

FY2001 Annual Report
University of New Hampshire Cooperative Extension
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Contents

Introduction.....	Page 2
Section A - Planned Programs.....	Page 3
Goal 1.....	Page 3
Goal 2.....	Page 14
Goal 3.....	Page 18
Goal 4.....	Page 23
Goal 5.....	Page 34
Section B - Stakeholder Input Process.....	Page 50
Section C - Program Review Process.....	Page 50
Section D - Evaluation of Success of Multi and Joint Activities.....	Page 50
Section E - Multi-State Extension Activities	Page 51
Section F - Integrated Research and Extension Activities.....	Page 53

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, we have a network of professional Extension staff located in all 10 New Hampshire counties. County staff work with local volunteers and specialists on the 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 communications technology including computer networking and interactive video. As part of the national land-grant university system, we also access the knowledge and expertise of other state land-grant universities throughout the U.S. 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 their state university and the knowledge and resources available to address needs and problems. The principle partner is the University of New Hampshire. As a state land-grant university it is charge by Congress to conduct resident instruction, research, and outreach to people beyond the classroom.

UNH Cooperative Extension employs approximately 90 Extension Educators and other program staff who plan, conduct and evaluate educational programs. Programs are conducted in two broad program areas - Youth, Families and Communities; and Natural Resources. These are supported by staff in program groups: 4-H Youth Development; Family and Community Development; Agricultural Resources; Forestry & Wildlife; and Sea Grant, Water and Marine Resources. Each program is lead by a state Extension Program Leader.

UNH Cooperative Extension is also committed to increasing programming for under-served and under-represented audiences. These individuals are reached through many program efforts with the majority reached through the Nutrition Connections and Family Lifeskills Programs, part of the state’s welfare reform effort. 4-H camping and after school programs also involve a significant number of under-served families. Staff working in these areas are instrumental in building trust and rapport with under-represented audiences, and are key in helping Extension advisory councils understand the audience’s needs and circumstances. The needs of the under-served and under-represented groups are incorporated into the state’s plan of work and accomplishments during FY2001 are highlighted in this report.

Program accomplishments in this report respond to high priority needs in New Hampshire as identified through a comprehensive statewide needs assessment conducted in 1999. Extension advisory councils and stakeholders were systematically involved in analyzing data collected and in the identification of highest priority needs. They are:

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

1. Land use, land & water conservation, and open space preservation.
2. Sustaining the economic value and impact of natural resources and natural resources-related industries.
3. Increasing the visibility and marketing of Extension's expertise and assistance to support natural resources and natural resources-related industries.

Family and Youth Needs

1. Strengthening families - balancing work, family and community roles; parent education/pre-parenting education; resiliency and family functioning.
2. Lifeskill development for youth - workforce preparation; character education; social responsibility.
3. Families need to better manage their resources - time, money, other.
4. Wellness - healthy lifestyles including nutrition, physical activity, food safety.

Broad State Needs

1. Community Involvement/Sustainability - community decision-making; educating elected officials; leadership development; community forums; balanced growth; user-friendly town government.

Based on the statewide needs assessment and final analysis and ranking by the State Extension Advisory Council, the following goals were established as the basis for the FY2000-2004 Plan of Work. These goals also provide the framework for FY2001 program accomplishments that follow.

A. Planned Programs

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

Executive Summary

- a. Agricultural marketing has been enhanced through increased direct-marketing of local products. Farm profitability has been increased by reducing inputs, using alternative systems, and enhancing management and marketing practices. Animal agriculture this year focused on reducing disease transfer through maintaining farm bio-security. Extension developed a comprehensive program to increase the adoption of management intensive grazing by the state's dairy and livestock producers. Planned outcomes include reduced soil erosion and soil compaction, more uniform and less costly manure distribution, and less soil and manure runoff in surface water.
- b. There has been increased participation in local Farmers Markets in this state resulting in increased sales of locally produced commodities and promotion of local agriculture. Dairy producers successfully lowered somatic cell counts, and reported higher productivity and lower veterinarian bills resulting from improved animal production efficiency. UNH Cooperative

and organizations address environmental issues and concerns. This technology was used in master planning and to inventory non - point pollution sources, revised zoning regulations, educate Conservation Commissions and promote land protection. Risk management programs were conducted this year to teach methods for reducing and mitigating the adverse impact of production losses and price drops, along with farm transfers and business planning. New Hampshire farms face many risk factors including weather, unstable markets, cost of borrowing, restrictive legislation and personnel issues.

- c. New Hampshire farmers saved \$1.2 million by reducing inputs and cutting costs. In addition to the financial savings, environmental impacts were reduced through improved nutrient management practices, use of Integrated Pest Management, and using cultural practices that reduce disease. In January 2000, Cooperative Extension opened the *Family, Home & Garden Education Center* with trained volunteers who staff a toll - free Info Line and responded to over 17,000 calls in FY01 from individuals seeking information about insect, disease and wildlife problems, soil testing, food safety water quality and related questions.

