forest industry specialists, and program coordinators located on campus. Extension programs help landowners with woodlot care, long term planning, selling timber, wildlife habitat, estate planning and land protection, current use assessment, and more.

To enhance Cooperative Extension's education and outreach efforts, the Forestry and Wildlife Program offers two natural resource volunteer training programs: the Community Tree Stewards Program and NH Coverts Project. Enthusiastic volunteers participate in intensive training programs and then return to their communities to put their new knowledge to work.

A. Impacts:

- County Extension Educators in Forest Resources provided land management assistance to 1,400 New Hampshire landowners and influenced the management of over 44,300 acres of forest land. As a result, landowners make more informed decisions about forest management
- Extension refers landowners to licensed private sector foresters to follow-through on management activities. In 2005, comprehensive forest stewardship plans were written by private sector foresters for 164,100 acres of forestland representing an estimated \$900,000 of direct economic activity
- Comprehensive planning results in sustainable management of NH's forest resources. A recent national study found that landowners with stewardship plans became more active in the care and management of their forestlands. For example, 80% of the landowners who had a stewardship plan prepared for their land implemented at least one practice recommended in that plan. Nearly 70% of survey respondents spent between \$1,800-\$3,600 to implement recommended practices such as tree planting, thinning, and wildlife habitat improvements. Further, the study found that people with stewardship plans continued to expand their natural resource knowledge by subscribing to resource publications and contacting natural resource specialists
- Forest stewardship plans cover 775,000 acres of forest land, or roughly 24% of the privately owned forestland in New Hampshire. Better informed natural resource management occurs on these lands as a result of this program

- Extension Educators and Specialists presented 330 natural resource-related workshops to landowners, natural resource professionals, volunteers, and others. Approximately 10,000 people participated in these programs and learned how to incorporate various resource considerations into their land management activities. As a result of these programs, land owners and managers better understand wildlife habitat needs, considerations for managing tree species, techniques for reducing erosion and sedimentation and using GPS and GIS in forest management. Program evaluations indicate over 90% of participants were glad they had attended
  - 25 new Coverts Cooperators bring the total number of trained volunteers to 250 Coverts Cooperators and 240 Community Tree Stewards. New Hampshire's natural resource volunteers extend the Extension Forestry and Wildlife Program's reach into many communities and neighborhoods. These volunteers engage in many activities such as using their lands to demonstrate forest management practices, conducting habitat improvement projects on their lands, writing natural resource related articles, and serving on community natural resource committees. Extension's natural resource volunteers make a difference in their communities. Recent community appropriations for land conservation underscore the value that people place on New Hampshire's natural landscape. In the past five years, New Hampshire communities appropriated over \$125 million dollars for open space/land conservation projects. A recent study found that communities with active Coverts Cooperators or Community Tree Stewards volunteers are 3.5 times more likely to pass conservation funding measures as towns without these active volunteers.
- D. Source of Funding: Smith-Lever 3b,c&d State matching funds, RREA funds, County funds, grant funds
- E. Scope of Impact: State specific

### **Integrated Pest Management – Alan Eaton**

A. Situation: New Hampshire farmers, orchardists and greenhouse operators face serious challenges with pests, causing yield and/or quality loss. If growers over-rely on pesticides, problems include risk of toxicity, contamination of water and the environment, injury to non-target organisms, and high costs. Also, consumers expect blemish-free agricultural products and do not want growers to use pesticides. Growers are caught in the middle.

The IPM program helps growers with this difficult balancing act. Extension emphasizes a three-pronged approach:

- Monitoring pest populations and field conditions
- Preventing conditions that favor pest problems
- Applying controls when and if necessary

Growers using this approach usually reduce their dependence on chemical pesticides, become better stewards of the land, and farms often become more sustainable.

B. Program Description: The UNH Cooperative Extension IPM work focuses on apples, greenhouse operations, field corn, and sweet corn. Twenty-three three-minute weekly fruit pest



updates were made available 24 hours a day on an automated telephone system. IPM newsletters were sent by surface and e-mail and weekly sweet corn advisories were disseminated.

Thirty one IPM grower meetings were held across the state. The largest was the New England Vegetable and Berry Growers Association Conference with 450 attendees. A grant supported seminars with national experts on fire blight and mummyberry. In other venues, beginning farmers were targeted and 122 Maine, New Hampshire and Vermont greenhouse growers attended hands-on workshops.

Apple quality was evaluated at 25 New Hampshire orchards. Field and vegetable crops were monitored for rootworm on 12 farms, sweet corn insects were monitored on three farms and a field demonstration of genetically-modified (GM) corn was conducted.

### Impacts:

#### **Apples**

Rainy weather dramatically affected pollination and fungal pathogens. The New Hampshire apple crop was down, to 619,000 bu. The statewide average incidence of pest injury was 14.58%, the highest in 26 years. Minor cosmetic blemishes from flyspeck and sooty blotch fungi accounted for the vast majority of the injury. Growers sprayed much less than pre-IPM levels, saving over \$100 per acre. With statewide apple acreage at 2300, spray savings were \$23,000. Overall, there were no savings in fruit quality this year but thanks to one seminar, growers were better prepared for fire blight. The disease was a problem on only two orchards.

Apple biological control projects continued. There was a slight increase in acreage and populations of the predator mite *Typhlodromus pyri* this year. The mite is now established on 45 acres. It attacks foliage-feeding mites, so none of the acres required any summer miticide this year despite the hot dry weather late in the season. Before introduction of this predator, growers needed one or more miticide sprays each year. Terrible pollination weather may have ended the European apple sawfly parasite work.

#### **Blueberries**

With training from a national expert on mummyberry, growers were better informed this year. Mummyberry problems were sharply down this year, despite the favorable weather for the pathogen. European fruit lecanium scale problems were reduced this year, but not eliminated. Work to find better tools for this pest continues into next year.

#### **Sweet Corn**

Corn earworm and fall armyworm monitoring resulted in large savings. The greatest savings were on farms of direct participants on 220 acres of sweet corn in a southern county. In the early part of the season, these growers saved two insecticide applications per acre ( $\$18/\text{acre} \times 220\text{acres} = \$7920$ ). The information was passed to other growers with 240 acres who saved one spray per acre ( $\$4320$ ). Later in the season earworm numbers peaked, and staff efforts reduced culling of earworm-damaged corn. Staff quickly passed news to other New Hampshire sweet corn growers. With corn selling for \$4-5 per dozen, and production at 1000dozen/acre, we estimated the overall impact was eliminating 100 dozen culled ears/acre on 210 acres ( $\$84,000$ ) and more modest savings of \$20,000 on farms that weren't on the program.

#### **Field Corn**

A corn rootworm survey showed western corn rootworm numbers are increasing, but are still below threshold. The GM corn experiment showed no benefit to planting the more expensive GM seed. The results will most likely reduce the temptation for growers to use rootworm insecticides or genetically modified corn seed in 2006.

#### **New Audiences**

Staff increased educational efforts aimed at organic growers this year, including two IPM presentations attended by 104 people.

D. Source of Funding: Smith-Lever 3b,c&d State matching funds, County funds

E. Scope of Impact: Multi-state

#### **Land Use - Frank Mitchell and Amanda Stone**

A. Situation: Community decision makers need guidance, appropriate education, and training to help them move forward with their land and water conservation goals.

B. Program Description: The Community Conservation Assistance Program (CCAP) helps New Hampshire communities and conservation groups with land and water conservation planning projects, such as natural resources inventories, conservation planning, land protection, public outreach, and building public support. During the reporting period, Extension staff working with CCAP helped 31 towns and two conservation groups with natural resources inventories, wetland evaluation, conservation planning and land protection, and participated in 10 regional meetings. Direct assistance to communities, workshops and courses involved 1,578 participants. Education and training provided by this program increased communities' abilities to be pro-active about land conservation. Conserved land has significant water quality benefits, and helps maintain the state's biodiversity. Conserved land also supports natural resource-based industries such as forestry and agriculture.

C. Impacts: Specific impacts determined through observation and follow up assistance include:

- 125 participants from two communities received the *Dealing with Growth* presentation. One hundred fifty four participants from six communities are working towards comprehensive natural resource and land conservation strategies as a result of this presentation and extended follow-up assistance by the Natural Resources Outreach Coalition (NROC), which CCAP staff coordinate and participate in.
- Community projects initiated with NROC assistance include surface water quality monitoring, starting land conservation groups, drafting zoning revisions, community outreach and education to build support for land conservation, developing a water resources chapter of the master plan and developing an open space plan. Intensive follow-up assistance provided by NROC provided communities with the skills and momentum to accelerate their natural resource and land conservation programs.
- Two hundred thirty-seven participants from nine communities attended workshops on land conservation topics. These workshops increased the number of landowners interested in conserving their land.

- Thirty-six participants from six communities and one conservation group received training in natural resources inventories and conservation planning.
- Sixty-three students assisted 12 towns and one watershed group with natural resources inventories, wildlife habitat studies, wetland evaluation, town forest management plans and interpretive trails through the UNH Senior Projects course. These projects helped communities accomplish their objectives more quickly and efficiently.
- Fourteen participants from two watershed groups received continued assistance with developing watershed-wide conservation plans. These projects increase conserved land and natural resources in the watershed communities.
- Two hundred fifty-four people attended the fourth annual Saving Special Places conference, receiving education on a variety of land conservation and stewardship issues. This annual event is co-sponsored by Extension and the Center for Land Conservation Assistance.
- One hundred ninety participants attended six workshops offered through CCAP's Summer Land Conservation Workshop Series
- Seventy five participants attended the Advanced Land Conservation Workshop including representatives from state, regional and non-profit groups and municipal board members.
- Forty professionals and others attended presenter training session for the newly revised *Dollars and Sense of Saving Special Places* presentation. Since February 2005, the updated presentation has reached 403 people.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

E. Scope of Impact: State specific

### **Nutrient Management – Tom Buob**

A. Situation: Nutrient management issues extend across all commodities from field corn to cut flowers and to greenhouse and field grown tomatoes. Since situations vary by commodity, approaches employed to address a specific concern vary. Dairy, livestock and vegetable enterprises are challenged with managing large amounts of manures and composts, while greenhouse tomato and bedding plant growers need information on calibrating and understanding nutrient injection equipment for proper fertilizer applications. The expanded use of mycorrhizae fungi in shade tree installations will result in better P availability and lower application rates.

The closing of the UNH Analytical Services Lab caused a major impact on the nutrient management program in the state. Extension's Agricultural Resources Program needed to decide whether or not to continue this important service, and once the decision was made and the responsibility assumed, it required a major time commitment to successfully establish and administer the required testing and recommendation system.

A. Program Description: The complexity of this issue and the current situation in New Hampshire require both research (on-farm, lab and greenhouse, and collaborations with others) and education (farm visits and workshops). This program worked towards increasing expertise of the UNHCE agricultural staff and producers in different commodity areas as the first step in a long-term educational program. Establishing research locations and links with other states and

organizations provides a basis for future expansion. The program attempts to address the risk of nitrate leaching to groundwater and will include the use of PSNT and a nutrient credit system. The issues of phosphorous (P) movement to surface water will be addressed thru the development of a more accurate P Site Index for New Hampshire.

B. Impacts: Many of these impacts were determined through software development and interactive web sites.

- Continued collaboration with ARS researchers and staff (NPRP)
- Expanded research to identify the soil test factors most closely related to offsite P movement in New Hampshire soils
- Continued and enhance multi-state collaborative efforts
- Established demonstration sites for on farm research efforts
- Established buffers to observe and monitor their effects on sediment and nutrient transport. Various mixes of shrubs and sod were established to observe their ability to trap sediments and nutrients. Ongoing monitoring and maintenance continues.
- Nutrient credit research was established and will expand
- A soil test recommendation system was completely revised and updated and staff have been provided training on its use
- Five workshops provided education and training on nutrient management plans and issues to more than 150 farmers/producers/growers around the state.
- Nutrient monitoring took place with 24 growers (6 greenhouse tomato and 18 bedding plants) and resulted in improved fertilizer practices, improved plant quality and reduced costs.
- Installation of drip irrigation systems by six vegetable and small fruit growers resulted in reduced risk of nitrate leaching.
- The use of shade trees inoculated with mycorrhizae resulted in increased P availability and lower application rates.
- A research and education greenhouse facility was established to continue nutrient management research efforts.
- New nitrogen management tools including chlorophyll meters and corn stalk nitrate test are being evaluated to determine their appropriateness in replacing the PSNT. The PSNT (soil nitrate test) was lost when the UNH Analytical Services Soils Lab was closed

C. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

D. Scope of Impact: Multi-state Extension and Integrated Research and Extension

### **Pesticide Application – Stan Swier and Rachel Maccini**

A. Situation: Pesticides are important tools in production agriculture, enabling producers to manage insects, weeds and diseases. Pesticides are also important for maintaining attractive and useful landscapes. Pesticides play an important role in public health in control of nuisance pests and disease vectors such as mosquitoes. Homeowners routinely use pesticides for pest control in and around the home. In New Hampshire, farmers, landscapers and pest control operators cannot apply pesticides without Pesticide Applicator Training (PAT), certification and recertification.

B. Program Description: Extension educators and the Pesticide Safety Education Program Coordinator provide educational and training programs on health, the environment, pest management and pesticide safety. The Pesticide Applicator Training Program provides training for certification and recertification of commercial and private applicators by the NH Division of Pesticide Control. To receive certification requires passing a test covering pesticide safety, IPM, regulations, worker protections standards, pesticide storage, environmental protection, calibration, labeling and knowledge of the target pest. Recertification for private applicators requires 15 hours of additional education every five years to maintain certification. Commercial applicators require 12 hours of additional education for every category, every five years. To meet these needs, training manuals are produced and sold to the applicators. The county Extension educators teach pesticide application classes or help tutor private applicators.

C. Impacts:

- The initial certification programming goal was met for 2004-2005. Staff held an Initial Certification Training where 54 new private and commercial growers were trained for the NH Department of Agriculture's Pesticide Applicator Exam. 251 individuals also received training material from UNHCE to become certified in New Hampshire.
- Noncertification training 68 new Master Gardener volunteers in New Hampshire. These individuals provide recommendations to thousands of homeowners annually about yard and garden pesticides and have a substantial impact on home pesticide use.
- New Hampshire Extension educators and specialists convened local and state workshops for recertification. Staff provided recertification training opportunities through 36 Extension-sponsored workshops, twilight meetings and conferences. Staff also offered recertification training by speaking as technical subject-matter experts at workshops sponsored by other agencies. At these sessions, 1,618 pesticide applicators received training and 610 of them received re-certification credits.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

E. Scope of Impact: State Specific

## **Water Quality – Julia Peterson**

A. Situation: Water is essential for life and its protection is critical. The United States Environmental Protection Agency considers polluted runoff the primary source of water pollution in the nation. Storm water runoff carries pollutants from homes, neighborhoods, roads, farms, and logging areas into local waters. This pollution is difficult to regulate because it does not come from a single, identifiable source. The control of nonpoint source pollution depends on education and behavior changes that put water quality protection at the forefront of home, farm, workplace, community and municipal practices.

B. Program Description: Extension works at the grass roots level with science-based information to gradually change practices that affect water quality. These programs include information about how natural marine and aquatic systems work, the effect of contaminants in those systems, the connection between land use and water quality, and strategies for minimizing

contaminant input. Several programs focus on educating lay water quality monitors on taking samples and measuring water quality parameters. Others focus on working with watershed groups and community land use boards on long term projects for implementing natural resources protections. Programs are delivered through a variety of methods including training, presentations, facilitated sessions, technical assistance, meetings and print and electronic media. Typical audiences include youth, volunteer water quality monitors, community leaders, watershed association members, agency staff, agricultural land managers and interested citizens.

A. Impacts: Methods used to measure these impacts include pre-post and post-pre tests, post session questionnaires, observation, skills testing, calculations, data mining and interviews.

#### **Contributions to the research base**

- Well-designed monitoring programs at the watershed level throughout the state
- Improved program design and water quality analysis for the Saco River monitoring program
- Analysis of tributary data for the Lake Winnepesaukee Association
- Clearer recommendations on the length, width, and vegetation type for riparian buffers
- At least four additional sites added to water quality monitoring databases

#### **Increased audience knowledge**

- Greater individual knowledge in:
  - riparian buffer importance and guidelines
  - natural resource inventories
  - shoreland buffers
  - conservation strategies
  - wetlands
  - groundwater
  - pond care
  - forest ecology and land use history
  - marine and aquatic food webs
  - impacts of development on water quality
  - home and farm assessment
  - private well water issues
  - nonpoint source pollution
  - water quality monitoring concepts
  - contaminant sources and effects
  - marine phytoplankton
  - red tide
  - estuarine characteristics
  - estuarine research
  - water quality project planning and design
  - Extension water and marine programs.
- Greater youth knowledge about watershed concept, nonpoint source pollution, groundwater basics, storm water pollution prevention, marine phytoplankton, food webs and water quality monitoring

#### **Changes in audience attitude**

- Increased willingness to adopt water quality friendly homes, yard and farm care practices
- Increased interest and concern for protection of coastal environments

#### **Increase in individuals' skills**

- An increase in the number and skills of trained water quality monitoring volunteers in both fresh and salt water systems. Eight new monitors were directly trained and 20 indirectly trained in fresh water monitoring techniques. Nineteen additional monitors were trained and passed QAQC testing this year for saltwater monitoring. Three coastal monitors gained advanced skills in laboratory sampling techniques, two gained skills in phytoplankton sampling and identification.
- Improved volunteer skills in identifying phytoplankton based on use of newly developed identification sheets. The sheet were requested by and distributed to monitors in other New England states.
- Increased ability of teachers to include environmental stewardship activities, service learning projects, water quality monitoring and phytoplankton collection and identification in the curriculum.
- Increased sampling skills of at least 24 high school students who participated in monitoring.
- Increased skills of 20 marine biology students from Northern Essex Community College in the water quality testing and phytoplankton collection and identification.
- Increased ability of conservation commission members and volunteers to conduct wetlands identification and interpret natural resource inventory maps
- Increased ability of private well water researchers, regulators, and professionals to network effectively with other experts in the region.