- d. The limited land base in NH restricts large - scale production of singular crops and diversification is promoted as a means to increase income. Alternative agriculture programs educated landowners about farming options and provided technical and marketing information to support new enterprises. Extension programs in agricultural production have focused on promoting use of new technologies and conducting on - farm research. A major emphasis is season-extending devices. Growers report yield increases up to 50% using such practices and technologies. Some have reported a 20% reduction in labor required. The number of fish farms in the state has more than doubled in the past 4 years, with an equal number planning to start a business in the next 2 - 3 years. This enterprise expands farm diversity and provides new uses for unproductive land and old buildings. Extension has 450 trained Master Gardener volunteers who educate people about making environmental decisions that are economically and environmentally sound.

- e. Total Expenditures:
Funding: Federal Smith-Lever b&c - \$605,550
State Matching Funds - \$1,010,595
County Funding - \$337,125
Grant & Other External Funding - \$107,850

FTEs - 15

Key Theme - Adding Value to New and Old Agricultural Products

- a. 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 enables growers to improve

marketing practices so local farm products are available directly through alternative markets. Workshops, seminars, publications, individual assistance and group assistance provide farmers and communities with fundamental concepts of direct marketing, marketing value added products and market planning.

- b. Impacts - Marketing educational programs have led to increased farmer participation in local markets and improved on farm direct sales of agricultural products and value added goods. Publications on market planning and value added agricultural products have been developed and widely distributed among growers, agencies and libraries. Growers have participated in a number of marketing programs focused on improving sales through market planning. Farmers markets in various locations throughout the state have been strengthened. Individual producers and producer groups have received assistance in marketing processed products.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Agricultural Profitability

- a. New Hampshire Cooperative Extension plays an integral role in augmenting the profitability of agribusiness's through diverse programming that addresses an array of commodities and methodologies. Extension programs addressing agricultural profitability in FY 01 focused on methods to reduce inputs, enhance management, utilize alternative production systems, and improved marketing techniques.
- b. Impact- Reducing Agricultural Inputs Saves Growers Money while Protecting the Environment
Helping growers reduce the use of agricultural inputs was achieved by improving nutrient management practices, implementing integrated pest management research, utilizing cultural practices to reduce the incidence of disease, and by identifying plant diseases and providing recommendations on when and how to treat these diseases. These programs have resulted in soil, manure, compost and crop tissue analysis affecting over 30,000 acres state wide. Coupled with implemented IPM programs, New Hampshire growers saved over \$1.2 million dollars by reducing inputs and crop losses, and increasing their marketable yields. In addition to the actual savings of nutrients and chemicals, reducing these inputs have lowered the risk of ground and surface water pollution, as well as protected farm workers from exposure to these chemicals. Additionally, IPM programming has provided research that is used in developing registrations for new pesticides. The scope of these programs were predominately state specific, although the IPM activities were multi-state and integrated Extension/research programs.

Increasing the Management Skills of Producers Improves Efficiency and Profitability - Six weeks of workshops were held on farm management and decision making. The focus of these workshops were to build skills in value based decision making, farm record keeping, financial planning, financial analysis, and alternative agricultural operations that have been successful in New Hampshire. Follow up farm visits and consultations demonstrated that the targeted short-term outcomes aimed at increasing farmer knowledge in these areas were achieved. These were illustrated through the development of mission statements, farm management plans, computerized record systems, and exploration of niche markets that were presented at the workshops. Programs aimed at action and behavior changes will be implemented in FY02. Additionally, Extension educators and specialists developed county based programs and performed financial counseling for individual farms that resulted in preventing one farm from going bankrupt and improved the profitability of three additional farms by 20% to 25%. The scope of all programs cited above were state specific.

Alternative Production Systems Save Growers Time, Labor and Money - Programming efforts in agricultural production have focused on bringing new technologies and research to the farms. These have included season extension devices such as hot houses, turf blankets, plastic mulches and other research proven tools. Teaching modifications on traditional systems has also benefitted growers. Grafting and pruning clinics, new pasture management systems, new technologies in milking equipment and nutritional research that increases production are some examples. Growers have reported yield increases in the range of 40% to 50% using such practices and technologies. Equally as important are anecdotal reports of 20% less labor required. This amounts to increases in farm profitability. The scope of impact of these programs is statewide and Extension/research.

Alternative Marketing Techniques Increases Direct Farm Sales - Extension programs have helped livestock producers take advantage of the rising demand for grass based, free range meats. Educational programs have increased livestock producers awareness of this market and helped many transition into this area. County-based Extension educators have also played an integral role in helping producers organize and form farmers' markets. This has successfully increased profitability while promoting local agriculture. The scope of these programming efforts has been statewide.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Animal Health

- a. A primary interest of producers in New Hampshire's animal industries in 2001 was reducing disease transfer. Several presentations to producers and agribusiness representatives were

writing plans, and developing ways to keep the public safe while visiting farms, animal quarantine, and disease transmission.

- b. Several radio and television programs and newspaper articles were used to provide information to producers and the public regarding disease prevention. All milk shippers in New Hampshire received biosecurity placards describing ways to reduce disease transmission. “Stop” signs were also sent warning visitors not to enter the facilities without an appointment. These signs will soon be available on the UNHCE web page. Other topics included rabies in Northern New Hampshire discussions are continuing in this area. Results of our efforts include a more knowledgeable producer group. Many farms are providing disposable boots to their visitors and more signs are being placed in view at farms.
- c. Source of Funding - Smith-Lever 3b&c, Hatch Act funds, State matching funds, County funds
- d. Scope of Impact - state specific

Key Theme - Animal Production Efficiency

- a. Animal production efficiency is an area that all producers deal with on a daily basis. Likewise extension specialists and agricultural educators deal with this topic routinely. Several on farm discussions were conducted in topic areas such as milk quality, ventilation, milking systems and equipment.
- b. Responses included lower somatic cell counts (improved milk quality), higher productivity and lower veterinary bills. Presentations to beginner farmers included topics such as nutrition, housing, reproduction, health, waste management, and overall best management practices. Record keeping presentations and vaccination programs were also discussed. Several dairy producers also renovated their facilities with the help of extension personnel in an attempt to make their facility more comfortable for the animals along with an improved waste management plan resulting in litigation avoidance and less groundwater contamination. Lamb clinics were also held for beginning shepherds to help reduce lamb loss and improve the overall health of the state’s sheep population. A S.A.R.E. grant was obtained to study concentrate feeding to dairy sheep and dairy goats. Results indicated that reducing the concentrate supplementation from 2 pounds/ewe per day to ½ pound/ewe per day resulted in no change in milk yield. For a 100-ewe sheep dairy this reduction in concentrate feeding would result in an improved profit of \$ 2,000 annually.
- c. Source of Funding - Smith-Lever 3b&c, Hatch Act funds, State matching funds, County funds
- d. Scope of Impact - state specific

Key Theme - Aquaculture

- a. The UNH Cooperative Extension aquaculture program works with both existing and potential aquatic farmers in an effort to: 1) increase family income, 2) increase employment options for struggling commercial fishermen, 3) increase family access to fresh, high - quality fish and shellfish for the table, 4) increase farm diversity, in order to reduce risk, and 5) find new uses for unproductive land and old buildings.
Efforts to reach these goals include the following: Directly assisting individual farmers both in New Hampshire, and also in Maine, Vermont and Massachusetts, in consultation with local extension personnel, conducting educational workshops, tours, etc., for a New England-wide audience, on a variety of aquaculture topics, conducting demonstration/research projects both at university facilities and at private farms, and connecting individuals, the state aquaculture association, and a local fisherman's cooperative with university researchers.
- b. Impacts: The number of active fish farming families in the state has more than doubled in the past four years. There is an equal number of families who have not yet started fish farming, but plan to do so within the next 2-3 years. There are also farmers in surrounding states who are beginning aquaculture projects, as a result of attending UNHCE aquaculture programs. Twenty-three families from all six New England states have built small-scale recirculating systems for raising fish. Six farmers have grown fish in cages (a new activity) for at least one growing season. Four of them are continuing to do so. Two farmers have built small-scale rainbow smelt hatcheries. Assistance from UNHCE aquaculture personnel was partly responsible for a Maine eel farmer successfully receiving \$10,000 in grant money for a new culture project. Three commercial fisherman plan to begin raising mussels as soon as the state's shellfish plan is approved by the FDA. The state aquaculture association has doubled its membership in each of the last two years.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - NH, ME, MA

Key Theme - Diversified/Alternative Agriculture

- a. The limited land base in the State restricts large - scale production of singular crops, and diversification is a way to increase income. The objectives of the Diversified/Alternative Agriculture Program were to increase the awareness of alternative farming options and provide both technical and marketing information to assist producers with new enterprises.

high schools to integrate alternative agriculture into the VO - AG curriculum, a SARE grant dealing with milking sheep and goat farms using pasture grazing, farmer discussion groups with small farmers and organic producers, and answering telephone requests. Help was given to new enterprises such as raising goats for meat, managing donkeys and raising economic crops in riparian buffers. These activities supplied goods to marketing groups, farmer s markets, and gift shops, which are an important part of the State’s tourism industry. The farm families who attend the educational sessions improved their people, marketing and management skills and became better citizens and respected business operators. One farm-oriented bed and breakfast tried to more successfully integrate the farm experience with the bed and breakfast to create a unique experience that could be marketed; a dairy goat producer developed a logo to identify her product and started marketing her cheese for the first time in a farmer’s market; another dairy goat producer made the decision to focus her marketing to an upscale clientele and changed her pricing system and types of markets that she catered to; a vegetable producer decided to become more focused in the types of crops she grew and improved signage leading to the farm; a milk product manufacturer made some calculated decisions as to the type of distributors to use to broaden the market for their product; a sheep producer started to consider direct marketing versus wholesaling their product.