#### **Increase in community capacity**

- Greater capacity of municipal officials to conceptually connect land use and water quality impacts and work with others on community-based natural resource protection goals.
- Continued expansion of “neighbor to neighbor” monitoring programs in which trained volunteers educate other members of their associations, commissions and towns. Over 500 active volunteers influence greater than 5000 fellow association members. Coastal volunteers shared skills and knowledge with others including a local tour boat operator, visitors to the Gundalow Company’s education events and staff of the HOBBS (Hands On Boat Based Education in Salem, MA).
- Greater capacity of New England-wide monitoring collaborative through NH participation. Greater capacity of other Vermont and Maine to expand training opportunities for watershed stewardship collaboratively.
- Adoption of New Hampshire monitoring program’s approach and methods by other states and countries.
- The Acton Wakefield Watershed Alliance formed to support a Youth Conservation Corps project to help high school and college students to assist shorefront land owners in reducing nonpoint source pollution through buffer planting and erosion management. The success of a pilot project and strong project design resulted in the group being considered for a NH Department of Environmental Services grant.
- Greater capacity of community groups such as conservation commissions, planning board members, local elected officials, open space committees, community leaders, watershed association members and others to conduct natural resource inventories, develop conservation plans, develop watershed plans, conduct community outreach campaigns and carry out related natural resource protection plans.

#### **Improved decision maker capacity**

- Increased capacity of NH Department of Environmental Services to detect harmful algal toxins and use screening tools.

- Anticipated improvement in decision making about riparian buffers based on applied research of water quality benefits.

#### **Changes in policy/decision making**

- Volunteer collected data used by state/federal agencies and institutions (NHDES, MEDMR, MWRA, WHOI and NOAA) to help document harmful algal blooms.
- Volunteer collected data was included in NHEP/NHDES report to Congress.
- Multi-jurisdictional (Maine and New Hampshire) collaboration within a watershed for water quality monitoring and future assessments of surface and groundwater impacts.
- Additional state and federal funds for volunteer monitoring programs that help with local habitat restoration, storm water management and baseline data collection.
- Additional state and federal funds directed to community-based work and local projects as a result of water quality data collected.

#### **Changes in economic conditions**

- Savings to communities and lake associations in water quality sampling costs (almost \$15,000)
- Savings to communities in equipment upkeep costs (\$2,400)
- Savings to UNH for analyzing samples from student projects (\$1,950)
- Potential increases in property values and tax revenues around lakes due to improved water quality associated with water quality assessments and education on preventing degradation.
- Donation of over 3,500 hours of volunteer time by the Great Bay Coast Watch, at \$17.55/hr for a total of \$61,425
- Donation of over 2,481 hours of volunteer time by the Lakes Lay Monitoring Program at \$17.55 /hr for a total of \$43,542
- \$25,000 of volunteer value used as match to support a Water Resources Research Center grant from USGS.

#### **Underserved audiences**

Audiences served reflect the diversity of the state especially in rural and semi-rural communities.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

E. Scope of Impact: Multi-state and integrated research and Extension

### **Wildlife Management - Darrel Covell**

A. Situation: New Hampshire is home to more than 10,000 species of wildlife, including mammals, birds, reptiles, amphibians, fish, insects, and other invertebrates. This rich biological diversity depends on New Hampshire's forest, field and wetland habitats for survival. With a majority (70%) of the state's land in private ownership, the collective decisions of private landowners and their resource managers have a major impact on wildlife and their habitats.

New Hampshire's population has nearly doubled in the last 30 years. This growth and associated development place increasing pressures on the landscape. Each year, New Hampshire loses approximately 13,000 acres of habitat to development. In addition to the direct loss of habitat, continued land development leads to greater fragmentation of natural habitats with resulting



adverse effects to fish and wildlife populations. The protection and enhancement of essential habitats are central to sustaining New Hampshire's fish and wildlife populations.

B. Program Description: For 20 years, NH Fish and Game and UNH Cooperative Extension have worked together to provide a Wildlife Habitat Conservation Program in the state. Through this program, an Extension Wildlife Specialist, a County Extension Educator in Forest Resources, and a NH Coverts Coordinator provide technical assistance to key audiences including landowners, natural resource professionals, community leaders, land use planners, conservation groups and volunteers to help them identify, manage and protect critical and significant fish and wildlife habitats.

C. Impacts:

#### **Land Management Assistance**

This year, the Wildlife Specialist provided on-the-ground habitat recommendations to 75 landowners in 45 towns and influenced the management of approximately 5,000 acres of land. Recommendations and information were provided regarding beaver pond management, patch cuts to increase early successional habitat, winter deer yard management, maintaining wildlife travel corridors, snag and mast tree management, wildlife openings, old field restoration, field mowing, apple tree release, deer, turkey, grouse and woodcock habitat management, vernal pool and amphibian and reptile habitat, and grassland bird habitat management. As landowners incorporate habitat management considerations into their planning and activities, they increase the value of their land for a diversity of wildlife species.

#### **Training for Natural Resource Professionals and Land Managers**

Over 650 natural resource professionals including foresters, loggers, biologists and others participated in wildlife related workshops this year. Participants learned about wild turkey management, managing softwoods for deer and other wildlife, mast-producing trees and shrubs for wildlife, assessing and managing grassland habitats and vernal pool identification and management. Natural resource professionals and landowners who attended these programs are better equipped to recognize and protect important habitat features and practice good stewardship on the lands they own and/or manage.

#### **NH Coverts Project-“Volunteers Working for Wildlife”**

This year, 26 enthusiastic volunteers were trained through the NH Coverts Project. These “Volunteers Working for Wildlife” learned about wildlife habitat, forest ecology and management, and land conservation in an intensive three and a half day training session. After their training, they bring this knowledge back to their communities and put it into practice, greatly expanding the reach of Extensions wildlife programming.

Following the initial training session, veteran volunteers become part of a network that learns from each others' experiences and connect with natural resource professionals as needed (through newsletters, a Coverts listserv, and annual alumni workshops).

Now numbering 268, Coverts volunteers reach thousands of New Hampshire citizens through woodland tours and demonstrations, educational programs, and natural resource related articles. Many volunteers also participate on land use related committees in their communities. An evaluation of NH Coverts Project participants conducted in 2002 found the program successful in motivating many participants to manage their own land (30,000 acres owned and managed in

the most recent survey). In addition, many volunteers indicated they now communicate more effectively in their communities on behalf of wildlife and land stewardship.

### **Community Conservation Planning**

In the past five years, New Hampshire communities appropriated over \$120 million toward land conservation projects and initiatives across the state. Many communities identified wildlife habitat protection as a primary goal of these open space planning and conservation initiatives, yet they are grappling with identifying which lands are the most important ones to protect.

### **Comprehensive Wildlife Conservation Planning**

The Extension Wildlife Specialist also co-coordinates the development of New Hampshire's first Comprehensive Wildlife Conservation Plan. This plan will serve as a blueprint for restoring and maintaining critical habitats and populations of the state's species of conservation and management concern. It is a pro-active effort to define and implement a strategy to help keep species off endangered species lists, saving taxpayers millions of dollars. The Wildlife Action Plan was completed in September 2005 and over \$1million of federal funding for implementation was contingent upon completion of the plan.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

E. Scope of Impact: State specific

## ***Goal 5 - Enhance economic opportunity and quality of life for Americans***

### Executive Summary

Creating supportive environments for Americans is increasingly complex. Each year, New Hampshire loses 13,000 acres of open space and farmland due to development. The resulting growth brings excess traffic, overcrowded schools, neighborhoods of strangers, community battles over growth, and an influx of immigrants. Changing demographics and character of the state require adapting programs to meet the needs of youth, families, communities and businesses. Significant changes in New Hampshire include:

- More people, new cultures: New Hampshire population increased 11% (+127,000 people) from 1990 to 2000 – the fastest growth rate in New England. In that period, the state's foreign-born population increased 32% (+ 13,000 immigrants). About 174,000 New Hampshire people (14% of the state's population) are immigrants or children of immigrants. Assimilation of the new with the old requires cooperation, acceptance and change.
- Overcrowded schools – From 1990 to 2000, the K-12 public school enrollment increased 25%. Students can become disengaged from learning when there are too few textbooks, or classes are crowded into libraries, cafeterias, stages and portable units.
- Drop-out rate – In the first four years of the 21<sup>st</sup> Century, over 10,600 New Hampshire teens left school only partially prepared for adulthood based on the cumulative dropout rate. They enter an adult world without the experience and preparation to succeed in the workforce.
- Poverty – Lack of resources affects a family's capacity to participate in work and community life. At minimum wage (\$5.15), a New Hampshire worker must work 122 hours/week to afford a two-bedroom unit at fair market rent. The state's housing wage (able to pay rent on

the wages for 40 hours/week) is \$15.77. Homelessness, transience and living with relatives in crowded conditions can diminish a child's capacity.

- Language barriers: An increasing number of New Hampshire public school students have limited English proficiency which creates a greater need for cultural understanding and bilingual resources.

Information gleaned from program gap analysis assessments held in all 10 New Hampshire counties, as well as needs identified as a result of 45 Community Profiles conducted in New Hampshire towns over the past five years, indicate communities find it difficult to engage diverse citizens in community activities and decision-making processes. A lack of volunteerism and deficiencies in leadership exacerbate this decline in so-called social capital noted by scholar, Robert Putnam in his book entitled *Bowling Alone: The Collapse and Revival of American Community*. The following trends outline the situation facing New Hampshire communities:

- A decreasing diversity of individuals participating in decision-making and community activities at the local level
- A lack of support for activities that encourage diverse participation in local decision-making processes
- A declining percentage of individuals who vote (particularly adolescents)
- Weakening social networks between community citizens, organizations, and associations.
- Declining volunteerism around community activities due to increasing life-demands on individuals and families
- Existing leaders lack the skills to engage and/or mobilize diverse participation in community activities and decision-making processes.

The largest number of staff contribute to programs related to this goal. UNH Cooperative Extension conducts a wide array of programs to enhance economic opportunities and quality of life for New Hampshire residents including:

- Ag-Biz farm management
- Education for child care providers
- 4-H Afterschool programs conducted with PlusTime New Hampshire for statewide work and through Children, Youth and Families at Risk (CYFAR) work in two regions of the state
- Community Profiles Action Planning initiated in a number of communities and other community development work
- Family financial management programs for individuals on public assistance or on probation, teachers, adults, youth, Earned Income Tax Credit recipients and Medicare beneficiaries
- Leadership development to build leadership capacity through facilitation training and other educational efforts
- Parenting programs through various deliveries including a newsletter series, fact sheets, a web site, media, and workshops.
- Tourism education through technical training, economic analysis, financial planning, and organizational capacity building
- Workforce preparation for youth through UNHCE 4-H Camps programs and adults through the Family Lifeskills program
- Lifeskill development in youth through classic 4-H clubs, 4-H camping, school enrichment programs, and special interest groups

- Marine science education through the UNH Marine Docents and other educational efforts with teachers and citizens

Another key aspect of this goal includes the extensive use of trained volunteers for implementing UNH Cooperative Extension's programs. Volunteer Coverts Cooperators, Master Gardeners, Community Tree Stewards, UNH Marine Docents, Great Bay Coast Watchers, Lakes Lay Monitors, 4-H Leaders and 4-H community service volunteers in the last year contributed approximately 109,046 hours of time saving tax payers \$1,913,768 that they would have paid for volunteer related educational services.

Select notable impacts include:

- Community Profiles, a community action planning program, reached over 300 residents in three New Hampshire towns last year. Each town formed an action plan that led to the formation of 13 local action committees that address community issues.
- Extension helped three towns engage the public in providing input for Master Plans, to help frame the regulatory structure that defines growth and development in these communities.
- UNH Cooperative Extension continues to assist New Hampshire inns, hotels, resorts, campgrounds, and other tourism-based businesses with landscaping, ornamental tree planting and insect control, to help dozens of tourism-related businesses save thousands of dollars.
- Fifteen community leaders were trained in group facilitation. Of those trained, over half have engaged the public in local decision-making processes.
- Extension conducted a Leadership North Country workshop for northern New Hampshire residents. Workshop participants learned basic skills for conducting effective meetings and building effective organizational structures; some have since taken on new leadership roles.
- UNHCE's Coverts program trained 26 new community volunteers to provide leadership on community-based conservation efforts. Two hundred forty two Coverts Cooperators now work in 122 of New Hampshire's 240 communities.
- Most 4-H youth and all parents agree 4-H youth know how to gather and organize information for effective presentation. Volunteers felt this statement is true for 81% of their youth participants. Nearly all judges felt this is true for the 4-H youth they judged, while 79% felt it is true of other youth they know. Almost two-thirds of parents believe this has improved since participating in 4-H.
- Most youth and all parents agree 4-H youth learn to use words and actions creatively to persuade others. Volunteers felt this statement is true for 81% of youth participants. All judges felt this is true for the 4-H youth they judged, while 77% felt it is true of other youth they know. Over half of parents believe this improved since participating in 4-H.
- Most youth and all parents agree 4-H youth treat people who are different from them with respect. Volunteers felt this statement is true for most youth participants. Most judges felt this is true for the 4-H youth they judged, while 81% felt it is true of other youth they know. One third of parents believe this improved since participating in 4-H.
- Statewide, 242 afterschool providers and 87 volunteers in 55 afterschool programs reached 4,114 youth with 4-H curriculum through 4-H Afterschool programs and activities. Thirteen new 4-H Afterschool clubs were started in afterschool programs, with a membership of 270 school-age youth (ages 5-12) and 51 teens (ages 13-18).
- New networks and collaborations, established with Extension efforts, reported 23 accomplishments related to improving the ability of families to better support their children,

improving community and state support for programs, and/or improving the availability and sustainability of child care and afterschool programs. Afterschool programs secured at least \$260,000 in cash support or grants with UNHCE assistance.

- Three afterschool programs initiated through CYFAR funding are sustained and provide afterschool care. One afterschool program created 30 new slots and added a before-school program. Another afterschool program expanded from 25 to 52 slots. One school district now maintains afterschool programs in five elementary and one middle school, serving 900 students each year. None of these communities had afterschool programs prior to Extension's involvement.
- The Hillsboro Area Elementary Afterschool Program expanded, adding 12 new slots for 4<sup>th</sup> and 5<sup>th</sup> graders. Program evaluation finds many quality program components in place leading to improved homework completion, development of conflict resolution, problem-solving and social skills that help children get along with others and increased child self-confidence.
- The Hillsboro-Deering Middle School Afterschool Program started in October 2004, impacts school behavior, academic achievement, and family and social relations for 67 hard-to-reach youth participants. Three-fourths of parents and over half of youth believe homework completion has improved with assistance received in the program. Over half of parents noted improved school performance, and almost half reported less parent/child conflict around homework. Half of the youth felt they were getting along better with friends since joining the program.
- The Seacoast Youth Leadership Project engaged 21 youth in 30-hour leadership training and service learning. A Pre-test/post-test indicates youth found learning about stress and ways to avoid drug use, group work, trust activities and peer mediation helpful. Youth believe the program improved their self-esteem and sense of future aspirations. Some youth (50% in one focus group) also cited improved decision-making skills, improved leadership abilities, and increased confidence. Parents reported the program provided youth access to non-parent adults who were supportive and showed acceptance. As a result, youth spent less time getting into trouble with friends, they improved self-esteem, communication skills, leadership, socialization with others, and the ability to control their temper.
- 177 farmers and owners of agricultural related businesses improved their understanding of financial record keeping, analysis and planning
- 60 farmers either initiated or evaluated business plans and enterprise choices
- UNH 4-H Camp creates a pathway for youth to move from being participants to staff. For young adults working at camp is often their first job to practice workforce skills. Staff surveyed reported:
  - 86% strongly agree or agree that working at 4-H camp taught the importance of a work ethic.
  - 100% strongly agree or agree that working at camp helped them understand cultural differences and work well with people having different ethnic, social, or educational backgrounds.
  - 86% strongly agree or agree that working at camp helped them learn to be more responsible for his/her own performance, accept criticism and direction, correct mistakes, and learn from experience.
  - 93% strongly agree or agrees that working at camp helped them develop or improve teamwork skills.

- More than 90% of 636 TANF recipients attending the LEAP program report they feel more prepared for the job market.
- Follow-up information on a random sample (n=353) of LEAP graduates found that 41% of the sample was employed and of these, 83% are working full time.
- UNHCE sponsored 30 workshop series within the Financial Security in Later Life national initiative. As a result of this education, participants completed or 92% are planning to set up a system for storing financial records, 68% reviewed their insurance coverage, 82% calculated a net worth statement, 94% follow a spending plan, 93% have an emergency fund, 88% reduced their money leaks and 88% reported they felt more confident making money decisions.
- Education provided through the Linking Workers with the Earned Income Tax Credit project resulted in 58,105 low income NH workers gaining \$88.1 million for 2003 Tax Year credit. These funds were primarily used to pay bills.
- As a result of the High School Financial Planning Program, 47% of participants knew more about credit costs, 37% improved skills for tracking spending, 45% started saving or began saving more and 38% felt more confident about managing their money.
- Middle and high school students participated in the boat-based Great Bay Living Lab program and the Floating Lab program and increased knowledge in water chemistry data collection, plankton collection, benthic community sampling, navigation, weather and current measurement and identification of common intertidal organisms.
- Increased the understanding and knowledge of educators from across the country about incorporating marine science into standards-based lesson planning at the 2005 National Marine Educators Association national conference.
- Exposure to UNH marine faculty, programs and facilities for middle and high school students through sponsorship of the Nor-Easter Bowl and John Hopkins Center for Talented Youth programs.
- Extension provided *Better Kid Care* training for 263 child care providers in New Hampshire. Participants of Better Kid Care reported an increase in knowledge and an intent to change behavior.
- UNHCE parenting programs reach women, men, blended families, incarcerated parents and refugee families. In 2005 963 parents participated in New Hampshire. Care givers who attend parenting programs report an increase in knowledge and/or changes in parenting practices.

Changes in staffing and programming for this goal during FY2005 included loss of one agricultural resources staff and loss of federal farm safety funding. Therefore, no report is presented on farm safety programming..

Total Expenditures: \$ 6,436,127

Funding: Federal Smith-Lever 3b&c - \$ 576,657  
 State matching funds - \$ 2,831,097  
 County appropriations - \$ 955,827  
 Grants, Contracts, Other - \$ 2,072,546

FTEs - 42

## **Agricultural Financial Management – Mike Sciabarrasi**

A. Situation: Agricultural financial management and development of business plans are essential to the success of existing and new agricultural firms. Farms must assess whether they meet goals with respect to profitability, efficiency, liquidity, and solvency. New farms and farms considering major changes must realistically evaluate and project budgets for alternative enterprise combinations and size scenarios.