Another SARE grant dealt with examining concentrate feeding of grazing milk goats and sheep. As a result of the research, producers have been able to reduce concentrate levels on intensive grazing systems and still maintain production. The impact of this program was felt statewide, as these programs involved people from a broad geographic area. At least four Vermont producers also benefited from this program. The marketing course was conducted in cooperation with the Division of Continuing Education so C.E.U.s could be given and several outside business people were used as resources.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds .
- c. Scope of Impact - state specific

Key Theme - Geographic Information Systems/GPS

- a. NH organizations, communities and citizens need access to geospatial technologies (GIS, GPS and remote sensing) in order to expand their capacity to address issues and concerns facing the state. Currently the state faces a shortage of educational opportunities to meet the demand for training in the use of these technologies. UNHCE is among the largest geospatial technology training providers in the state. We currently offer both introductory workshops and extensive courses which emphasize the use of GIS/GPS for natural resources applications. Additionally, we offer GPS workshops and a GPS loan program that provides mapping quality GPS units for community and school projects. In an effort to expand educational opportunities for geospatial

and resource center. The mission of this center is to *“enhance and expand access to geospatial technologies, for the benefit of citizens of NH and the larger region.”*

- b. Impact: Our programs have impacted a diverse clientele including state and municipal employees and volunteers, educators, natural resources professionals, and university students. Below is a sampling of impacts that program participants reported were a result of their participation in our GIS programs, A middle school teacher in Gilmanton involved her 7th grade students in the development of the Friends of the Suncook River group. The teacher was awarded a \$10,000 Technology Literacy Challenge Fund grant to purchase equipment to support GIS projects and to support development of a watershed- specific curriculum using geospatial technologies. The Farmington Conservation Commission and the Farmington Community Preservation Guild used GIS to illustrate the benefits of conservation subdivision planning to developers. Natural resources maps of Farmington were also provided to the zoning committee while they were re - writing existing zoning regulations, so they could examine the impact of proposed zoning regulations on the town’s natural resources. Moose Mountains Regional Greenways used GIS for land protection grant applications and a wetlands evaluation project.

Following is a sampling of projects that were supported with UNHCE’s GPS education and loan program: The City of Manchester inventoried non - point pollution sources along the Merrimack River. UNHCE staff mapped agricultural fields for nutrient management buffers along the Connecticut River. Somersworth city employees created a stormwater inventory for the city. NH Audubon mapped buildings, vegetation, etc. on White and Seavey Islands for their Tern Restoration Project. They also mapped trails and features for their new “Popple Island” sanctuary brochure and map. NH Fish & Game Dept. located wildlife management area boundaries for a statewide GIS data layer and for their own use. NH Department of Environmental Services collected data for use in a “BMP for Oil Spill Debris Guide.”

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- c. Scope of Impact - state specific

Key Theme -Home, Lawn and Gardening

- a. Each year Cooperative Extension receives thousands of requests from New Hampshire citizens for education on a wide range of topics including home gardening and indoor plants, wildlife, water quality, household insects, structural issues, food preparation and safety, and many others. The goal of the Home Lawn and Gardening Program is to provide citizens with the education necessary to make positive changes that optimize the safe use of their properties while protecting the environment. The target audience is the general public, homeowners, gardeners,

heavily on one-to-one tailored responses to clientele phone questions. In 2000 UNHCE opened an Education Center and toll-free phone line specifically designed to meet this need. Alternative programming methods designed to reach larger numbers of people include: weekly to monthly garden columns, county newsletters, classes, twilight meetings and field trips, radio and TV, community gardens and the extensive use of Extension fact sheets. New Hampshire also has 450 trained Master Gardeners who help expand the impact of this program through volunteerism. The fact that the demands made on this program increase slightly each year indicate that Extension is educating citizens to make economically and ecologically - sound decisions that are positively changing their home environments.

- b. **Impact:** The number of direct-contact individuals benefitting from the consumer education program this year is 17,000. On the individual/household level, contacts gained new knowledge or skills and approximately 40% learned how to choose and use a pesticide appropriately. Those people participating in community gardens (often partnered with Nutrition Connections) or other projects learned new skills: landscaping, gardening, nutrition, food safety, teamwork, reliability and how to develop community. Mass media efforts reached 1 million people. The economic impacts of consumer education are multiple: UNHCE provides businesses with a source of referral and education for their customers (happy customers are repeat customers); through our mass media efforts, we educate and encourage people to purchase locally grown commodities; and in 2 out of 5 direct contacts, a product is recommended for purchase from a local business or company. Economic benefits to families include the dollar value of food crops and self-reliant landscape care, reduced use of purchased fertilizers and pesticides, and preventative health benefits related to above. The program also saves communities money! Extension staff frequently serve as “free” consultants on town landscapes, parks or athletic fields. Often a volunteer can be paired with a town to help it achieve its goals. This kind of cooperation can result in significant savings of resources. In approximately 40% of the direct contacts with clientele, a cultural or pesticide recommendation results in either no pesticide application or in the proper method and rate of pesticide application. Since research demonstrated years ago that homeowners misapply pesticides more often than farmers, this results in significant positive impacts to the environment. In addition, many people learn about integrated pest management practices through classes, workshops, twilight meetings and mass media efforts. This program trains 50 Master Gardeners annually. These volunteers expand our impact 10 times. This year they contributed 10,303 hours of volunteer time on a variety of projects for the general public. Projects ranged from teaching to answering questions for the toll-free Info Line.
- c. **Source of Funding** - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. **Scope of Impact** - state specific