B. Program Description: Agricultural financial management programs train and assist agricultural professionals and farmers with financial management tools and business planning techniques. Programs are general in nature, applying to any type of farming enterprise, and commodity specific, targeting a given producer group. Program development and delivery often involves cooperation with industry and agency staff across the state.

Ag-Biz farm management programs are multi-state efforts that teach farmers business and financial management skills. These programs are run jointly by Extension staff in New Hampshire and Vermont. Over four sessions in each location, participants learn about record keeping, record keeping software, financial statements, and budgeting. Of the four programs conducted last year, two attracted New Hampshire farmers.

The New Hampshire Agriculture Innovation Project got underway in 2005. This multi-agency, state-wide project is designed to improve business planning skills of farmers through business assistance teams. Farmer participants are expected to assist nonparticipating farmers with business plan preparation through mentoring or other means.

An interdisciplinary team began planning and designing a 13 week, Natural Resource Business Institute. This institute will provide a broad perspective on the issues associated with starting and operating farm, forestry and aquaculture businesses in New Hampshire.

Specific commodity efforts targeted dairy and landscape operations. Individual farm consultations dealt with financial planning, enterprise analysis, record keeping systems and income tax management.

C. Impacts: Methods employed to assess impacts included a post workshop survey, observations of seminar participants and requested assistance.

- 33 New Hampshire farmers improved computer record keeping and financial planning skills
- 20 New Hampshire farms initiated business plans with help from business assistance teams
- 75 New Hampshire and Vermont dairy farmers improved their ability to manage farm finances
- 54 New Hampshire landscape businesses better understand financial reporting and analysis
- 40 New Hampshire farmers evaluated economic and tax implications of enterprise choices and organization options
- 15 New Hampshire farmers became aware of farm loan sources
- 12 New Hampshire Extension professionals improved their ability to assist rural entrepreneurs with business planning

B. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

C. Scope of Impact: Multi-state

### **Child Care/Dependent Care – Emily Douglas**

A. Situation: Child care needs increased tremendously over the past decade. In 2000, 65.3% of mothers with children under six were in the labor force (U.S. Department of Labor, Bureau of Labor Statistics). In most cases, these children are cared for by non-parental caregivers. It is well documented that increased education of child care providers significantly improves the care provided to children. It is often difficult for child care providers to find and afford quality in-service education.

B. Program Description: During the 2005 program year, UNH Cooperative Extension offered the Pennsylvania State University's satellite workshop program *Better Kid Care* (BKC) in six counties. Program topics included Helping Kids Get Along, Fostering Social Emotional Competence Anger and Big Emotions, Social Skills, See as a Child – Feel as a Child and Easy Ways to Boost Kids' Brain Power. The programs include video programming, discussion opportunities and handouts. Twenty-three BKC workshops were held reaching 263 child care providers including informal caregivers, family child care businesses, and child care centers.

A. Impacts: The *Better Kid Care* program reaches child care providers throughout the state of New Hampshire. The majority of program participants are female from 22 to 65 years of age.

Of those completing end-of-workshop evaluations for the Better Kid Care series, 75% stated they learned relevant information. Sixty-four percent of the participants said they learned new information, two thirds would use the information now or in the future and 67% would use or refer to the handouts again. Comments from providers included:

- I will try to be more open-minded on the behavior of the child in the classroom
- I plan to try to get the children to verbalize what they like and don't like
- I plan to have each child participate in more activities and do more physical circle time to keep the children interested
- I will encourage the children to solve their own problems
- I will use more open-ended questions with children

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

E. Scope of Impact: State specific

### **Children, Youth & Families At-Risk (CYFAR) – Paula Gregory**

A. Situation: Children who live in poverty have fewer advantages than their more affluent peers. Limited education of parents, and family struggles with violence and/or abuse are also factors that place many youth at a disadvantage. Poor rural New Hampshire communities struggle to provide out-of-school time activities for all children. As a result, too many children spend long hours alone, and are tempted to engage in risky behaviors.



B. Program Description: UNHCE staff and community partners have the capacity to ensure at-risk middle school youth from targeted rural New Hampshire communities acquire the knowledge, skills, attitudes and behaviors necessary for fulfilling contributing lives. Two community-based program models will accomplish this goal using CYFAR strategies:

- The *Hillsboro Area Afterschool Project* engages at-risk 4<sup>th</sup>-8<sup>th</sup> grade youth in constructive afterschool activities at three locations: elementary school (non-profit program), middle school (21<sup>st</sup> Century Community Learning Center program), and community teen center town program). The project strives to enhance development of academic, social and life skills and reduce negative outcomes.
- The *Seacoast Youth Leadership Project* provides intensive educational experiences (30 hours) designed to develop interpersonal/social and leadership skills, and engage 7<sup>th</sup>-9<sup>th</sup> grade youth in community service. Seacoast Youth Services, local schools, mental health, courts, and community organizations collaborate to target youth with emotional and behavioral difficulties at home, school.

A number of strategies help foster increasing capacity for CYFAR programming within UNHCE county staff and community partners: joint quarterly meetings of CYFAR site teams, ongoing communication between site staff and the project evaluation team, mentoring by previous CYFAR site teams, staff training, and regular site meetings with partners. A three-day site visit by Barbara Woods, CSREES liaison provided site teams and project evaluators with opportunities to clarify partnerships and visions, and review progress and initial evaluation findings within the community and in a campus-based forum. Site team members, participants and evaluators presented two workshops at the 2005 CYFAR Conference, including a presentation on media literacy, "Get Into It! Tales of A Documentary," and another on evaluation, "Using the Logic Model to Develop Research Design and Measures."

C. Impacts:

Hillsboro Area Afterschool Project sites collaborated on a proposal for PlusTime NH's "3-6 Challenge Grant" resulting in an award of \$20,000 to develop a sustainability plan and hire a coordinator to develop a volunteer management system.

Through CYFAR support, the Hillsboro Area Elementary Afterschool Program expanded from a 1<sup>st</sup>-3<sup>rd</sup> grade program to a 1<sup>st</sup>-5<sup>th</sup> grade program, adding 12 new slots. Program evaluation determined good quality program components are in place:

- Children are helped with homework resulting in improved homework completion
- Parents appreciate the low cost, accessible location, and hours of operation
- Children are gaining conflict resolution and problem-solving skills that help them get along with others
- Staff are good role models, maintain quality interpersonal interactions and are attentive to individual needs of children in the program
- The program emphasizes development of social skills, bolsters child self-confidence, and the program provides a safe well-structured environment for children

These results were determined through pre-test /post-test interviews with 9 of the 12 enrolled children, surveys, a focus group with eight parents and surveys of 40 program staff and collaterals.

The Hillsboro-Deering Middle School Afterschool Program established in October 2004 impacts school behavior and academic achievement for 67 youth participants, including:

- 74% of parents and 57% of youth believe homework completion has improved with help received in the program
- 58% of parents noted that improved school performance was evident, 48% reported less parent/child conflict around homework, 48% noted their child shows more confidence, 37% felt their child is taking more responsibility for his/her actions, and 32% noted greater problem solving skills
- 79% of staff and collaterals believe the program serves the needs of targeted children, 85% believe children are successfully engaged in the program, 59% felt improved homework completion was evident, and 48% reported improved parent/school relationships
- 93% of youth believe the program helped them, including 29% who felt their grades improved due to work done in the program, 64% who felt the program made things better with their family at home, and 50% who felt they were getting along better with friends since joining the program

These results were determined through pre-test/post-test interviews with 14 youth, surveys and focus group with 20 parents, and surveys of 40 program staff administrators.

The Teen Program's Community Arts as a Stage for Teens (CAST) program engaged 28 teens in positive activities and provided opportunities for socialization, career exploration in creative arts and technology, leadership, and community service. Fifteen youth participated in a focus group conducted by the CYFAR evaluators and identified ways the CAST program made a difference.

- Increased awareness of media violence, less time spent watching TV, less "video addiction", and improved healthy decision-making
- Increased involvement with school drama program and community service, and improved grades
- Increased opportunity to make and accept new friends, explore careers, practice leadership skills and use time-management and organizational skills
- Increased self-confidence acting and speaking in public, new aspirations for their future, and increased motivation and sense of responsibility

The Seacoast Youth Leadership Project engaged 21 youth in intensive 30-hour leadership training and service learning.

- Pre-test and post-test with youth indicates youth found learning about stress and ways to avoid drug use, group work, trust activities, and peer mediation most helpful
- Youth believe the program improved their self-esteem, and sense of future aspirations. About 50% of the focus group also cited improved decision making skills, improved leadership abilities, and increased confidence
- Youth suggested the following for program improvement: more discussion about family, more work on making decisions, more activities, more leadership by youth, more service learning, improved social responsibility, more parent involvement and activities with family, greater opportunity to bring friends to the program, more program time and continuation, more time with staff to promote trust in the relationship, more fun activities /less school-like activities
- Parent focus groups at the end of program modules identified the most helpful parts of the program: provided an outlet for communication with non-parent adults, made new friends,

staff were supportive and showed the youth acceptance, spent less time getting into trouble with friends, and improved in self-esteem, communication skills, leadership, socialization with others, and ability to control temper

- Parents identified what could be improved on by the program: improved anger management instruction, further communication skill development, increased activities with parents, a parent support group and parenting skills classes, increased communication with parents about youth progress, clarification of why child was referred to the program, more community service, program follow-up after the module ends, and more team goals to develop teamwork skills

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funding

E. Scope of impact: State specific

### **Community Development – Charlie French**

A. Situation: New Hampshire communities face challenges, including changing demographics, shifting economic structures, emerging societal crises, unprecedented growth in some regions and decline in others. As a result, volunteerism has declined, population pressure is causing economic and societal stresses, certain parts of the state are losing jobs, and family and community crises are on the rise.

B. Program Description: Extension's community development program helps communities achieve long-term well being by building human, economic, social, and environmental capacity. To build community capacity, Extension Educators provide a variety of educational services to residents, organizations, and local governments. Examples include facilitation of community forums, training in leadership development, assistance with planning activities, and provision of technical assistance for economic development, tourism and land use planning.

C. Impacts:

#### **Societal**

- Community Profiles, a community action planning/visioning program, reached over 300 residents in three New Hampshire towns last year. Each town created an action plan, leading to the formation of 13 local action committees that address community issues. Action committee accomplishments over the past year include:
  - A technical assistance award given to one community from “Livable Walkable Communities” to implement infrastructures for sidewalks, trails and bike lanes.
  - Completion of a community-wide survey and master plan as a result of a Community Profile
  - Seven of 13 original steering committee members in one town serve on town/school boards
  - A community organization developed that involves participants from a Profile town
- The Community Development Specialist taught a UNH course entitled *Managing Conflict and Change in Communities*. The course introduced students to community dynamics and provided an overview of skills needed to mobilize citizens to instigate community change. As a result

of the course's applied focus, five students organized a coat drive, one student helped the City of Nashua conduct an action planning forum around walkability, and another student initiated a volunteer conservation easement monitoring program

- Extension's Community Development Program hired two interns and one graduate student last year. Students helped evaluate impacts of Extension programs, implement Community Profiles and develop informational resources for a regional land-use clearinghouse
- Extension initiated Community Youth Mapping, a project aimed at involving New Hampshire youth in identifying resources and assets in their communities. Information on the identifying resources and assets is available to the public on the web through a geographic information system. The project trained 21 youth and 12 adults in Belknap County and 18 youth and seven adults in Strafford County to implement the program

### **Economic**

- Extension helped facilitate public input for Master Plans for three towns, with particular emphasis on economic development. The information helped frame the regulatory structure impacting how these communities grow with regard to future commercial and industrial land use
- Extension helped organize and coordinate the 'What Works' regional entrepreneurship conference. The conference provided existing and potential entrepreneurs with an opportunity to learn about available resources and cutting-edge entrepreneurship strategies/techniques
- Extension provided economic development practitioners around the state with information and tools to help them with economic analysis and planning. In addition to publishing a fact sheet on *Fiscal Impact Analysis*, Extension developed an economic development assessment tool as part of the web-based *Community Capacity Assessment*. This tool enables communities to evaluate their capacity for building vital economic infrastructures and identify opportunities
- Extension continues to provide organizational and management assistance to community Farmers' Markets in two counties that helped influence both markets' longevity
- An Extension Specialist completed a study examining the economic impact of 70 resident-owned manufactured housing co-ops have on New Hampshire residents and communities. The Ford Foundation published and released the findings at a national conference on the manufactured housing sector. Other states plan to adopt the resident-ownership model outlined in the report

### **Environmental**

- Extension worked with the NH Department of Fish and Game to engage diverse stakeholders in a planning process aimed at preserving the state's natural/scenic amenities. As a result, key issues were identified along with strategies to address those key issues. This public input shaped the *Comprehensive State Wildlife Plan*, a policy roadmap for state regulations and funding priorities for the next five years
- Extension helped the Lakes Region Watershed Association (LRWA) collect input from collaborating organizations on water quality issues in the watershed and strategize how to work together to address those issues. LRWA collaborators gained knowledge about what others are doing and formed new partnerships to address identified issues. Newspaper articles were written to educate the public about the issues facing the watershed as well as what the LRWA is doing to address these issues
- Extension helped develop a web-based clearinghouse of land use resources to address rapidly growing communities. Local planners, conservation groups, affordable housing entities, and others tapped into the resources identified through the clearinghouse. As an example, one town contacted an Extension Specialist to help them garner public input for a Master Plan revision

- Extension's Community Conservation Assistance Program and the Natural Resources Outreach Coalition provided planning and technical assistance to over half a dozen towns on land and water conservation
- Extension conducted its annual "Saving Special Places" workshop. The workshop provided conservation groups, local municipal boards, organizations, and landowners with information and resources to protect high-priority conservation lands. Attendees of the workshop successfully garnered funds for conservation and preserved large tracts of land
- Dozens of community volunteers were trained by Extension's Coverts program, a natural resources volunteer program, and through the Community Conservation Assistance Program. Trained volunteers from both programs help communities with conservation efforts. These volunteers organized and conducted dozens of projects and activities, such as natural resource inventories and community cleanups

### **Health and Well Being**

- Extension helped residents of Nashua's 'Tree Streets District' organize and conduct an action planning forum. As a result, a citizen committee formed that works to influence city officials to add crosswalks at key locations to improve pedestrian safety. The committee also wrote an arts grant to improve access to a riverfront park. As a result, more students walk to school and the downtown rail-trail is more heavily used, according to the city's Recreation Director
- Extension continues its involvement with NH Celebrates Wellness, an organization that helps New Hampshire communities, institutions, and corporations to form over 100 community-based wellness teams that engage people in physical activity. With Extension's help, the organization provides educational outreach to thousands of residents and over 100 worksite wellness teams have formed to encourage exercise in the workplace

C. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

D. Scope of Impact: Multi-state

### **Family Resource Management - Suzann Knight**

A. Situation: Americans in 2004 saved less than two cents of every dollar while 16 to 21 cents of every dollar went towards debt. Households are saving less and spending more, putting their financial security at risk. Spending habits start early. In 2004, American teens spent \$169 billion. The Jump\$tart Coalition for Personal Financial Literacy 2004 survey found 12<sup>th</sup> graders' personal finance knowledge level at 52.3%, a failing grade based on the typical grade scale. Many young people could establish bad financial management habits and stumble through their lives learning by trial and error.

B. Program Description: Participants in UNHCE's family resource management classes learned how to increase their financial literacy by establishing financial goals, reorganizing their spending to begin or increase saving, decreasing their debt load and following a spending plan that leads toward achieving financial security now and in later life. Family resource management education is taught in every New Hampshire county through face-to-face education, learn-at-home publications, and through the media. Audiences include individuals on public

assistance, on probation to Individual Development Accounts, teachers, adults, youth, Earned Income Tax Credit recipients, and Medicare beneficiaries.

C. Impacts:

- 646,026 people received family resource management education (1,880 adults and 5,427 youth through face-to-face education, and 638,719 through print and nonprint media)
- Extension sponsored 30 workshop series within the Financial Security in Later Life national initiative with either the curricula “Taking Charge of Your Finances” or “Making Money Work for You.” These series include pre/post/follow-up evaluation tools. As a result of this education, participants completed or planned to set up a system for storing financial records (92%), reviewed their insurance coverage (68%), calculated a net worth statement (82%), follow a spending plan (94%), have an emergency fund (93%), reduced their money leaks (88%) and 88% reported they felt more confident making money decisions
- Education was provided through “Linking Workers” with the Earned Income Tax Credit project. For Tax Year 2003, 58,105 low income New Hampshire workers gained \$88,100,000 by receiving the Earned Income Tax Credit, primarily used to pay bills

To increase the number of students benefiting from the High School Financial Planning Program (HSFPP), Extension teamed with NH Jump\$tart Coalition. At the annual NH Jump\$tart “Money Smarts” conference for teachers, two workshops focused on the HSFPP which reached 5,427 students. Evaluations showed 47% knew more about credit costs, 37% improved skills for tracking spending, 45% started saving or began saving more and 38% felt more confident about managing their money.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funding

E. Scope of Impact: State specific and multi-state. Integrated research and Extension.

### **Leadership Training and Development/Strengthening NH Communities – Charlie French**

A. Situation: New Hampshire communities face many social, physical, economic, and environmental challenges. While some communities proactively responded to current and future issues, others lack the leadership structure and capabilities to address issues in an organized and effective fashion.

B. Program Description: Cooperative Extension’s Strengthening New Hampshire Communities Program (SNHC) offers a variety of training programs aimed at building leadership capacity through facilitation training workshops, a community development academy, and other curricula.

C. Impacts:

- As a result of Extension’s work with three New Hampshire towns that conducted Community Profiles (a community action planning program sponsored by Extension), organizational assistance and facilitation training was provided to over 40 community volunteers. These volunteers helped facilitate breakout groups at their respective Profiles and at four chaired

local action committees

- Fifteen community leaders were trained in the art of facilitation and participatory planning through a workshop conducted by Extension last year. Of those trained, over half have engaged the public in local decision-making. For example, two individuals helped facilitate a regional economic development forum, four facilitated Natural Resource Outreach Coalition meetings, one coordinated a town meeting on education, two facilitated community health forums and two helped with Community Profiles
- Extension conducted a Leadership North Country workshop for northern New Hampshire residents. Workshop participants learned basic skills for conducting effective meetings and building effective organizational structures, some have since taken on new leadership roles.
- Extension's Community Development Program helped build the capacity of two graduate assistants and one student intern to provide community development assistance and outreach to New Hampshire communities
- Extension's Coverts program trained 26 new community volunteers to provide leadership on community-based conservation efforts.
- The Community Development Specialist taught a course for students in UNH's Community Service and Leadership Program. The course provided 11 students with an overview of skills needed to mobilize citizens to instigate community change. As a result, five students organized a coat drive, one student helped the city of Nashua conduct an action planning forum around walkability, and another student initiated a volunteer conservation easement monitoring program. All the students are community leaders

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, user fees

A. Scope of impact: Multi-state

### **Leadership Training and Development/Volunteers – Robin Luther and Mary Tebo**

A. Situation: Volunteers are a key element in delivering UNH Cooperative Extension programs. The effective recruitment, training and placement of volunteers increases program delivery to New Hampshire citizens. Specifically recruited, well-screened and trained volunteers complement and multiply staff efforts to provide research-based education and information, enhancing clientele's ability to make informed decisions that strengthen youth, families and communities, sustain natural resources and improve the economy. Volunteers are a vital link between Extension educators and the New Hampshire citizens they are unable to serve directly.

B. Program Description: Each year Extension volunteers assist paid staff in developing and delivering programs to educate citizens in the stewardship of our state's forests, wildlife, agriculture, marine and fresh water resources as well as positive youth development. Currently seven volunteer programs administered by Cooperative Extension staff are 4-H Youth Development, NH Lakes Lay Monitoring, Great Bay Coastal Watch, Marine Docents, Community Tree Stewards, Master Gardeners and the NH Coverts Project. Each volunteer program has specific goals and objectives that stemmed from recent statewide needs assessment data.

### C. Impacts:

#### **4-H Youth Development**

The 4-H Youth Development program helps youth acquire knowledge, develop life skills and form attitudes to enable them to become self directing, productive and contributing members of society. 4-H Youth Development volunteers receive training in the principals of positive youth development, risk management and techniques to use with youth that foster critical life skill development. This year:

- One hundred and six 4-H groups held an average of 16 youth meetings this year. Approximately 1.8 hours of volunteer contact time with youth was contributed at each meeting
- New Hampshire 4-H group leaders contributed a total of 41,500 hours of volunteer time. At \$17.55 per hour this represents \$728,325 of in-kind services to the 4-H Youth Development program
- 4-H group leaders submitted a total of 136 year end group activity summaries reporting that out of the 2,279 youth who participated
  - 585 youth used or applied leadership skills, 405 youth served on a committee and 412 youth served as an officer
  - 1, 184 youth showed increased knowledge and understanding
  - 1,131 youth learned and practiced a new skill
  - 1,102 youth made gains/advances in competency and skills
  - 882 youth presented examples of their work to the public through exhibits or displays
  - 498 youth made an oral presentation in public
  - 546 youth kept records or prepared a resume
- 4-H group leaders reported 1,561 youth of 2,279 youth who completed the year (69%) were involved in a community service project assisted by 723 adult volunteers. Approximately 7,668 hours were invested in service projects. At a value of \$17.55/hour, this represents a contribution worth \$134,573 to New Hampshire communities by 4-H members and adult volunteers

#### **Coverts**

The NH Coverts Project works to enhance, maintain, and conserve habitat for the rich diversity of native wildlife in NH through sound land stewardship. This year:

- Twenty- six new Coverts Cooperators attended and completed the 11<sup>th</sup> annual Coverts Training Workshop receiving 70 hours of comprehensive natural resource stewardship education. Two hundred forty-two Coverts Cooperators now work in 122 different communities throughout New Hampshire
- One hundred and nine Coverts Cooperators reported contributing 12,232 hours of volunteer time for FY2005. At \$17.55 per hour this represents a contribution of \$214,672 of in-kind services to the people of New Hampshire
- The total land managed by all Coverts Cooperators has reached over 53,000 acres.
- One hundred and nine Covert Cooperators submitted a year-end report indicating 45 of them serve on conservation commissions, 71 serve on town planning/zoning boards, as selectman, on watershed commissions or open space boards, 34 helped complete a natural resource inventory or habitat inventory and 37 helped manage town or conservation land
- 33,584 New Hampshire citizens became aware of natural resource stewardship by attending public education programs, field tours, sharing information through the media (newspaper columns, TV broadcasts) initiated by Covert Cooperators



### **UNH Marine Docents**

The UNH Marine Docents raise awareness, understanding and appreciation of marine and related environments through educational programs presented throughout New Hampshire to citizens of all ages. The program provides extensive education for volunteers dedicated to the preservation and wise use of New Hampshire's marine resources. Marine Docents present slide shows or lectures and lead field trips and tours that result in increased public awareness of the marine environment. This year:

- The Docents donated approximately 109,046 hours of time to marine education which equals \$400,000 of service
- Eight new UNH Marine Docents completed education in basic marine science, formal and informal education practices. They joined the existing 75 active Marine Docents in providing programming to schools or volunteering at other informal marine education venues including the Seacoast Science Center, Sandy Point Discovery Center, the Great Bay Coast Watch and the Gundalow program
- Volunteers conducted 50 SeaTrek marine education programs for approximately 3,500 students in 35 New Hampshire schools
- Docent-led Floating Lab program volunteers trained 450 students from 10 schools in boat-based marine science activities
- Two hundred twenty-five adults and 125 youth increased their knowledge and awareness of the Gulf of Maine, the Isles of Shoals and the Shoals Marine Laboratory through a dozen or more volunteer led one-day Shoals Discovery Cruises
- Volunteers with the Great Bay Living Lab taught 175 middle school students and eight teachers about the Great Bay estuarine environment

### **Great Bay Coast Watch**

The Great Bay Coast Watch monitors water quality and collects related data from April through November from 20 selected sites in the Great Bay Estuary. The program trains high school and adult volunteers in sampling techniques. Volunteers meet once a month to turn in results and hear presentations on marine science research and coastal issues. This year:

- Great Bay Coast Watch Volunteers contributed 3,500 hours towards the monitoring of water quality in the Great Bay

### **Community Tree Stewards**

Tree Stewards strengthen communities, promote social change and enhance urban ecosystems through the practice of urban forestry in communities. The program provides orientation, instruction, support and continuing education for Tree Steward volunteers in subjects related to community and urban forestry. This year:

- 70 NH Community Tree Stewards volunteered an average of 69.6 hours in approximately 75 New Hampshire cities and towns. Many communities had several Tree Stewards working together on multiple projects totaling 4873.5 hours. This is the greatest number of hours recorded in one year since the program began. This is equivalent to 609.19 eight-hour days or 2.3 additional full time employees in urban and community forestry
- Tree Steward volunteers contributed 1249.5 hours toward land conservation efforts. A total of 647.5 hours of volunteer time was invested in adult education activities and 601 volunteer hours were invested in landscape projects
- Volunteers contributed up to 300 hours of time toward water quality, natural resource committee work, youth education, Earth Team volunteering, tree committee work, the NH Big Tree Program, watershed improvement, fundraising and forest and land management

- 100 Community Tree Stewards serve in leadership roles in communities on Conservation Commissions, Watershed Associations and Tree Boards
- Twenty-four continuing education programs three hours in length were held. For the first time the Tree Steward and Master Gardener programs combined continuing education offerings

### **Master Gardeners**

The Master Gardener Program engages community volunteers in sharing their enthusiasm and research based knowledge of gardening with the public. Annually the program educates new volunteers and provides continuing education opportunities to active NH Master Gardeners. These volunteers help UNH Cooperative Extension respond to thousands of requests for information received throughout the year. This year:

- 81 new volunteer Master Gardeners received 60-84 hours of training
- Over 500 active Master Gardeners contributed 14,000 hours to Cooperative Extension programs in over 100 communities
- Master Gardeners responded to over 6500 requests on the toll-free Info Line with scientifically based information to help solve a wide array of gardening and household problems
- Fourteen Master Gardeners offered 21 workshops to the public through the Family, Home and Garden Education Center. Master Gardeners and county Extension educators delivered another 80 workshops to schools, libraries, civic groups and clubs

### **Lakes Lay Monitoring**

The monitoring program encourages the sound management and preservation of NH lakes through the integration of citizen-based monitoring, research and teaching. The program annually trains volunteer lake monitors in water quality data collection methods and engages them in the collection of data on NH lakes. This year:

- 78 monitors were trained or retrained in proper water quality sample collection techniques
- NH Lakes Lay monitors invested 2,481 hours of volunteer time. At \$17.55 per hour this represents \$43,544 of in-kind services in the collection of water quality data
- \$25,000 of volunteer time was used to help match USGS grant support for the Water Resource Research Center

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

E. Scope of impact: State specific

### **Parenting – Emily Douglas**

A. Situation: Strong families raise children to become responsible, productive, and caring adults. Many parents lack the knowledge and skills to promote healthy development of their children. Child abuse and neglect continue to affect an unacceptably high percentage of children. Parents receive advice from many sources, including reality television shows, the internet, and family members, but increasingly need objective, fact-based information to inform their decisions.

B. Program Description: During the 2005 program year, parenting education was delivered through a newsletter series, fact sheets, UNH Cooperative Extension's web site, and the media. Extension reached 963 parents through face-to-face parenting programs, including one-on-one home visits, one-time workshops, and workshop series. Five thousand seven hundred ninety-nine families with infants from birth to 12 months of age received the age-paced newsletter, *Cradle Crier*, and 5,436 families with toddlers from 13 to 24 months received the age-paced newsletter, *Toddler Tales*. Over 5,300 additional publications were distributed on issues ranging from bullying to the impact of divorce on children. Approximately 250,000 people were reached per episode through 20 episodes of "Positive Parenting" - a three-minute program aired biweekly on WMUR, New Hampshire's statewide television station. In addition, approximately 180,000 parents received monthly information through a statewide news article dealing with parenting and family issues.

B. Impacts: UNHCE reaches a variety of audiences through parenting education programs. The vast majority of participants are female. Some parents are incarcerated and learn to parent while incarcerated and how to parent when they are released. Since the late 1990s, several thousand refugees settled in New Hampshire. UNHCE provides parenting and life skills education for many of these families. In addition to "generic" parenting education, Extension provides education to divorcing parents and those preparing to lead blended families.

Parents are satisfied with Extension educational experiences. They report increased knowledge and behavioral changes concerning their parenting. Among parents completing *Parenting Teens in Complex Times* workshops, 87% stated they either agreed or strongly agreed they understood key themes of teen development. 100% of participants indicated understanding they can make a difference in their teenager's life. Of parents who participated in the *Family Focus* curriculum, 75% indicated they gained knowledge in normal child behavior. Over 80% of participants reported gaining knowledge about positive disciplinary techniques and 72% stated they learned information to help them to better communicate with their child(ren).

Many parents reported personal positive behavioral changes. 76% of the participants reported being more patient with their children, 58% reported changing rules or consequences in their homes and 24% reported using less physical punishment on their children. Similar positive findings were noted for the *Strengthening Families Program*. Of youth who participate in this program, 85% report they can tell their parents when they are stressed, compared with 65% before completion of the program. Youth also show a marked increase in judging "the things needed in a good friend" (pre-62% vs. 88%-post) and an increase in understanding family values (pre-65% vs. post-94%). Parents report parallel gains in understanding and behavior change. Forty percent of participants report spending more time with their children and 50% report establishing clear guidelines as a result of class participation. Finally, there is a 70% increase in knowledge about normal behavioral changes reported by parents who participate in the *Strengthening Families Program*.

Parents complete an evaluation of the *Cradle Crier* publication with the 12 month or 24 month newsletter they receive. Between two-thirds to over three-quarters of respondents reported they gained knowledge in physical, emotional and intellectual growth, language development and nutrition. About half of all respondents report they changed specific behaviors because of the

newsletter. For example, about 60% reported they talk more often to their babies and 63% reported they let their babies explore more.

Some parents commented the newsletter met Extension's goals of providing concise, timely and important information to parents from diverse backgrounds. One parent wrote, "This information was very valuable the first two year of my child's life." Another wrote, "As a first-time dad at age 41 I enjoyed receiving the newsletters very much!" One parent commented that it helped her know she was "not alone" while another said, "It has helped me to be a better parent."

Parents found the newsletters helpful for different reasons. For example, those with less than a college degree were more likely to say the newsletter increased their knowledge in child development. Those with higher levels of income stated the newsletter helped them talk with their partner about the baby. Interestingly, demographic factors did not play a role in increasing the parent's level of self-confidence. This was true among the majority of parents regardless of their income level.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

B. Scope of Impact: State specific

### **Tourism - Charlie French**

A. Situation: While most of southern New Hampshire experiences rapid job growth and an influx of new businesses and industries, northern New Hampshire continues to face economic crisis. Resource-based industries, including tanneries, paper mills and manufacturing plants in this rural part of the state have undergone stress resulting from international competition. Although job losses this past year were not as heavy as they were two years ago, the unemployment rate in the forest industry continues to rise. Because this region's natural beauty and wilderness resources are plentiful, the state has placed renewed interest in developing a viable tourism industry, particularly in northern counties.

B. Program Description: UNH Cooperative Extension helps New Hampshire communities, in partnership with businesses and industries, analyze the existing tourism economy and assess the potential for maintaining or developing a viable tourism industry. Technical assistance and educational outreach provide technical training, economic analysis, financial planning, and organizational capacity.

C. Impacts:

- Extension continues to assist New Hampshire inns, hotels, resorts, campgrounds and other tourism-based businesses with landscaping, ornamental tree planting and insect control. This helped save dozens of tourism-related businesses thousands of dollars in costs, helping them to remain vital
- Extension helped organize and coordinate the 'What Works' regional entrepreneurship conference. The conference provided existing and potential tourism-based entrepreneurs with an opportunity to learn about available resources and cutting-edge strategies and

techniques. Resource providers present at the conference are currently providing assistance to several tourism-related businesses

- Extension's Master Gardener program spawned several beautification projects around the state, which led to improved aesthetics in parks, downtowns, schools and along roads. This helped enhance tourists' experiences when driving through New Hampshire
- Extension conducted a workshop called 'Saving Special Places' for over 50 statewide community leaders and individuals from conservation groups. The workshop outlined basic conservation techniques, including land trusts and easements. Extension has since provided communities with land conservation education and assistance, which helped preserve the rural character of New Hampshire towns
- Extension educators in Rockingham County continue to work with local residents to develop a horticultural garden, drawing hundreds of volunteers and visitors
- Extension continues to provide organizational and management assistance to community Farmers' Markets in two counties that helped influence both markets' longevity
- Extension implemented a workshop to train organizing members of the Nashua Livable Walkable Communities Initiative engage citizens in community planning activities. The organizing members have since engaged the public in beautification projects such as a mural project, rail-trail expansion and community garden. These projects improved the downtown area with the goal of drawing people into the city to revitalize its businesses
- Extension continues to provide technical and organizational assistance to the Northern Forest Heritage Park in Berlin, NH. The park, designed to educate citizens about the life and history of a mill town, continues to draw thousands of visitors to this depressed northern part of the state
- An UNHCE-sponsored graduate assistant in the Resource Economics Department worked with several partner organizations to revise the "Saving Special Places" publication. His work focused on helping communities evaluate the cost of services for varying land uses, particularly open space. The publication will be used by planners, recreation professionals, and conservationists to maintain the natural character of New Hampshire's landscape, and hopefully draw tourist dollars
- UNHCE's marine docents program organized beach cleanups, provided pollution monitoring assistance and implemented erosion mitigation projects, all of which contributed to the cleaning up of southern New Hampshire's beaches, making them more attractive for tourists
- UNHCE works with the timber industry and state and federal agencies to promote best management practices for timber harvesting. Extension also promotes "logging aesthetics," to help preserve multiple viewsheds, enhancing the visual experience for tourists and visitors to New Hampshire's forested regions

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, Contracts

E. Scope of Impact: Multi-state

### **Workforce Preparation/UNH 4-H Camps – Chris Conlon**

A. Situation: UNH 4-H Camps operates two residential sites, serving 850 individual youth in 1056 camper weeks during the summer of 2005. Approximately 52% of these youth reside in a

rural setting. Recreation and tourism has been important to rural youth employment for quite some time. Seasonal employment, close to home, and during non school time are factors contributing to teen employment. In New Hampshire there has been above-average population growth. To provide physically and emotionally safe environments and promote positive relationships with caring adults, carefully chosen young adult counselors are extensively trained and supervised to work successfully with a diverse population of youth.

B. Program Description: UNH 4-H Camps provides an opportunity for New Hampshire youth to enrich their lives while learning and practicing the skills and attitudes needed to navigate within an ever-changing world. As part of UNH Cooperative Extension, UNH 4-H Camps provide campers an opportunity to create their own community and be an active participant within that community. Creating a pathway for youth to move from camp participant to camp staff is an important aspect of the 4-H Camps goal of mastery and independence for positive youth development.

Working at camp is often a youth's first job allowing them to practice life skills that 4-H seeks to nurture in all young people: compassion, leadership, understanding difference, and healthy life choices. While many entry level jobs in rural areas are filled by adults, camp provides necessary skills and experience for young adults.

C. Impacts: UNH 4-H Camps staff from immediate past and previous summers received an on-line post-camp survey. Fourteen staff with one to six years of experience working at UNH 4-H Camps responded. The majority (86%) served at least one summer in the role of cabin/camp counselor, 36% as program staff, 36% as program leaders and 36% as administrators, including unit leaders and an assistant administrator. Only three (21%) attended UNH 4-H Camps prior to becoming a staff member, including two who attended four different camp programs, and three who attended the Leader-In-Training program at Bear Hill residential camp. The majority (64%) of staff responding were foreign staff members without U.S. citizenship. Most (79%) were currently enrolled in school, including three in high school, six in college, and two in graduate or post-graduate school. Most (64%) were currently employed, including three who work full-time, while 36% were not currently working. Of those working or attending school, 80% believed their experience working at 4-H camp contributed to their current program or position.

The survey asked staff to reflect on their camp work experience in relation to their career goals and the development of critical workforce skills.