- a. Family owned garden centers, roadside stands, and farmer's markets can not compete on price with mass merchandisers due to their superior buying and promotional power. Retailers need to learn good merchandising practices to become more competitive. They must offer products of higher quality with added value, and provide an ambiance that stimulates buying. Develop and demonstrate the use of a model critique for evaluating family owned retail sales outlets. Fifteen garden centers and roadside stands were evaluated in Maine, Massachusetts, and New Hampshire. Two farmer's markets were evaluated in New Hampshire. Presentations on merchandising were made at the NE Greenhouse Conference, Mass Florist Assoc. educational program, Michigan Great Lakes Expo., North American Farmers' Direct Marketing Conference in Arizona, Maine Garden-Pro workshop, and at various workshops in New Hampshire. Approximately 800 were in total attendance. Developed and sold fact sheet notebooks to 25 retail sales outlets. Trained 50 Extension professionals from 35 states at a Cornell University marketing conference. Marketed "The Garden Center Critique and Merchandising Guide" in seven national trade magazines.
- b. Impact: Fact sheet notebooks improved the perception of small businesses as a reliable source of information. Family operated businesses grew at least eight percent by differentiating themselves from their competition. New products, services, and experiences were offered to customers. Customers were more successful with products after receiving literature or attending educational seminars. Thirty safety hazards were identified and eliminated as a result of the evaluation program. Approximately 400 marketing publications were sold nation-wide. The evaluation model is being used primarily in the northeast by Extension professionals and clientele due to promotion efforts. Presentations were made in New York, Michigan, Arizona, and the New England states.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - NH, ME, MA

Key Theme: Pasture Management

- a. UNHCE educators developed a comprehensive program to increase the adoption of management intensive grazing (MIG) by NH's dairy and livestock producers. The program consisted of three parts: 1. A one day workshop, "Introduction to Management Intensive Grazing; 2. one-on-one work with farmers to help them implement MIG on their farms, and 3. three on-the-farm research projects, one looking at the use of Italian ryegrass for summer

project looking at concentrate supplementation levels for dairy sheep and goats grazing intensively managed pastures. Cooperating agencies/organizations: NRCS, Cornell University, UVM, Big Flats(NY) Research Station.

- b. Impacts: (1) The one day workshop was attended by 35 mostly entry level farmers. They evaluated the value of the program to them as 4.6 on a 5.0 scale. (2) The dairy sheep/goat research produced data to support a recommendation to reduce concentrate feeding resulting in increased profits averaging \$1000 for the average herd of fifty head. (3) One-on-one work has been documented to have saved over \$4,000 for farmers in Sullivan County. (4) Environmental impacts include reduced soil erosion and soil compaction, more uniform and less costly manure distribution, and less soil and manure runoff in surface water. (5) Social impacts include farmers reporting more time available for family and community activities as a result of adopting MIG.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, SARE grant funds.
- d. Scope of Impact - NH, VT

Key Theme - Risk Management

- a. Nature, weather conditions, market changes, cost of funds, legislation, legal challenges and personnel issues are among the factors which impact the viability of New Hampshire farms. These factors may pose considerable risks of loss and damage to the farm and family. Adverse impacts can be reduced and minimized through understanding and using risk management tools and techniques. Workshops and seminars are among the educational methods used to teach farm owners and operators risk management principles. Case studies demonstrate application of methods to reduce impact of adverse events on farm income and viability.
- b. Impacts - Risk management programs improve farmer understanding of techniques and methods for reducing production, marketing, financial, legal, environmental and human resource risks. Program planning, coalition building, curriculum development and case studies have provided the foundation for long term efforts. Initial farmer programs have addressed methods to reduce and mitigate the adverse impact of production losses and product price drops, and have focused on farm transfer and business planning. Over 75 farmers have participated in risk management programs. In addition many agricultural professionals have received training. Risk management education accounts for the interdependency between family, business and community. A key concept of risk management education is based on matching goals of family members and expectations of business success with the farm family's ability and willingness to accept risk. Risk management helps insure success of family farms in our local communities.