- Staff were assigned greater responsibility during their time working at camp. Most staff either strongly agree or agree. "I gained confidence in my leadership and management skills"
- Staff knew what he/she wanted to be in life before working at 4-H Camp. About one-third of staff either strongly agree or agree with this statement; 36% disagree and 29% neither agree nor disagree. "It has helped me to move forward in my quest to gain experience in the Outdoor Education field"
- Ideas about what staff want to do with his/her life changed as a result of working at camp. Over three-fourths of staff strongly agree or agree, 14% disagree and one neither agrees nor disagrees. "The wonderful experience at camp opened my eyes to career routes I had not thought about"

- Working at camp helped staff see they have marketable skills. 93% strongly agree or agree and one individual neither agrees nor disagrees
- Staff decided to continue his/her education as a result of working at camp. The majority neither agree nor disagree with this statement, 21% disagree and 14% agree. For some, the decision to continue education was already made before working at camp
- Through working at camp, staff learned about careers he/she hadn't thought about before. The majority strongly agrees or agrees, 21% disagree or strongly disagree and one neither agrees nor disagrees
- Staff decided on a career as a result of working at camp. For one-fourth of these staff members, working at camp had this impact. For the rest, camp did not have this impact who disagree or strongly disagree), or they neither agree nor disagree. "It directed me toward my college major"
- Working at camp taught staff the importance of work ethics, following instructions, working diligently and being on time. Camp employment had a powerful impact on development of this important worker quality. The majority strongly agrees or agrees and only two individuals neither agree nor disagree. "I am more responsible with deadlines and more willing to volunteer my time"
- Working at camp helped staff develop or improve teamwork skills, sharing responsibility, honoring commitments, helping others, asking for help. Camp employment had a powerful impact on development of this important workforce skill. 93% strongly agree or agree and only one neither agrees nor disagrees. "It has helped me to realize and overcome the challenging situations working along side with people from different backgrounds as a group"
- Working at camp helped staff gain confidence in himself/herself. All staff believe this is true, with 71% strongly agreeing. "I find it easier to participate in debates and discussions"
- Working at camp helped staff learn to be more responsible for his/her own performance, accept criticism and direction, correct mistakes, and learn from experience. Camp had a powerful impact on development of these important worker qualities. 86% strongly agree (or agree and only two neither agree nor disagree
- Working at camp helped staff learn to communicate his/her thoughts and ideas more clearly. 86% either strongly agree or agree and two neither agree nor disagree
- Working at camp helped staff understand cultural differences, and work well with people having different ethnic, social, or educational backgrounds. Learning to work in a world of diversity is an important skill, and 86% of the staff strongly agree and 14% agree. "Working at camp I gained more experience working with all types of people in a work environment which better prepared me for my non-summer job." "It has also helped me to broaden my horizons and made me more a internationally interacting person than I used to be"
- Working at camp helped staff learn and use appropriate methods of caring for his/her own physical and psychological wellness. 86% either strongly agree or agree and two individuals neither agree nor disagree

C. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, user fees

D. Scope of Impact: State specific

## **Workforce Preparation/Adults - Suzann Knight**

A. Situation: Federal law requires most recipients of Temporary Aid to Needy Families (TANF) public assistance to prepare for and find paid employment. Many TANF recipients need help mastering basic life skills to make a successful transition to paid work. Some people have difficulty managing time, conflict, anger and stress. They may fear change or rejection. Some need help building support networks for themselves. Many people do not have successful role models for balancing paid work and family life. Some have family difficulties that undermine their ability to seek and find a job. Many need help with parenting skills and understanding the developmental needs of children. Often, parents worry about finding childcare or interacting with childcare providers. In addition, they need help developing a spending plan or preparing nutritious meals within their budget and time constraints.

B. Program Description: Extension contracts with the NH Department of Health and Human Services, Division of Family Assistance to provide the Family Lifeskills Program. The Family Lifeskills Program provides TANF recipients with enhanced competencies that bring them into the job market. These competencies include knowledge-based skills communicated through planned curriculum and personal/interpersonal skills enhanced through the group process. The 90-hour curriculum taught within the Family Lifeskills Program is titled *Lifeskills for Employment, Achievement and Purpose* (LEAP). The knowledge-based skill areas covered are divided into four sections: food and nutrition, money management, parenting skills, and personal skills facilitating balancing work and family. The personal skills gained through the group process include enhanced self-esteem and healthy social support networks.

C. Impacts: During this reporting period, 636 TANF recipients attended the Family Lifeskills Program. The Family Lifeskills Program uses pre, post, and follow-up assessment tools. More than 90% of LEAP participants report they feel more prepared for the job market with 58% reporting they feel “much more” prepared, 94% reporting gaining knowledge about available services, and 90% felt better able to handle problems. Of particular note was the way in which adherence to workplace standards, such as punctuality and attendance, gave people incentive to complete the program. It was noted that the proper balance between promoting group bonding and responsibility to the group by showing up, being punctual, and dressing appropriately, seemed to enhance self-esteem as well as a sense of responsibility necessary in securing and maintaining employment. Follow-up information on a random sample (n=253) of LEAP graduates found, as of June 2003 that 41% of the sample was employed and of these, 83% are working fulltime. The remainder of LEAP graduates continue to gain skills through the New Hampshire Employment Program.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funding

E. Scope of Impact: State specific and Integrated Research & Extension



## **Youth Development/4-H Afterschool Programs – Paula Gregory**

A. Situation: Working parents want safe environments for school-age children, with opportunities for them to make friends, work on homework, develop talents, and try new things. Research shows quality out-of-school programs help children improve work habits, academic achievement, interpersonal skills, and conflict resolution. Children who attend out-of-school programs regularly are also less likely to drop out of school, use drugs, or become teen parents. Out-of-school time programs support the healthy development of children and youth, ages 5-18.

B. Program Description: As society changes, delivery of 4-H has expanded beyond traditional models to meet growing needs of young people during out-of-school hours when they are not in the care of parents or family. State and national 4-H programs aim to increase the quality and quantity of positive out-of-school time opportunities for children and youth. UNHCE strives to foster development of high quality 4-H Afterschool programs within existing afterschool programs through staff development, 4-H curricula and experiential methodology, and 4-H clubs, events and activities. They also partner with statewide organizations including PlusTime NH, the Department of Education and 21<sup>st</sup> Century Community Learning Centers (21<sup>st</sup> CCLC) to increase capacity of afterschool programs to meet common child/youth goals of improved academic achievement, social/interpersonal skills, health & fitness, and life skills.

- Fifty-five communities received help creating, strengthening and/or sustaining afterschool programs. One hundred nine providers received training in how to use peer-reviewed Extension curricula with children/youth in their programs. These providers serve 455 young children (ages 0-4), 1,442 school-age children (ages 5-12), and 227 teens (ages 13-17)
- Staff/providers from 18 afterschool programs participated in nine hours of training on development of volunteer management systems using Michigan Cooperative Extension's new curriculum, "Achieving Success with Volunteers." These programs will result in the development of volunteer management plans by June 2006
- Forty-five afterschool providers participated in UNHCE workshops presented at summer conferences offered by collaborating partners. Training topics included youth as partners, using CCS curriculum to meet state education standards, creating effective homework centers, and a panel presentation on UNH resources available to afterschool programs
- Sixty-eight afterschool providers responded to an on-line survey, developed in partnership with Department of Education, PlusTime NH and Granite College, to determine interest in post-secondary training (courses, degree, certificate program). Over 90% of responders desire new educational opportunities leading to an advanced degree in afterschool programming. A multi-agency team is working on a response to this need
- One hundred eighteen camp directors gained information and strategies for working more effectively with parents as partners in addressing camper issues, and inclusion of youth with disabilities
- The NH Dept. of Education provided a slot for UNHCE on the core team of site reviewers for conducting 21<sup>st</sup> CCLC program CIPAS reviews (Continuous Improvement Process for After School Programs). The CIPAS process is a copyrighted review system developed by the National Community Education Association. All NH 21<sup>st</sup> CCLC programs are undergoing CIPAS reviews over the next two years

- Servsafe training reached 26 providers who serve 103 children in early care, 4,373 children in afterschool programs, and 250 youth in teen programs. Four of these providers work in programs newly enrolled in USDA
- Eleven new county, multi-county, and statewide networks or collaborations with 135 members were developed with Extension assistance. Over half of these groups completed needs assessments related to childcare, school-age care, and/or teen non-school time
- UNHCE is a partner with the Center for Science Education and national 4-H Afterschool on a newly awarded multi-state NSF (National Science Foundation) grant designed to involve after-school programs in a collaborative mentoring relationship with museum partners from California, Minnesota, and Boston

C. Impacts: Through efforts of the 4-H Afterschool Team,

- Collaborating partners (PlusTime NH and NH Dept. of Education/21<sup>st</sup> CCLC) report a reduction in duplication of effort, enhanced statewide capacity-building training, and wider distribution and use of 4-H curriculum and experiential methodology
- Twelve Extension staff from seven of 10 county and statewide programs provided documentation of UNHCE efforts/impacts through the national ECI (Extension CARES Initiative) Evaluation System. UNHCE is recognized nationally for early adoption of the ECI documentation system. Participating staff find they are better prepared to respond to all childcare related inquiries from decision-makers, and report:
  - Eighty-seven staff development events reached 1,190 childcare and afterschool program providers with 237 hours of training. These providers care for 1,122 young children (ages 0-4), 12,281 school-age children, and 4,058 teens. Three-fourths of these providers work in afterschool programs. One-third has less than two years of experience, and almost half work with children in rural small towns. A majority of these providers are white, 3.1% Hispanic/Latino, 0.9% Black, 0.9% American Indian, 0.4% Asian or Pacific Islander, and 1.3% Multi-Racial. These participants received client satisfaction evaluations at 45% of these workshops, resulting in a 36% return rate among all providers trained. Results show 79% gained knowledge or skill, 88% believe the information was useful, 87% feel they will use the information to better support the children, youth and families in their programs and 89% would recommend the training to others
  - New networks and collaborations, established with Extension efforts, reported 23 accomplishments related to improving the ability of families to better support their children, improving community and state support for programs, and/or improving the availability and sustainability of child care and afterschool programs
  - Communities received technical assistance resulting in the establishment of six new afterschool programs serving 161 school-age children and teens. Two of these are licensed community-based programs and two are license-exempt programs
  - Thirteen new 4-H Afterschool clubs were established in afterschool programs, with a membership of 270 school-age youth (ages 5-12) and 51 teens (ages 13-18)
- The capacity of UNHCE staff to assist with community-based afterschool programs and foster 4-H Afterschool programming has increased, as evidenced by staff reports on the National 4-H Afterschool survey. Ten NH counties (100%) reported 21 UNHCE staff received training to work in afterschool environments, and are now involved in some aspect of delivering 4-H afterschool. This includes:

- Statewide, 242 afterschool providers and 87 volunteers are reaching 4,114 youth through 4-H Afterschool programs and activities. Fifty-five afterschool programs are using 4-H curriculum, volunteers and club management support, and other technical assistance provided by UNHCE staff
  - Afterschool programs received an estimated \$216,000 in-kind support from UNHCE, including staff time and effort, 4-H curricula, volunteer time, training and facilitation of advisory groups. Afterschool programs secured at least \$260,000 in cash support or grants with UNHCE assistance
  - Three afterschool programs initiated through CYFAR funding in 1998 are sustained and continue to provide afterschool care. Boscawen's BEST KydStop After School Enrichment has created 30 new afterschool slots and added a before-school program. Haverhill Cooperative Middle School After School Program has expanded from 25 to 52 slots. Claremont school district now maintains afterschool programs in five elementary and one middle school, serving 900 students each year. None of these communities had afterschool programs prior to Extension's involvement
- E. Source of Funding: Smith-Lever 3b & c, State matching funds, County funds, grant funds
- F. Scope of Impact: State specific

**Youth Development/Life Skills Development through 4-H – Paula Gregory and Lisa Townson**

A. Situation: Positive youth development is the conceptual foundation of the 4-H program. The development of critical life skills is recognized universally as a primary task of childhood and adolescence. Young adults have a difficult time acquiring and retaining employment, living on their own, and starting a family without the basic skills of effective communication, goal setting, decision making, problem solving and conflict resolution.

B. Program Description: Through 4-H, youth acquire and practice critical life skills including goal setting, decision-making, communication, interpersonal relations/making friends, accepting differences, and conflict resolution. Critical program components used in the NH 4-H Youth Development program to achieve this goal include trained and supported 4-H volunteers, 4-H CCS curriculum, educational events and activities, and a variety of delivery methods including 4-H clubs, afterschool programs, and camps.

UNHCE staff provide ongoing orientation, training and curriculum resources for 4-H volunteers on life skills selected for emphasis and evaluation during the current Plan of Work. Annual 4-H Group Activity Reports were completed by 136 out of 290 existing 4-H clubs/groups in nine New Hampshire counties (90%). These groups reported holding an average of 16.5 meetings per group during the program year. The average length of these meetings is 1.8 hours, indicating these counties provided an estimated 8,700 hours of 4-H contact time with 4-H members. During the past year, 2,637 youth enrolled in 4-H in these counties. Of these youth, 2,279 completed the year as 4-H members, and 358 (14%) dropped out at some time during the year. 4-H group leaders reported a contribution of 41,500 volunteer hours, including 28,562 hours contributed by screened volunteers and 12,939 by unscreened/other volunteers. At \$17.55 / hour

(Independent Sector), this represents a contribution of \$728,325 of in-kind services to the UNHCE 4-H Youth Development program.

4-H volunteers value and desire ongoing training and support provided by UNHCE. They reported benefiting from a variety of support including: being linked with a volunteer mentor, volunteer orientation, strategies for involving parents, volunteer management and organizational leader training, behavior management, teaching life skills (communication, goal setting, decision making), positive youth development, and specific curriculum training. They also reported attending conferences, workshops and clinics, receiving mailings and newsletters, calling the office and working one-on-one with the Extension Educator, attending leader forum and leaders meetings, talking with state people about policies, and trouble shooting via 4-H staff.

C. Impacts: Youth are developing important life skills through a variety of 4-H programs and activities. A comprehensive statewide evaluation of core life skills provided data on the perceptions of 293 youth who completed surveys distributed by their 4-H leader, 48 of 310 randomly selected parents who returned a mailed survey and 55 of 425 randomly selected volunteer 4-H leaders who returned a mailed survey. The survey of 4-H leaders gathered data on volunteer perceptions of 365 youth in their groups. In addition, 89 4-H Judges completed surveys after judging a county or state 4-H event. They provided perceptions of how well 4-H members are practicing basic life skills compared with other youth of similar ages.

- 4-H helps youth think about different ways to reach goals. 99% of youth and 100% of parents agree. Volunteers felt this statement is true for 83% of their youth participants. 94% of judges felt this is true for the 4-H youth they judged, while 77% felt it is true of other youth they know. In addition, 34% of youth and 69% of parents believe this has improved since participating in 4-H
- 4-H youth learn to break goals into logical steps and work through steps to reach goals. Over half of youth and all parents agree. Volunteers felt this statement is true for 75% of their youth participants. Nearly all judges felt this is true for the 4-H youth they judged, while 80% felt it is true of other youth they know. In addition, 36% of youth and 52% of parents believe this has improved since participating in 4-H
- 4-H youth know how to gather and organize information for effective presentation. 98% of youth and all parents agree. Volunteers felt this statement is true for 81% of their youth participants. Nearly all judges felt this is true for the 4-H youth they judged, while 79% felt it is true of other youth they know. In addition, 37% of youth and 63% of parents believe this has improved since participating in 4-H
- 4-H youth appear confident speaking in front of others. 94% of youth and 98% of parents agree. Volunteers felt this statement is true for 86% of their youth participants. Most (96%) judges felt this is true for the 4-H youth they judged, while 81% felt it is true of other youth they know. In addition, 34% of youth and 77% of parents believe this has improved since participating in 4-H
- 4-H youth present their thoughts clearly. 96% of youth and 98% of parents agree. Volunteers felt this statement is true for 89% of their youth participants. All judges felt this is true for the 4-H youth they judged, while 80% felt it is true of other youth they know. In addition, 29% of youth and 56% of parents believe this has improved since participating in 4-H
- 4-H youth learn to use words and actions creatively to persuade others. 92% of youth and all parents agree. Volunteers felt this statement is true for 81% of their youth participants. All

judges felt this is true for the 4-H youth they judged, while 77% felt it is true of other youth they know. In addition, 31% of youth and 52% of parents believe this has improved since participating in 4-H

- 4-H youth make friends who are a positive influence. 94% of youth and all parents agree. Volunteers felt this statement is true for 88% of their youth participants. Nearly all judges felt this is true for the 4-H youth they judged, while 82% felt it is true of other youth they know. In addition, 33% of youth and 73% of parents believe this has improved since participating in 4-H
- 4-H youth know how to solve conflicts in ways that are not hurtful to others. 97% of youth and all parents agree. Volunteers felt this statement is true for 89% of their youth participants. In addition, 20% of youth and 38% of parents believe this has improved since participating in 4-H
- 4-H youth are open to suggestions from others to improve presentation skills. 98% of youth and all parents agree. Volunteers felt this statement is true for 78% of their youth participants. In addition, 22% of youth and 44% of parents believe this improved since participating in 4-H
- 4-H youth treat people who are different from them with respect. 98% of youth and all parents agree. Volunteers felt this statement is true for 95% of their youth participants. Most (92%) judges felt this is true for the 4-H youth they judged, while 81% felt it is true of other youth they know. In addition, 14% of youth and 35% of parents believe this has improved since participating in 4-H

4-H Camper surveys were returned by 129 parents, representing 73 campers (57%) who attended traditional overnight camp, 44 campers (34%) who attended Barry Conservation Camp, six campers (5%) who attended the Teen Program (Discovery Camp and Leader in Training or Mentor Camp), and six campers (5%) who attended Day Camp. Of these campers, 53% were first-time campers at UNH 4-H Camp (n=68). Survey results include:

- Campers made friends at camp that were a positive influence. 107 parents agree, three disagree and 19 neither agree nor or disagree. They also learned something about people from another culture. 101 parents agree, five disagree and 23 neither agree nor disagree
- Campers learned how to get along with others at camp. 107 parents agree, none disagree and 22 neither agree nor disagree. Campers now get along better with others since attending camp. Fifty-four parents agree, nine disagree and 66 neither agree nor disagree
- Campers learned and practiced a new skill while at camp. 111 parents agree, two disagree and 16 neither agree nor disagree
- Campers learned how to solve problems without the parents help. Sixty-nine parents agree, seven disagree and 53 neither agree nor disagree

4-H group leaders were asked to indicate how many 4-H youth from their group were involved in leadership and achievement activities in the past year. They reported:

- 1,184 youth showed increased knowledge and understanding, 1,131 youth learned and practiced a new skill and 1,102 youth made gains or advances in competency and skills
- 882 youth presented examples of work to the public through exhibits or displays, and 498 youth made an oral presentation in public
- 546 youth prepared a resume or kept records
- 585 youth used or applied leadership skills, 405 youth served on a committee,

4-H group leaders were asked about community service projects of their group. They reported 1,561 youth were involved in a community service project, and 723 adults assisted in these community service projects. Approximately 7,668 hours were spent on community service projects, with an average of 60.25 hours per group. Valued at \$17.55/hour, this represents a contribution worth \$134,573 to New Hampshire communities by 4-H members and adult volunteers. Community service projects included community beautification, peer-to-peer teaching, child care and babysitting, intergenerational projects, collecting food and items for the needy, influencing public policy, making K9 vests and pet blankets, fundraising for the Heifer Project and tsunami relief, painting jump standards for the county, making ABC quilts, assembling and distributing health kits, helping the SPCA, rabies clinic, collecting supplies for troops, honoring troops returning from Iraq, rebuilding a community facility, repairing a bridge on a nature trail, purchasing and installing town playground equipment, sewing hats and mittens for needy children, helping needy children make gifts for their family, and providing children's games at town events.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds

G. Scope of impact: State specific

### **Youth Development/Marine Science Education – Mark Wiley**

A. Situation: New Hampshire citizens appear largely unaware of the value of the state's coastal/marine environment. State educational standards focus on core science content that only indirectly includes the study of the marine environment. State higher education institutions do not usually include study of ocean topics in preparing teachers. UNH is well known for prowess in marine and coastal research, yet most of this research seemingly goes unnoticed by the public and anecdotal evidence indicates it isn't used by teachers to address the science standards for student assessment. Informal and formal educators need more professional development and instructional resources to improve student performance in science. The public needs opportunities to learn about and appreciate marine research that affects their decision-making and quality of life.