- d. Scope of Impact - state specific

Goal 2 - A Safe and Secure Food and Fiber System

Executive Summary

- a. The Safety Awareness in the Food Environment (SAFE) program provided 633 food workers in restaurants, schools, hospitals and nursing homes with education about practices to prevent foodborne illnesses. A contracted Food Security Coordinator was engaged to work with nutrition staff on food security issues. A needs assessment was conducted involving food stamp participants, poverty in the state was mapped, success of summer feeding programs was investigated, and nutrition interventions were conducted for low -income families across the state.
- b. The New Hampshire Food Safety Alliance sponsored a statewide *NH Food Safety Leadership Conference* with 39 agency, industry and professional associations represented. A food safety strategic plan for NH was developed. Food Safety specialists in the six New England states successfully secured a 3-year grant to integrate research initiatives with innovative educational approaches to increase adoption of Good Agricultural Practices for food safety and sanitation.
- a. Ninety-five (95) food managers and workers took the national food certification exam following participation in the ServSafe program. Ninety-four (94) passed with a grade of 75% or higher. Extension's Nutrition Connections Food & Nutrition Program involved 2,794 low -income youth in food safety education. Eighty-eight percent (88%) reported improved food preparation and safety practices.
- d. Food safety programs that reduce foodborne illness in New Hampshire are vital for protecting its \$8.6 million tourism industry, of which a significant portion is spent on food.
- e. Total Expenditures:
 - Source of Funding - Smith-Lever 3b&c - \$282,590
 - Smith-Lever 3d - \$25,000
 - State Matching Funds - \$471,611
 - County Funding - \$157,325
 - Other revenue - \$50,330

- a. 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 will be 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 was also implemented.

- b. Impact: Thirty-six (36) SAFE programs were conducted reaching 633 food workers. Post workshop questionnaires were completed by 378 (60%) of the workshop participants. A summary of 252 of the post workshop questionnaires follows: 60% of participants identified recommended hand washing procedures and 91% correctly identified when it is important to wash hands; 92% of participants correctly identified the food temperature danger zone. 72% of participants correctly identified the recommended cooling method for beef stew. 79% of participants identified the end point temperature for reheating leftovers and 81% identified a safe end point cooking temperature of ground beef. SAFE participants also were asked to indicate how often they implement currently recommended food safety and sanitation practices. Participants indicating they do the following practices 75% or more of the time include: 89% wash hands before and after working with food; 88% wash and sanitize utensils and surfaces after use; 85% avoid touching mouth contact surfaces of dishes, glassware, and flatware; 85% use gloves, tongs, or tissues to serve ready-to-eat foods; 80% thaw foods using recommended methods. Six (6) ServSafe™ programs were implemented with 95 food managers and workers taking the national certification examination. Ninety-four (99%) participants passed the examination with a grade of 75% or greater. Of those passing the examination, 79 (80%) achieved a score of 90% or greater. The impact of these programs is on New Hampshire's tourism industry. Tourism has a \$8.6 billion dollar impact (direct and indirect) on the NH economy (FY 1998), of which \$782 million is spent on food and drink. Preventing foodborne illnesses is critical to the continuing success of this industry.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
 - a. Scope of Impact - state specific

Key Theme - Food Safety

through a variety of education approaches.

- b. Impact: The NH Safe Food Alliance, with support from the Food and Drug Administration, sponsored a statewide conference entitled the NH Food Safety Leadership Conference. Thirty-nine representatives of state and federal regulatory agencies, state offices, educational institutions, professional associations, food-related industries, and consumers met for 2.5 days to develop a food safety strategic plan for New Hampshire.

During the conference agreement was reached on a food safety mission statement for the NH Safe Food Alliance, which was “to ensure the safest food possible to protect the health of all consumers.” Six food safety goal areas and draft goal statements were identified as follows: Training and Education; Communication, Awareness, and Recognition; Uniformity and Standardization; Resources; Foodborne Contamination and Disease Control; Assessment and Evaluation. Work continued in each of these areas during the year under the auspices of the NH Safe Food Alliance.

Family Development Educators in five counties conducted 8 food preservation workshops with 140 participants attending. Twenty (20) volunteers for UNH Cooperative Extension’s Family, Home & Garden Education Center Info Line were trained to answer basic food preservation questions. These trained volunteers answered ninety (90) food preservation consumer calls and county-based Educators answered 69 calls.

Nutrition Connections Food and Nutrition Program Associates reached 2794 low-income youth in 119 groups with food safety information. Eight-eight percent (88%) of the youth reported improved practices in food preparation and safety. Twenty percent (58 participants) of adult EFNEP participants reported that they more often followed recommended practices of not allowing meat and dairy foods to sit out for more than two hours and 16% (47 participants) reported they always follow the recommended practice. Forty-six percent (133 participants) more often followed the recommended practice of not thawing foods at room temperature and 26% (76 participants) always follow the recommended practice.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Food Security

- a. Along with a specially contracted food security coordinator, the UNH Cooperative Extension Nutrition Connections staff worked on a variety of food security issues. A needs

completed for poverty in the state, barriers to enrollment in summer feeding programs was investigated, and nutrition interventions were conducted for low - income families throughout the state.