B. Program Description: The Marine Science Specialist provided training to volunteer members of the UNH Marine Docent program who in turn conducted hands-on and/or field-based educational programming to children and adults in marine science. Specifically the programs encompassed:

- In-school, activity-based SeaTrek programs for pre-K–12 audiences
- Boat-based field programs for middle school, high school, and adult audiences
- Residential Elderhostel programs for retired adults from around the country
- Informational presentations to adult groups on such topics as climate change and salt marsh restoration
- Exposure to UNH marine faculty, programs, and facilities for middle and high school students through sponsorship of the Nor'Easter Bowl and Johns Hopkins Center for Talented Youth programs

Many UNH Marine Docents also supported formal and informal marine education efforts as volunteers at the Seacoast Science Center, Sandy Point Discovery Center, and the Gundalow Program.

Efforts were made to improve the functioning and impact of the region's affiliate of the National Marine Educators Association (NMEA), the Gulf of Maine Marine Education Association by active membership in the board of directors and support of association activities.

Finally, two grants were awarded to support teacher professional development and public education about aquatic nuisance species.

C. Impacts: Staff observed:

- Through all programs all participants gained an increased knowledge and understanding of the marine environment, and specifically the Gulf of Maine, in aquaculture, boat building, marine careers, lobsters, plate tectonics, the rocky shore, the salt marsh, the sandy beach, seaweeds, sea chanteys, watersheds, whales and other marine mammals
- Middle and high school students participating in the boat-based Great Bay Living Lab program and the Floating Lab program gained skills in water chemistry data collection, plankton collection, benthic community sampling, navigation, weather and current measurement and identification of common intertidal organisms
- Increased the trained pool of marine science docents in the New Hampshire coastal region capable of delivering pre-K- adult education programs and supporting other informal and formal marine science education facilities and programs
- Increased the understanding and knowledge of educators from across the country about incorporating marine science into standards-based lesson planning at the 2005 NMEA national conference

D. Source of Funding: Sea Grant funding, grants

E. Scope of Impact: State specific

## ***Management Goals***

### **Multicultural and Diversity Issues – Bob Edmonds**

#### Impact Highlights:

At the USDA Forest Service Review of the NH Forest Stewardship Program, UNH Cooperative Extension was cited as having the most complete Civil Rights documentation of all states reviewed in the Northeast. The external review committee was impressed not only with the documentation, but the breadth and depth of the accomplishments in the area of diversity and civil rights. UNHCE set the standards other states will follow for USDA Forest Service Forest Stewardship Programs.

UNH Cooperative Extension 4-H Camps invested resources to provide substantial programming to autistic children and their parents beyond a one-time event. UNHCE had an increase in requests for experiences for children with autism to explore new opportunities. Through

continued inclusion in an integrated program, these children share experiences. Multiple year experience encourages confidence on the part of the children and parents in a residential camp experience. Long-term confidence building is experienced by parents and their children.

UNH Cooperative Extension actively encouraged accessibility to the natural world for the disabled. A trail for the disabled was constructed on one county-owned farm. Extension, working with partners, secured a \$100,000 grant to construct the trail and tree house for the disabled. Extension staff also helped municipalities and others plan construction of educational and nature trails for community forests

A. Situation: Through programming UNH Cooperative Extension must:

- Reach out to people who would otherwise not participate in Extension offerings
- Ensure that its staff and volunteers adhere to the law and spirit of the law when developing and implementing programs
- Serve as an example to other organizations and individuals regarding diversity principles

B. Program Description:

#### **Staff and volunteer responsibilities**

Staff and volunteer Extension County Advisory Council members receive training in civil rights principles, practices and issues. Training included:

- Every staff person received training and each staff person received a civil rights manual written specifically by and for Extension. Every person has his/her individual civil rights responsibilities spelled out in the manual
- New Extension staff receive civil rights guidance from their Program Leader. New employees receive the *Civil Rights Guide for UNH CE Staff*
- Each Extension program person keeps an individual record of civil rights activities and impacts
- Each County Advisory Council receives training regarding civil rights principles, practices, and issues
- Each January, the Extension Dean and Director reaffirms in writing to all staff a strong commitment to diversity and ensures that everyone knows expectations of every individual to this effort

#### **Reaching out to underserved audiences**

##### 4-H Youth Development

4-H Youth Development programs strive to reach youth with age and developmentally appropriate educational programs. Many youth who participate in local, state and regional events have documented learning disabilities. 4-H staff and volunteers make every effort to ensure they have a very positive experience. Staff learned to modify written, oral and physical tests for youth individually based on their needs. Some youth are provided with a reader or a scribe, but other youth require a modified test or the allowance for physical help in the show ring or at the quiz bowl table.

With a history of 20 percent of the youth attending UNH 4-H Camps having a diagnosis of a physical, emotional, or behavioral disability as well as social, emotional and economic



challenges, UNH Cooperative Extension provided intensive staff training, and reviewed the 2004 and 2005 camp seasons to address future disability needs at the camps.

#### Inner-city multicultural work in New Hampshire neighborhoods

The Community Forestry Coordinator secured two grants to increase outreach to multicultural audiences. Working in Manchester, outreach activities were designed after reviewing the makeup of neighborhoods in the targeted area of the inner city. To understand the makeup of the neighborhood, Extension spoke with residents directly and involved them in the planning process. Extension also engaged neighborhood organizations, including the Salvation Army, the International Center and the Manchester Neighborhood Housing Services. The information collected led Extension to develop a number of program components, including

- Brochures and signage in three different languages
- Translators for workshops
- Worked with children, with fewer language barriers or who are bilingual, to reach adult populations. This helped bridge the language challenges and also brought families together
- Held workshops specifically for adults at an accessible site and at appropriate times to fit their needs
- Considered cultural perceptions when working with sensitive issues
- Established neighborhood contacts from other cultures to help introduce people to the activities in the neighborhood
- Connected participants through areas that interested them and connected them with Extension activities by building on their interests and knowledge. Youth assisted Extension with the translation of written materials
- Provided information in the newsletters of organizations translated into multiple languages
- Attended meetings to discuss how Extension can best work with new audiences
- Worked with other Extension colleagues in an interdisciplinary effort to involve underserved audiences

#### Increasing inclusion of women in non-traditional farm and forest decision making

Extension's Agricultural Resources, Forestry and Wildlife, and Family and Consumer Resources staff worked together to include farm and forest families as a target audience. Traditionally, the male head of the household was in charge of the farm or family woodlot. With the importance of estate planning and inter-generational transfers of land, the appropriateness of including family members in discussions is increasing. This brings more than just the male component of a family into education and discussions.

#### Building partnerships to serve multi-cultural audiences

The Community and Economic Development Specialist collaborated with the Lutheran Service Refugee Resettlement Program and other organizations to conduct a workshop titled *Building Partnerships to Serve Multi-cultural Audiences*.

#### Women and the Woods

*Women and the Woods* is a program developed by our Extension Professor and Specialist, Forest Resources, and a woman from the Maine Forest Service. It targets women forestland owners. Traditionally, the male head of the household deals with business related to woodlands. Women now own woods in their own name, share in the business decisions in a family wood lot, or are

the principle manager in a privately held woodlot. This program targets a previously underserved female audience and welcomes women into an educational program about the business management aspect of woodland ownership. People from the target audience were engaged in the development of this program, as were Extension colleagues from other disciplines.

#### Women in Forestry, Wildlife and the Forest Industry

Extension Specialists serve on graduate committees of women in forestry programs at UNH. Our forest industry specialist hired a female natural resources student to implement a survey of New Hampshire loggers. The specialist also took UNH Natural Resources students to one of the state's largest sawmills managed by a woman to encourage female students and to break down stereotypes. Extension hired female students to conduct a biotimber inventory of forest lands and to develop and apply new cutting-edge technology on site. The Forestry and Wildlife Program provided a scholarship to one of the female biotimber inventory project leaders, to assist her with graduate studies. The Forestry and Wildlife Program offered employment to women of diverse ages and ethnic backgrounds. Female volunteers attended training that lead to entry into public policy involvement in their communities and in some cases, career changes. Extension remains a leader in gender diversity in the country in forestry organizations evidenced by its staffing and programs which actively seek female participation.

#### Cambodian workers

Our Forest Industry Specialist worked with the University of Massachusetts Translation Center and the Cambodian Community in Lowell, MA (the largest Cambodian community in the US) to use certified translators to develop a video and materials to enhance Cambodian workers' abilities to work in New Hampshire's forest industry. Cambodians work in New Hampshire's sawmills, hired by agencies that provide temporary employees. Many developed relationships with the forest industries to which they are assigned. Extension provided materials in Cambodian, including signage and oral information for those who may not be able to read their own language.

#### Farmer's Market

Extension staff helped underserved communities at several farmers markets in New Hampshire during the market season. Staff provided information and technical assistance to individuals qualifying for the WIC Farmers Market coupons that allow participants in the WIC program to purchase locally grown fresh fruits and vegetables.

#### Professional Logger Training

UNH Cooperative Extension Forestry and Wildlife Program and its partners offer bilingual training programs for professional loggers. Bilingual training conducted in northern New Hampshire used people from the community to provide translation in French. The availability of the bilingual opportunity is announced in advance and at the workshops. The offer for translation in French to the audience was announced at the beginning of each workshop.

#### *Sawing Up a Storm – Women in the Forest Industry*

Our Forest Industry Specialist conducted in-depth research and gave presentations around New Hampshire on women who ran the sawmill at Turkey Pond in Concord following the 1938 Hurricane and during World War II. Presentations included diverse audiences in the inner-city of Manchester through "Girls Incorporated," a program for Junior High girls oriented towards

the building trades. Her presentations and industry trade magazine articles are breaking down barriers for women in the traditionally male-oriented forest industry.

### **An example for other organizations**

Extension partners with many organizations. Extension programs and practices often set the standard for how work is accomplished in the state. Except for large organizations or those with direction from the national level, diversity issues are generally brought to the forefront through Extension involvement.

### **C. Impacts:**

#### **4-H Youth Development**

Increased requests for program delivery modifications were made as described above. Modifications are made each year as parents reveal to staff particular needs of youth.

#### **4-H Camps**

Trained and experienced personnel at UNH 4-H Camps provide behavioral supports to accommodate diverse camper needs. Previous efforts yielded positive results that support the value of intensive training. No campers sent home due to unmanageable behaviors. One-on-one aides were hired to accommodate individual situations.

UNH Cooperative Extension invested resources to provide substantial programming to autistic children and their parents beyond a one-time event. UNHCE had an increase in requests for experiences for children with autism to explore new opportunities. Future development of this programming will be discussed with parents of autistic children. Through continued inclusion in an integrated program, these children share experiences. Multiple year experience encourages confidence on the part of the children and parents in a residential camp experience. Long-term confidence building is experienced by parents and their children.

Parents and volunteers expressed great appreciation for the fact that their children feel very welcome in 4-H. Quotes from parents support UNH Cooperative Extension's success with targeted youth through the Camps program:

- "We never knew 4-H was willing to make these kinds of modifications for my child"
- "We have never experienced a more welcoming and nurturing community, of children, counselors and administrative staff as we have at Bear Hill"
- "For many children like Sarah, intolerance, rejection and isolation are experienced on a daily basis. I feel hopeful and encouraged when I encounter places and people like Bear Hill Camp and their staff who embrace the differences in all children and provide the opportunity to be accepted and respected for who they are"

#### **Collaborations**

UNH Cooperative Extension collaborated with Northeast Passage, the organization that provides active outdoor experiences for persons with disabilities. They provide equipment, staff and expertise and 4-H provides targeted individuals who benefit from challenging outdoor activities. 4-H partners with the UNH Institute on Disabilities to provide expertise and include 4-H staff in training.

### Integrating diverse cultures

The 4-H after school program in New Hampshire's biggest city, Manchester, works with youth representing 20 different cultures (including languages, ethnic origins). This is one of the centers for immigrants coming to the United States. 4-H programs welcomed and integrated these diverse youth into the community. They worked towards developing a sense of belonging and acceptance of others.

The Master Gardener Program helped youth grow a plant native to their culture, honoring and sharing their experience with others. This helped each individual become part of the whole. Youth learned to value diversity.

### Inner-city multicultural work in New Hampshire neighborhoods

UNH Cooperative Extension directs efforts that have lasting positive effects. As a result of Extension urban forestry programs in recent years, inner-city residents "recaptured" their neighborhoods. Residents volunteered and took a new level of ownership, developed and improved inner-city parks and green spaces, and added green space and plantings to improve the character of where they live. As a result, Manchester police reported a reduction in calls to one neighborhood from 700 per year to 60. The program started several years ago, with positive effects that endure today.

### Increasing inclusion of women in non-traditional farm and forest decision making

Women and other family members are increasingly more involved in farm and forest land decisions, especially when it relates to estate planning, inter-generational transfers, and conservation easements. Extension staff observed women taking leadership roles in community land conservation efforts and having an influence well beyond property in which they have a financial interest.

### Building partnerships to serve multi-cultural audiences

Extension and Lutheran Social Services initiated a training program for Somalian refugees as a result of a workshop titled, *Building Partnerships to Serve Multi-cultural Audiences*. As a result, the Nashua Tree Streets project works with Hispanic residents in Nashua to enhance the quality of life in city neighborhoods.

### Women in Forestry, Wildlife, the Forest Industry and the Forestry Community

UNH Cooperative Extension leads the way for gender diversity in forestry organizations locally and across the country, evidenced by staffing and programs that actively seek and involve female participants. *The Women and the Woods* initiative helped women landowners become more engaged in the business aspects of managing their woodland resources.

### Workers with language limitations

An Extension program targeting a need experienced by Southeast Asian workers and their employers enabled people of a foreign national origin and of a minority race to function effectively in their employment in New Hampshire. An employer reported to the Extension forest industry specialist a positive effect on employment security, safety, and morale. The employer used the translated materials in employee training. Professionals in the field working with immigrant workers were engaged to ensure that the targeted community participated in the

assessment of needs. For example, not all of the workers could read their own language and video presentations and other methods were needed to supplement signage and written materials.

### **Farmers' Market**

Women and minorities purchased affordable locally grown fresh fruits and vegetables that would otherwise be unavailable to them in their urban setting.

### **Opening outdoor experiences to people with disabilities**

In addition to working with Northeast Passage and other emphasis on people with disabilities at 4-H Camps, UNH Cooperative Extension actively encouraged accessibility to the natural world for disabled persons. A trail for disabled persons was constructed along the Connecticut River on the Cheshire County Farm through a grant secured by the Extension Forester. Extension, working with partners, secured a \$100,000 grant to construct a trail and tree house for the disabled on the Strafford County Farm. Extension staff helped municipalities and others plan construction of educational and nature trails on community forests.

A school tour of the Grafton County farm included a tractor drawn wagon to accommodate a child in a wheelchair, providing the opportunity for him to enjoy the same experiences as his classmates.

A trail-designed wheelchair from Northeast Passage allowed a woman on crutches to participate fully in UNH Cooperative Extension's Coverts training, a program for volunteers in wildlife. Even temporary disabilities are accommodated.

### **An example for other organizations**

As Extension leads by example, partner organizations use Extension's formal civil rights statement for co-sponsored programs.

Extension's partnership with the NH Division of Forests and Lands dates back to 1925. As a result, Extension participates in USDA Forest Service civil rights reviews and offers compliance information and practices.

At the USDA Forest Service review of the NH Forest Stewardship Program, that UNH Cooperative Extension implements on behalf of the NH Division of Forests and Lands, Extension was cited as having the most complete Civil Rights documentation of all the states reviewed in the Northeast Area. The external review committee was impressed not only with the documentation, but the breadth and depth of the accomplishments in the area of diversity and civil rights. This is now the standard and example that other states will follow in their USDA Forest Service Forest Stewardship Programs.

The New Hampshire Tree Farm Program officially adopted UNH Cooperative Extension's ADA accommodation statement and civil rights statement as a part of its program notification. Extension made the commitment to handle accommodation issues on the Tree Farm Program's behalf.

The Granite State Woodland Institute adopted civil rights and ADA accommodation wording in their offerings as a direct result of Extension's work.

Bilingual workshops continue to be offered through the Timber Harvesting Council as a result of Extension's assistance.

Extension's Forest Industry Specialist attended the national Extension Diversity Conference sponsored by CSREES in Greensboro, NC and shared components with others at UNH Cooperative Extension.

D. Source of Funding: Smith-Lever 3b&c, State matching funds, County funds, grant funds

E. Scope of Impact: State specific

## **B. Stakeholder Input Process**

UNH Cooperative Extension actively involves stakeholders in Plan of Work development, monitoring, implementation and evaluation. County and State Cooperative Extension Advisory Councils, County Commissioners, state legislators, university administration and faculty, program committees, commodity committees, state agencies and organizations, volunteers, and clientele provide input which shapes development, implementation, and evaluation of the Plan of Work.

County Advisory Councils, designated by state statute, play a key role in development of the Plan of Work and in monitoring its implementation and outcomes. Each council includes 12 citizen volunteers, including one or two youth, plus a County Commissioner and one local member of the state legislature. The State Advisory Council provides oversight for the statewide Extension program. The Council's 26 seats include two from each of the state's 10 advisory councils, the state Council for Agricultural Research, Extension and Teaching (CARET) representative and five members at large. Monitoring program outcomes and impacts is an appropriate role since council members represent the state's population, including under-served and under-represented audiences. Advisory Councils helped determine program implementation changes due to downsizing of staff. Council members also assist with the program development process. During 2001 both county and state advisory councils, partners, stakeholders, and UNH faculty were actively involved in development of UNH Cooperative Extension's 2001-2006 Strategic Plan. In 2003, over 300 council members and other citizens identified local issues, Extension's role in addressing these issues and ways to deliver educational programs through listening sessions held in each county by the Associate Director of Extension, on line surveys, and a statewide face-to-face caucus. Listening session and caucus participants received a final report from the Associate Director on issues to be addressed by the Plan of Work. Staff developed logic models for programs based on stakeholder feedback (see: <http://extension.unh.edu/AboutUs/UNHCEPOW.htm>). A draft 2007 to 2011 Plan of Work was vetted with county advisory councils and staff through feedback sessions in each county. This process also provided an opportunity to gain feedback on accomplishments in the current plan of work.

Program outcomes and accomplishments are shared with advisory council members through program presentations, reports and discussions during council meetings. Annual accomplishment

reports, impact statements and success stories are widely distributed to advisory council members, elected officials, and other stakeholders. The UNH Cooperative Extension web page increasingly informs stakeholders and advisory council members of program development, implementation, and the value and relevancy of efforts and outcomes (see <http://extension.unh.edu/AboutUs.htm>). In addition, Extension works closely with many partners and other stakeholders. These include state and federal agencies, public and private organizations, foundations, university faculty, town government and non-profit agencies. Key individuals representing these partners and stakeholders routinely participate in Extension program planning, implementation, evaluation and reporting.

### **C. Program Review Process**

No significant changes took place in the program review process through merit or peer review since development and submission of the FY2000-2004 Plan of Work. Formal program reviews for each program area began in calendar year 2005, with each program area being reviewed once every five years. The review will include Plan of Work related planning and impact. Reviews held in 2005 included the aquaculture and marine science programs. The New England Planning and Reporting Consortium has been vetting regional and state planning and reporting processes since November 2004.

### **D. Evaluation of Success of Multi and Joint Activities**

Multi-state Extension activities include a wide range of long-term partnership and collaborative efforts. Many activities reported are joint efforts with CSREES, Northeast and New England regions. Emphasis is placed on joint activities with New England states due to common regional issues, program scale, close proximity to Extension staff in neighboring states and budget reductions. Many programs listed in Sections E and F are described in greater detail in Section A of this report as noted by page references.

Planned multi-state programs include targeting underserved and underrepresented audiences. The regional EFNEP and FSNE collaborations target this audience. Success is due to competent, experienced staff and supportive local advisory councils and decision-makers. 4-H Afterschool youth development programs and UNH 4-H Camps also target and involve underserved and low-income youth, including youth with disabilities from several states. Several agricultural and forestry programs regionally target women as an audience. These programs include financial management components important to producers whose income is limited by their business management skills.

All planned multi-state and integrated Extension and Research projects start with clear goals, objectives and expected outcomes. Staff focus on program evaluation as a planned part of all programming, with intended outcomes and impacts determined prior to program implementation. In 2001, UNH Cooperative Extension formally adopted the logic model for improved program development, implementation, evaluation, and reporting. Extensive staff training conducted from 2002 to 2005 positioned the logic model as the basis for program planning, including development of the 2007-2011 Plan of Work. In 2003 each program area and the Associate Director created a five-year program vision in logic model format to prepare for future program development and evaluation. In 2004, interdisciplinary program and issue teams created logic

models for programming. These logic models are posted internally and externally on our web site. These models were updated in 2005 were the foundation for development of a draft Plan of Work for 2007-2011. Staff create and update individual program logic models on an annual basis as part of their planning, reporting and performance management processes.

Multi-state programs and integrated Research and Extension programs improve organizational effectiveness and efficiency. Through UNH Cooperative Extension's active partnership with CSREES, staff access and use resources and expertise from the total Cooperative Extension System. For example, educational resources from a number of Extension systems were disseminated this year on dealing with floods in south west New Hampshire after severe October flooding.

Joint planning strengthens the entire program development and evaluation system through agreement on common initiatives, goals, and procedures. Four New England states are developing a joint online planning and reporting system through the New England Planning and Reporting Consortium. This collaborative effort encourages and supports joint programming due to similar structures and operations easily connecting each partner.

**E. Multi-State Extension Activities**

FY2005 Multi-State Programming	\$ 221,120
FY2005 12% Target	\$ 191,120

Brief Report of Progress in Planned Multi-State Programs:

The University of New Hampshire Cooperative Extension collaborates with a vast array of local, multi-state, regional and national partners. Each partnership helps extend Land-Grant based research to address critical and emerging issues impacting the people of New Hampshire. Efficiencies are realized through pooled human and fiscal capital with other Extension systems.

**American Distance Education Consortium (ADEC)** provides educational resources through distance education to member Extension systems. The UNHCE Director of Information Technology and Distance Education serves in leadership roles with the Consortium. New Hampshire actively participates in the American Distance Education Consortium and accesses numerous satellite training and educational opportunities through the consortium

**Certified Crop Advisor Training** involves several Northeast Extension systems that train beginning and advanced advisors. In the past year, 22 new advisors were trained and continuing education units were provided for 75 advanced participants.

**Children, Youth and Families At-Risk National Initiative** includes grant projects at two New Hampshire locations and supports youth involved with the military through the Operation Military Kids Project. New Hampshire presented workshops at the 2005 National CYFAR conference on teen media literacy and using the logic model to develop evaluation plans. New Hampshire hosted Camp Operation Purple for 98 youth from all branches of the military



representing 10 states. Extension's state military liaison for youth meets monthly with other state program representatives.

**Eastern States Exposition** provides an opportunity for New Hampshire youth to participate in a multi-state learning experience in Springfield, MA. Over 200 New Hampshire 4-H youth join 4-H members from all over New England to meet, make friends, showcase skills and compete in a variety of animal shows, communication events and a fashion review. Because New Hampshire and most other New England states doesn't hold a state fair, the Exposition recognizes youth for their achievements at a large, regional event attended by hundreds of thousands of people. Youth and adults gain valuable planning, communication and organizational skills by working with youth and volunteers from other states throughout the year to plan the successful Exposition events. The Exposition also exposes attendees to the breadth and scope of the 4-H Youth Development Program.

**ECOP Forestry Task Force** works to increase RREA funding and provide national natural resource education resources. The UNHCE Associate Director served on this task force. The group hired two interns to increase legislative support for RREA and oversee production of online forestry and wildlife education modules. The Task Force oversaw development of consistent performance measures for states to report progress on the RREA strategic plan.

**ECOP Workgroup for Excellence in Extension Benchmarking** works towards creating standardized national benchmarks for organizational excellence for Extension directors to use internally and externally. The UNHCE Associate Director served on this workgroup.

**eXtension** works towards developing a National Extension System online resource to expand use of Extension resources. New Hampshire actively participates in the eXtension initiative with three staff serving on national committees, two staff serving on Communities of Practice, two staff participating in the FAQ initiative and development of a UNHCE eXtension institutional team.

**Extension Disaster Education Network (EDEN)** provides educational resources for disruptive events. This year UNHCE drew heavily from EDEN materials from several Extension systems for an effective response to severe fall flooding in southwestern New Hampshire. An emergency protocol for programming is also being developed by staff and led by one of UNHCE's national EDEN contacts.

**Financial Security in Later Life National Initiative** includes UNHCE staff. The Financial Security in Later Life programs taught by these staff were rated valuable by 60% of participants. 48% of the participants indicate they would recommend the program to others. Sixty seven percent of the participants reported increased financial security and fifty one percent increased their financial literacy related to later life issues. This includes developing a plan to determine retirement and/or future income needs reported by 41% of the participants. Thirty-eight percent plan to develop a plan to achieve retirement and/or future income goals. Thirty-eight percent also managed their use of credit, reduced debt and/or reduced household spending in light of their long-term goals for later life and forty-one percent utilized recommended financial

management practices. UNHCE staff are also involved in the Financial Security in Later Life eXtension Community of Practice.

**Health Rocks National Initiative** provides training to youth and teams in decision making and youth and adult partnerships. Twenty seven states participated in Health Rocks training this year reaching 12,000 youth. Thirty six states participated in Life Rocks pilot training that reached 6,000 youth this year. The New Hampshire 4-H Youth Development Program Leader serves as a Health Rocks trainer.

**Multi-state Fairs and Expositions** are conducted with Maine and Vermont to provide educational experiences and showcase accomplishments of 4-H youth at the Fryeburg and Lancaster fairs.

**Multi-state Soil Testing Program** includes Penn State and UNHCE staff. The collaboration formed due to closure of UNH's soil lab. The new partnership with Penn State allows UNHCE to continue updating soil recommendations tailored to local conditions on more than 2,000 fields and gardens. Staff identified risk levels for phosphorus and adjusted recommendations accordingly.

**National 4-H Afterschool** work enhances the network to develop best practices for 4-H afterschool programs. New Hampshire staff participate in monthly national 4-H afterschool meetings. A New Hampshire volunteer was recognized as one of 25 recipients of the first "4-H Afterschool Opens Doors Award."

**National Family and Consumer Science Plan of Work Impacts Project** works towards standardizing family and consumer science programs and related outcomes and impact indicators through national committee work. The UNHCE Family and Consumer Resources Program Leader chairs the subcommittee on parenting education. The impacts project document is being used by several Northeast Extension systems to guide development of the 2007-2011 plan of work.

**National Phosphorous Project** is a collaborative effort with a number of Extension systems and the main contact housed with the USDA ARS Pasture Systems and Watershed Management Research Unit. Since 2002, 16 lysimeters were collected in New Hampshire to contribute to phosphorous research. The results were used to develop the New Hampshire Phosphorus Site Index used to develop nutrient management plans across New Hampshire.

**National, Regional and New England Forestry Initiatives** involving UNHCE forestry and wildlife staff included:

- A lumber grading course for Vermont and New Hampshire in cooperation with the forest utilization and marketing specialist in Vermont
- A lumber grading course for the Amish community in Ohio
- The 20 state USDA Forest Service Northeast Area Forest Utilization and Marketing Council
- The 20 state Urban and Community Forestry Council
- The 20 state Northeast Forest Resources Program Leaders including participation from state forestry agencies, USDA Forest Service and Cooperative Extension from the Northeast. This

group sponsors a spatial analysis project relating to Forest Stewardship Plans in the multi state region

- Principle author and leader for the multi state *Women in the Woods* program focusing on business management education for female business owners.
- Contributions to the National Web Center for Private Forests and Range Lands, a CSREES multi state project
- Providing GPS training across New England plus sharing the curriculum with the University of Maryland Cooperative Extension
- Chairing the NRAES Board of Directors
- Reviewing publications, including a manual for private, non-industrial forest owners, a publication regarding insects and diseases of woody plants and a backyard woodland management for NRAES
- Working with maple syrup producers from across the Northeast maple producing region and Canada to ensure health and safety standards for maple syrup production
- Worked with the New Hampshire/Vermont Maple Producers Association and states across the Northeast on Christmas tree production
- Vice Chair of the New England Christmas Tree
- Editing the 2005 New England Christmas Tree Weed and Brush Control Guide and a member of the National Christmas Tree Association editorial review board

**National Rural Development Youth and Adult Partnership Initiative** provides opportunities for youth in communities with less than 10,000 people to increase leadership skills, work in youth and adult partnerships and enhance afterschool programs. Accomplishments this year included regional trainings and conferences. New Hampshire staff helped programs in Maine and Vermont strengthen their youth and adult partnership efforts.

**Natural Resources Agriculture and Engineering Service (NRAES)** provides technical publication and educational support for Northeast states that provides critical coverage for technical expertise lacking in specialist staffing. These services are especially critical with recent staff downsizing. The NRAES membership assessment is paid through state funds and UNHCE staff serve in leadership roles on the NRAES board.

**New England Extension Consortium** works towards improving public access to the research base of land-grant universities and to Cooperative Extension's expertise and educational programs. The Consortium maintains and enhances the quality of technical expertise and educational programs offered to the public in the six New England states. During the last year, the Consortium supported the New England Planning and Reporting Consortium's work in developing a four state online planning and reporting system. The group also convened a meeting of New England FNP staff and agency personnel to discuss joint programming success and concerns.

**New England Green Pastures** is an organization started in 1948 seen as a leader of change in the dairy industry in the Northeast. The group started out seeking to improve pastures in the region and has since promoted a regional Extension Consortium supported by the Northeast Dairy Compact to conduct regional inservice training. UNHCE specialists carry out the Green Pastures program in New Hampshire and take leadership for regional efforts.

**New England Maple Grading School** was held in Lancaster, New Hampshire with participants representing six states and one Canadian province. The program was developed and conducted by the Vermont Department of Agriculture, Food and Markets, the University of Maine Extension and UNH Cooperative Extension with financial support from the International Maple Syrup Institute and the maple industry. The New England Maple Grading School serves maple producers, bulk syrup buyers, state inspectors and others working to increase the accuracy of grading maple syrup. Multi-state maple activities involved 228 participants. UNHCE staff also taught the maple "Getting Started Workshops" in New Hampshire, Vermont and New York reaching 400 people.

**New England Nursery Association** is an umbrella organization for state nursery associations in New England. The group sponsors an annual three day educational conference and trade show that involves Extension staff through an education committee and educational exhibit. Conference proceeds are awarded as educational grants to each state Extension system. In New Hampshire, funds supported development of invasive plant posters, fact sheets, guest speakers and professional development for Extension staff. As a result of these efforts, 2,000 people increased awareness of invasive plant issues and selection of suitable alternative landscape plants. Extension educators also increased their ability to teach organic land care programs. 75% of participants in the New Hampshire Garden Seminar program improved marketing and merchandising skills adding \$10,000 to each business.

**New England Planning and Reporting Consortium** is a four state effort to create an online planning and reporting system. The group also conducts multi-state program development and evaluation training. Impacts this year include an online planning module in alpha stage for testing. The group also presented a well attended seminar at the American Evaluation Association conference on their joint work and impacts.

**New England Water Quality Initiative** improves water quality management through Extension and applied research programs within the region that complements partner's efforts. State of the art approaches are tailored locally for unique attributes of watersheds and the concerns of communities and producers. The New England Program originated from the strengths and partnerships of the individual New England Land Grant University Water Quality Programs and evolved in response to coordinated planning and shared resources. The initiative documented 28 measurable impacts this year ranging from generating and disseminating research to improving local decision making on water quality.

**New Hampshire/Maine Extension Homemakers** educational programming includes a variety of topics presented by Extension staff from both states for the Fryeburg and Conway Extension Homemakers groups. These staff also present other family and consumer resource programs to clients in Maine and New Hampshire as appropriate.

**New Hampshire/Vermont Family Literacy Training** workshops include staff and participants from both states. In the last year 30 participants and eight agencies participated in this program. In addition, the Vermont Center for the Book received program kits to lend to families to help them become better readers and learners. The workshop resulted from UNHCE staff involvement with the Monadnock Partners for Family Literacy Coalition.

**Northeast Forest Resources Extension Council (NEFREC)** of Extension forestry professionals collaborate on programs, publications, conferences, new technology and other natural resource outreach. This group contributes to the ECOP Forestry Task Force, Farm Bill feedback and other regional efforts. Three UNHCE staff are active participants in this 13-state Council. This year, the USDA Forest Service provided instruction to the Council on a newly developed forest management decision making computer model. Council members from across the Northeast will share the model with natural resource professionals in their state.

**Northeastern Integrated Pest Management (IPM)** projects included greenhouse IPM workshops held jointly by Vermont, New Hampshire and Maine, New England-wide publications, New England vegetable and fruit meetings and IPM workers collaborating on crop profiles, crop surveys and pest management strategic plans. In the last year 115 growers attended greenhouse workshops, 1250 growers attended vegetable and fruit meetings and a pest management strategic plan was completed on highbush blueberry. Joint publications produced included the New England Apple Pest Management Guide, the New England Vegetable Management Guide, the New England Small Fruit Management Guide and the New England Greenhouse Floriculture Guide. Additional IPM surveys, profiles and strategic plans can be found at the project web site: <http://ProNewEngland.org>.

**Northeast Plant Diagnostic Network** provides funding for training for pathogen and insect identification and management. Target audiences include Extension staff, growers, crop consultants and land care professionals. UNHCE staff contributions to the network this year included:

- Disease and insect update for forest trees and woody ornamentals training conducted for 25 agriculture and forestry resources specialists and educators on identification and regulation of pathogen and insect pests of trees and shrubs including Sudden Oak Death, Hemlock Woolly Adelgid, Emerald Ash Borer and Butternut Canker. All participants reported an increase in their knowledge base from this training
- Diagnosing plant health problems training included 17 university staff from UNH and URI who learned to recognize and diagnose biotic and abiotic causes of plant health problems. All of the participants reported an increase in their diagnostic skills from the training
- The New England Greenhouse Conference is a collaborative effort by grower associations and Cooperative Extension throughout New England. UNHCE Extension staff chaired the educational program committee that organized 65 speakers. 88% of the conference attendees rated the education sessions as helpful.
- UNHCE staff also contributed to the New England Small Fruit Pest Management Guide, the New England Vegetable Management Guide and worked with the Massachusetts Christmas Tree Association to provide training on the identification and management of common Christmas Tree diseases

**Northeast Regional Center for Rural Development** conducts research and programming on rural issues. New Hampshire entrepreneurs and Extension staff were supported in their rural development work through the Center's programs and publications. UNHCE staff served on the Center's Board of Directors and work groups.

**Northeast Soil Testing Group (NEC1007)** meets annually to discuss soil testing issues that affect the Northeast. Extension representatives from Maine, New Hampshire, Vermont, New York, Pennsylvania, New Jersey, Maryland, Delaware and Virginia work to address soil testing issues and procedures that affect multiples states in the region.

**Regional 4-H** programs provided regional input for the 2007- 2011 plan of work process. The group also coordinates communication efforts of the Northeast 4-H Youth Development program leaders. New Hampshire's 4-H Youth Development Program Leader chairs the group and serves on the National State 4-H program leaders advisory group. In the past year the group coordinated a New England representatives meeting at the national CYFAR conference to explore common themes for regional programming. The program leaders meet every other month to discuss regional issues.

**Regional Agricultural Engineering** combines the skills of Extension staff and an agricultural engineering consultant with the philanthropy of a dairy farmer to run this program in New Hampshire and Vermont. Extension staff expand their capacity by working with the consultant. Over four years, this program included 200 farm visits that saved producers over \$250,000 by preventing construction errors and labor savings.

**Regional Agricultural Profitability and Financial Management** focused on developing business plans for successful closure or creation of agricultural firms. The agricultural financial management programs trained and assisted agricultural professionals and farmers with financial management tools and business planning techniques. Programs are both general in nature, applying to any type of farming enterprise, and commodity-specific, targeting a given producer group. Program development and delivery involves cooperation with industry and agency staff across the state and region. These programs included several multi-state coordination meetings of Extension staff across New England and programs delivered in several states.

The Ag-Biz farm management programs are multi-state efforts that teach farmers business and financial management skills. These programs are conducted jointly by Cooperative Extension staff in New Hampshire and Vermont. Four, four-hour sessions are conducted in each state. Participants learned about financial record keeping, record keeping software, financial statements and budgeting. A number of programs were conducted in FY2005 with 33 New Hampshire farmers improving computer record keeping and financial planning skills and 75 New Hampshire and Vermont dairy farmers improving their ability to manage farm finances.

**Regional Agricultural Waste Management** includes UNHCE staff working with the USDA Conservation Innovation Grant program on innovative manure management technology in the Northeast. Staff also participate in the Dairy Practices Council, attend annual meetings, participate in phone conferences and write agricultural waste management guides that set national standards. One Extension staff member with a teaching appointment involves students from his dairy management class in regional waste management competition and issues. A consulting agricultural engineer also shares waste management technology for dairy and livestock producers throughout the Northeast through Extension staff.

**Regional Dairy Management and Marketing** includes Extension dairy specialists from five New England states meeting on a regular basis. This results in sharing of fact sheets, educational programs, joint programming efforts and the use of expertise across state lines. A regional inservice program is held each year that provides training in subject matter and establishes networks among staff. A new New England Dairy Farms Cooperative was established to bring identity to locally produced milk. Extension staff are also writing a bench mark report on the New Hampshire dairy industry to provide data to support the Cooperative. This effort could return several cents per hundred weight to dairy farmers' milk checks in the region.

**Regional Diversified and Alternative Agriculture Initiative** is based on the proximity of New England farmers to markets and large numbers of consumers that provides substantial opportunities for sales of agricultural products, related goods and services. Adding value to farm products through processing, packaging and services enabled growers to improve net income. Diversified and alternative agricultural practices created new markets for farmers and established product identity in the market place.

Marketing efforts focused on helping firms increase profits through greater understanding of local markets and improved marketing strategies. Diversified and alternative agricultural practices were promoted to farmers growing products for the first time or expanding existing markets. Programs addressed selling products through direct markets such as farmers' markets, farm stands and pick-you-own sales. Creative product alternatives were introduced by featuring farms that grow these products at twilight meetings and in newsletters. New concepts were also included in regularly scheduled commodity meetings. Presentations and seminars were conducted at county programs, state meetings and expositions, and at multi-state venues such as New England producer conferences.

Impacts from this initiative include:

- 78 New Hampshire growers improved direct marketing skills in merchandising and customer service
- 98 New Hampshire farmers learned the fundamentals of pricing farm products
- 25 New England growers better understood direct marketing options and opportunities
- 20 Massachusetts immigrant farmers learned how to assess the potential of value added products
- 20 New Hampshire and Vermont small farmers learned about growing high-value early potatoes for the fresh market
- Organic production education was offered in New Hampshire by exploring existing organic dairies in Maine and Vermont. Two new New Hampshire dairy farms were certified organic

**Regional Food Safety** programs include UNHCE's participation in the Good Agricultural Practices for Homeowner's grant. Funded by USDA/CSREES with the University of Rhode Island Cooperative Extension as the lead state, this research and Extension project involves five of the six New England states. Research components of the grant have been completed, including a mail survey and in-depth structured interviews with home gardeners to assess food safety knowledge and practices.

**Regional Fresh-Water Aquaculture** through the UNHCE Freshwater Aquaculture Program included several multi-state, regional and national efforts in FY2005. UNHCE staff hosted and coordinated the 2004 Northeast Aquaculture Conference and Expo (NACE), participated in a marketing study of the 12-state Northeast baitfish industry, coordinated New Hampshire and Maine participatory research on developing culture techniques for rainbow smelt and organized a full-day session for new aquaculture producers at the national Aquaculture America conference.

Impacts include:

- As a result of the 2004 conference, NACE has industry members on the executive committee and an advisory committee made up entirely of industry members. This shows NACE is valued by the industry through their participation
- One Maine farmer participating in the rainbow smelt research project reports selling \$15,000 of smelt in the past three years
- Attendees at national conferences asked Extension staff to repeat educational sessions at future conferences

**Regional Greenhouse Production (NE1017) includes** 10 states collaborating on research and Extension efforts on the interface between greenhouse engineering and production. The group provides unbiased results on irrigation, climate control, greenhouse design and crop management. This year, 19 staff members contributed to a 14 article magazine series, a book and a CD on greenhouse lighting. The group also collaborated on energy conservation and auditing for greenhouse firms in response to rising fuel costs.

**Regional Risk Management Initiative** addresses risks of economic loss and damage to the farm and family. Management tools and techniques to reduce, minimize and transfer production, marketing, financial, human resource and legal risks were shared to stabilize farm income and improve net worth. New England risk management educational efforts related to *Transferring the Farm* programs continued in FY2005. Introductory estate planning workshops were conducted at locations in four states. Advanced workshops addressing health care, retirement planning and legal structure were held at three sites. Risk management educational programs on production, finance, human resource and legal issues were planned and conducted in several states. Farm transfer programs were held in five states across the New England region. Regional impacts this year included 163 New England farmers learning techniques to minimize farm business succession risks and 82 New England farmers better understanding retirement planning and business structure choices

**Regional Sustainable Agricultural Research and Extension Program (SARE)** is a USDA competitive grants program with regional programs and leadership. Grants support professional development for Extension staff, other professionals and farmer educators on sustainable agriculture. Outcomes for the past year include:

- More than 100 commissioners, farmers and land trust members learned about conservation easements on farms
- Producers provided 30% of New Hampshire school children with locally grown apples
- 40 participants learned about conflicts between residential and agricultural uses of land



- Two UNHCE staff attended conferences that increased their knowledge of sustainable agricultural production practices. They used this knowledge to deliver programs to growers in sustainable fruit and vegetable production
- Sixteen farmer-driven projects were conducted in Maine, New Hampshire, Vermont, New York, Massachusetts and Connecticut increasing participant’s knowledge of sustainable agricultural practices

**Two State Nutrient Management Collaboration** includes joint work with Extension staff in Vermont and New Hampshire. The group conducts joint nutrient management programs in both states.

**F. Integrated Research and Extension Activities**

Integrated Extension and Research improves Extension’s program effectiveness in New Hampshire. Due to Extension’s responsibility to extend the university’s knowledge and research for application throughout the state, joint work facilitates this process. As Extension Educators, Extension Faculty and research faculty work closely together, all entities benefit. Extension staff are more involved in research planning and implementation, informed of findings and better equipped to convey research results to those who need it. Researchers, through their close relationship with Extension, better understand research needs in the state and witness the practical application of their research results. For example, several Integrated Extension and Research projects focus on profitability and sustainability. Because of our short growing season, lack of fertile soils and limited open space, many agricultural producers have marginal profits and benefit from research addressing these factors.

The Agricultural Experiment Station at the University of New Hampshire functions under the Dean of the College of Life Sciences and Agriculture, while Extension remains a separate entity functioning under its own dean. Current joint activities demonstrate collaboration and partnerships between research and Extension. For example, Extension staff serve on the Agricultural Experiment Station Advisory Board, the Cooperative Extension Agricultural Resources Program Leader meets with the College of Life Sciences and Agriculture (COLSA) Executive Committee and joint teaching/research/extension appointments are held between COLSA and Cooperative Extension. In the past few years, the number of Ag Experiment Station/Extension sponsored graduate students increased and the Station is awarding multi investigator proposals for Hatch funding with increased research/Extension integration. The goal is 50-75% integration of the Station’s portfolio with Extension.

Title of Planned Program	Actual FY2005 Expenditures
1. Dr. Peter Erickson	\$ 17,908
2. Dr. Catherine Neal	\$ 44,455
3. Dr. Paul Fisher	\$ 5,774
4. Cheryl Smith	\$ 0
5. Alan Eaton	\$ 0
6. Dr. Charles Schwab	\$ 934
7. Dr. J. Brent Loy	\$ 1,307

8. Tom Buob	\$ 0
9. Suzann Knight	\$ 0
10. Dr. Catherine Violette	\$ 54,632
11. Jeff Schloss	\$ 0
12. JJ Newman	\$ 0
13. Dr. William Trumble	\$ 8,690

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FY2005 Integrated Research Expenditures	\$ 133,700
FY2005 7.5% Integrate Research Target	\$119,450

Brief Report of Progress:

The University of New Hampshire Cooperative Extension engages in research and builds research partnerships that bring customers practical, useful information based on expressed client needs.

1. Salary support provided for Dr. Peter Erickson, Extension Dairy Specialist, to conduct a research project: *Management Systems to Improve the Economic and Environmental Sustainability of Dairy Enterprises*. Two studies were conducted on supplementation of milk replacer with 1g/d lactoferrin and the effect of lactoferrin on intestinal epithelial development in milk fed calves and the effect of lactoferrin on IgG uptake. Results are being analyzed, shared with producers through the specialist's joint appointment with Extension and future studies are being planned.
2. Salary support provided for Dr. Catherine Neal, Extension Ornamentals Specialist, to conduct a research project: *Cultural Factors Influencing Production and Landscape Establishment of Trees and Shrubs*. This project found that nitrogen and phosphorous inputs can potentially be reduced in field nurseries and landscapes without limiting the growth and health of plants. Data show that plant species differ in their response to nitrogen rate and time of application. Woody nursery crops should be screened for response type and put in management groups to reduce unnecessary nutrient applications. These results are shared with producers through onsite visits, communication through Extension educators and statewide twilight meetings and workshops.
3. Salary support for Dr. Paul Fisher, Extension Ornamental Specialist, to conduct a research project: *Developing and Integrating Components for Commercial Greenhouse Production System*. Research topics included surveying physical and chemical qualities of commercial propagation media, quantifying lime reactivity and residual lime in container media, micronutrient levels in fertilizer and contaminant sources, quantifying tissue and media nutrient levels from the stock plant stage through to propagation for vegetatively-propagated cuttings and a new nutrition training website (FloraSoil) and quantifying leaching of nutrients during propagation. Two refereed articles were published along with 15 industry articles. Presentations were made at a number of professional meetings and workshops were held with producers. This work was supported by a graduate assistant funded jointly by the PI and Cooperative Extension.

4. Salary support for Dr. Paul Fisher, Cheryl Smith and Alan Eaton Extension Specialists, to conduct a research project: *Young Plant Center*. This is the first large Hatch grant for integrated research between COLSA research faculty and Extension faculty. Research was conducted on lime reactivity, measurement of residual lime, propagation media physical characteristics, soil testing internet tools, nutrition case studies, the DTPA extraction method for soil testing and a survey of tissue nutrient level in cuttings. A new collaboration was initiated with the University of Massachusetts and private industry on ethylene effects for rooted cuttings. Fungus knot barrier research was conducted, new media materials for liners were tested and insecticide efficacy tests for potted poinsettias was conducted and replicated in greenhouses across the country. Two new cultivars were introduced and 60 breeding lines were evaluated in field and greenhouse trials. Six refereed publications were submitted, one book chapter published, two technical industry article series published and two refereed articles published.
5. Salary support for Dr. Charles Schwab, Professor of Animal & Nutritional Science, to conduct research projects: (1) *Metabolic Relationships in Supply of Nutrients in Lactating Cows*; and (2) *Management of Systems to Improve the Economic and Environmental Sustainability of Dairy Enterprises*. This work has included the establishment of an organic dairy operation at one of the university farms. Extension staff worked with the PI to establish the enterprise.
6. Salary support for Dr. Brent Loy, Professor of Plant Biology and Genetics, to conduct research projects: (1) *Conservation and Utilization of Plant Genetic Resources*, and (2) *Genetics, Breeding, and Physiology in Cucurbits*. This research is being shared with Extension staff and clientele through staff inservices, department open houses and twilight meetings at the university research farms. At all these venues, staff and clientele interact with the researcher on the results and future research.
7. Salary support for Tom Buob, Extension Agricultural Resources Educator, to conduct a research project: *Development and Implementation of Nutrient Management Practices*. Field studies were conducted to evaluate nutrient credit contributions from sod, corn silage, winter squash and ornamentals. Sixteen lysimeters were collected and will be used in a follow-up study to better identify soil characteristics affecting leaching losses of phosphorous in New Hampshire soils. This work included assistance from the USDA Pasture Systems and Watershed Research Lab. The project demonstrated that nitrogen for crops can come from many sources. This will help farmers grow crops in a more environmentally sound manner. The PI shares helps farmers apply the results of this research through his daily work as an Extension educator.
8. Salary support for Suzann Knight, Extension Family Resource Management Specialist, to co-conduct a research project: *Rural Low-Income Families: Tracking Their Well-Being and Function in an Era of Welfare Reform*. The Rural Families Speak web site has been created to allow researchers from participating states to share the latest findings and link to other studies and work that complements the understanding of rural families in the context of changing welfare policies. Fact sheets using NH data are in process. A public website for NH is also under construction. An Earned Income Tax Credit program has begun. Overall outreach has increased through print, nonprint media and forming a statewide collaboration.

9. Salary support for Dr. Catherine Violette, Extension Food Safety Specialist, to conduct a research project: *Improving Plant Food Availability and Intake in Older Adults*. UNH faculty and Extension faculty are participating in a Hatch grant-funded project entitled Improving Plant Food Availability and Intake in Older Adults. Under objective 2, experiment 2, research and Extension faculty will conduct cognitive interviews with older adults to identify how they select whole grain foods and what factors and barriers impact their purchase of whole grain foods. To date, seven research stations have indicated an interest in participating. Development and pre-testing of the research protocol by a core planning team is currently underway.

10. Salary support for Jeff Schloss, Extension Water Resources Specialist, to conduct a research project: *Sources of Microcystins and Food Web Pathways in NH Lakes*. Previous research conducted by this research group found measurable levels of the cyanobacterial hepatotoxin and carcinogen microcystin (MC) in all New Hampshire lakes sampled with no significant relationship to lake productivity. This study furthers knowledge on these occurrences by: (a) examining phytoplankton components in selected lakes of varying trophic status for the presence of MCs; (b) assessing passage of MCs through the food web via common grazing animals and (c) communicating findings with the public and agencies responsible for water quality. Extensive limnological profiles of selected lakes are monitored seasonally and phytoplankton components examined for the specific sources of MCs. The team field and lab tests various approaches for rapid detection of the MC producing organisms. Outreach efforts include keeping stakeholders up to date on progress and the occurrences of toxic blooms. The UNHCE Lakes Lay Monitoring Program monitors provide samples for the project and facilitate technology transfer to lake association members. The team regularly interacts with and provides project updates to lake associations through the New Hampshire Lakes Association and with aquatic biologists and water managers through the NH Department of Environmental Services on water quality, cyanobacteria toxins and public health.

11. Salary support for JJ Newman, Extension Aquaculture Specialist, to conduct research on culture techniques for rainbow smelt. Rainbow smelt are a promising aquaculture species for New England, with great demand and a high market price. Participants in this project have developed standard culture techniques for commercial production of this bait fish.

Originating as a research request from a New Hampshire farmer, the project involves UNHCE staff, UNH researchers and students, farmers from New Hampshire and Maine, and the NH Fish & Game Department (NHF&G).

UNH personnel and the farmers, with assistance from NHF&G, obtained brood fish each winter and spring. Egg incubation and early fry rearing were carried out both at UNH and the farmers' hatcheries. Lab experiments were conducted at UNH, pond experiments were conducted in the farmers' ponds and tank grow-out studies were conducted at all locations. UNHCE staff, UNH researcher and UNH students regularly visited farm sites to train, assist and encourage the farmers. Open-farm workshop led by farmers will be held at farm sites in summer 2006 to disseminate project results. As a result of this project, one farmer sold \$15,000 of smelt in the past three years.

12. Salary support for Dr. William Trumble, Dean for the College of Life Sciences and Agriculture and Director, New Hampshire Agricultural Experiment Station, for joint administration of 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**  
**Actual Expenditures of Federal Funding for Multistate Extension and Integrated Activities**  
 (Attach Brief Summaries)  
**Fiscal Year: 2005**

Select One:  Interim     Final

Institution: Cooperative  
Extension

State: New Hampshire

	Integrated Activities  (Hatch)	%	Multistate Extension Activities (Smith- Lever)	%	Integrated Activities (Smith- Lever)	%
<i>Established Target %</i>		%	12%	%	7.5%	%
<i>This FY Allocation (from 1088)</i>			\$1,592,672		\$1,592,672	
<i>This FY Target Amount</i>			\$191,120		\$119,450	
<b>Title of Planned Program Activity</b>						
<i>(see attached brief summaries)</i>			221,120		133,700	
<b>Total</b>			<u>\$221,120</u>		<u>\$133,700</u>	

<b>Carryover</b>	<u>                    </u>	<u>                    </u>	<u>                    </u>
		\$30,000	\$14,250

**Certification:** I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays represented here accurately reflect allowable expenditures of Federal funds only in satisfying AREERA requirements.

Dr. John Pike	2/28/06
<b>Director</b>	<b>Date</b>