- b. Impact: An extensive 78 question survey with 407 food stamp participants was conducted by RKM Research and Communications to determine the extent of food insecurity among food stamp participants, as well as identifying the most effective ways to reach this population for other nutrition interventions. Results of the survey show that many food stamp recipients report that they have compromised the amount and quality of their diet due to financial constraints. In the past year, for example, 53 percent of food stamp recipients report not being able to afford eating balanced meals at least sometimes and 16 percent report that this occurred often. Forty-three (43) percent of food stamp recipients report buying less nutritious food because it was cheaper. Sixteen percent of food stamp recipients report that this occurred often, and 27 percent report that it occurred sometimes. Among those with children, 7 percent report that they often could not afford to feed their children a balanced meal, and 23 percent said that this occurred sometimes. A series of GPS maps was developed to illustrate the poverty levels of New Hampshire municipalities. A database was created using 1990 US Census data (2000 US Census data are not available for municipalities) and comparative GIS maps of the state highlighting municipalities with the percentage of people who live 100%, 125%, and 185% below the official federal poverty guideline. When the 2000 US Census data become available, the database will be updated and new maps will be generated. With regard to barriers to enrollment to summer feeding programs; investigation and work with the NH Department of Education has found that the most important barrier appears to enrollment is geographic location in the state, i.e., rural areas have lower enrollment than metro areas. The National School Lunch Program in NH served 20,955 children in 2000. The summer feeding program served 2,570 in 2000. Results of the work of Nutrition Connections staff documented in the ERS (EFNEP Reporting System) reveal that 38% more often planned meals in advance to save time and money; 34% more often compared prices when shopping; 32% less often ran out of food before the end of the month; 32% more often used a list for grocery shopping to save money and time.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- b. Scope of Impact - state specific

Key Theme - Foodborne Pathogen Protection

- a. As produce consumption has increased, so has the number of associated foodborne illnesses. The New England region is characterized by small agribusinesses with a diversity of crop varieties most of which are marketed locally. Good Agricultural Practices (GAP) are

growers minimize foodborne pathogen contamination.

- b. Impact: Recognizing the regional similarity of produce production and marketing, Food Safety Specialists from the six New England states developed and submitted a grant application to integrate research initiatives with innovative educational approaches to enhance the voluntary adoption of GAP recommendations by local growers. The grant was funded by USDA and initiated in October of 2000. During the first year of the three-year funding period, the following has been accomplished: 296 growers (47% response rate) completed a survey to assess their awareness of GAP recommendations and current food safety practices. A consumer survey was developed and administered to assess awareness and concerns about fruit and vegetable safety as well as to determine willingness to pay more for produce grown using GAP recommendations. Produce samples from all New England states were collected and analyzed as a baseline for potential contamination problems. In New Hampshire, the following has been accomplished: Internal and external advisory committees were established and met regularly. Agricultural Resources Educators and Family Development Educators and Specialists developed and pre-tested an on-farm GAP food safety audit education program. Agricultural Resources and Family Development Educators from all 10 counties attended a one-day inservice program on GAP and the implementation of the audit program. Four NH county Agricultural Resources/Family Development Educator teams implemented the GAP Food Safety audit program with a local grower. Audit results indicated that growers need more information and resources on food-grade cleaning and storage containers and how to clean and sanitize surfaces and equipment.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - NH, MA, VT, ME, RI, CT

Goal 3 - A Healthy, Well-Nourished Population

Executive Summary

- a. The Nutrition Connects program is a major initiative in New Hampshire targeted to limited income families. It includes the Expanded Food and Nutrition Education Program and the Food Stamp Education Program. It's based on the revised Dietary Guidelines 2000 and the Food Guide Pyramid. This year 477 families graduated from the Nutrition Connections program.
- b. Human health activities in New Hampshire include promoting physical activity, osteoporosis prevention and response to the West Nile Virus threat. Cooperative Extension developed and mailed a 16-page West Nile Virus information packet to elected officials in each of the state's 234 towns and cities. It outlined what scientists know and don't know about the new public

and eliminating mosquito breeding sites on their property. It also provided possible local responses to the threat listing the risks and benefits for each option, and the costs involved.

- c. A USDA funded in-depth research study provided data confirming the success of Great Beginnings in improving birth weight. The curriculum, developed by UNH Cooperative Extension, provides nutrition education for low-income pregnant and parenting teens. Those completing the six-week program met or surpassed national standards for healthy childbirth. A 5-year study of expectant teens demonstrated significant increases in nutrition knowledge and diet quality, and reductions in the incidence of low birth weight. Savings were calculated at \$39,909 per low birth weight averted
- d. An additional activity of the Nutrition Connections program was development and distribution of two issues of “Smart Choices” newsletter to 17,000 food stamp households. The program also involved 355 volunteers who assisted with nutrition education activities. The Family Lifeskills Program, part of the state’s welfare reform effort conducted by Extension, provided nutrition education to 195 individuals in the process of making the transition from welfare to work. For the 5th year a 2-week summer Team Nutrition Institute was conducted for teachers who return to their schools to train other teachers.

e. Total Expenditures:

Funding - Smith-Lever 3b&c funds - \$161,480
Smith-Lever 3d - \$214,000
State matching funds - \$269,492
County funding - \$269,700
Grants, Contracts, Other - \$746,711
FTEs - 14

Key Theme - Birth Weight

- a. Low income, pregnant teenagers who completed “Great Beginnings,” a nutrition education program targeted to their needs, met or surpassed national standards for healthy childbearing. A five-year study of 136 expectant teens in New Hampshire, demonstrated statistically significant increases in nutrition knowledge and diet quality, and statistically significant reductions in the incidence of low birth weight among teens who completed the six-session “Great Beginnings” curriculum. Outcomes for study participants were compared to a control group of 65 pregnant adolescents in Massachusetts who did not participate in the “Great Beginnings” program and to published national norms for teen childbearing. Both groups of subjects participated in the WIC program. The study design also included two additional control groups; a group of 50 non-pregnant high school students who received the “Great Beginnings” intervention, and a group of 50 non-pregnant high school students who did not receive the intervention.

- b. Impact: Great Beginnings” participants demonstrated significantly higher nutrition knowledge scores than the Massachusetts matched control group. There was a total improvement of 8 points for the ‘Great Beginnings” participants versus a total improvement of 2 points for the Massachusetts control group. This difference, which is attributable to participation in the “Great Beginnings” program is significant ($p = .000$). Diet quality outcomes for the “Great Beginnings” group revealed the group continued to meet levels recommended for pregnant adolescents of 17 nutrients, including two indicators of dietary adequacy, Kilocalories (mean values: 2743 on pre- test and 2592 on post- test) and protein (101 on pre- test and 102 on post- test). At the time of the post- test, although the Massachusetts control group remained enrolled in WIC, the mean values for all nutrients studied declined, except for caffeine and fiber which increased insignificantly. Of the two indicators of dietary adequacy, Kilocalories and protein, the control group mean values fell significantly below recommended values for pregnant adolescents. Compared to the study entry- test means, the study exit- test value for Kilocalories fell from 2325 to 1962. For protein, the value fell from 103 pre- test to 86 post- test. These values constitute a deficit of approximately 500 Kilocalories per day below the recommended third trimester pregnancy intake for teens. Kilocalories from non -protein sources have a protein- sparing effect. When Kilocalories are inadequate, protein requirements increase. “Great Beginnings” participants achieved a mean weight gain of 35.6 pounds, had a lower Cesarean rate (13.2 percent compared to a New Hampshire rate for all births of 20.2 percent during the study period), met the American Academy of Pediatrics threshold for normal birth weight of seven pounds (mean birth weight was 7.4 pounds), and dropped low birth weight to 6.6 percent (compared to a New Hampshire rate for all adolescents of 7.4 percent and a national rate for all adolescents of 9.3 percent). A one- tailed hypothesis test of the difference between the incidence of low birth weight in the “Great Beginnings” group and the Massachusetts control group demonstrated a significant difference ($p = .05$) in incidence of low birth weight. Recently a cost effectiveness study was completed based on the evaluation of the Great Beginnings Curriculum. This study calculates the cost effectiveness of intervention with pregnant teens based on the reduction in low birth weight infants and the associated costs during the first fifteen years of life. The costs included are health care, childcare and education costs. Savings are calculated as \$39,909 dollars per low birth weight averted. The computed cost effectiveness ratio is \$5.42 saved for each incremental dollar spent on the Great Beginnings intervention. This year, Nutrition Connections reached 27 pregnant teens with the Great Beginnings curriculum.
- c. Source of Funding - Smith- Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - NH, MA

Key Theme - Human Health

response to the West Nile Virus threat.

- b. Impact - One hundred fifty senior citizens learned about osteoporosis through programming and health fairs held in Grafton County. In Cheshire County two newspaper columns were written: one on aging and another highlighting Extension as a resource for seniors (circulation 17,000). In addition, program information about winter safety for seniors was distributed to Circle of Home and Family program offerings, as well as to Monadnock Senior Advocates. The Family Lifeskills staff throughout the state, working with more than 190 clients, incorporated exercise into their curriculum by walking daily with their clients in the three weeks they work with them in this special welfare to work program implemented by Cooperative Extension. In Rockingham County, Nutrition Connections conducted four 12-week Strong Living Programs (SLP) reaching 42 older adults. The SLP is a research-based strength training program for older adults and the developmentally disabled to help these populations live healthy, independent lives. Strength and balance training improves fitness, mobility, strength, balance, emotional well-being, bone health, and helps to reduce falls. Strong Living Program participants showed a 28.5% increase in lower body strength (an independent predictor of short-term mortality and nursing home admission in community dwelling older individuals) and a 41% increase in balance. In Strafford County, 12 Strong Living Program participants increased their upper and lower body strength by an average of 61% with a range of 22% to 140%. Their one-legged balance stand time improved from an average of 10 seconds (pre-test) to 30 seconds (post-test), thus reducing fall-related fracture risk. Their number of seated chair stands in 30 seconds improved from an average of 7.8 (pre-test) to 11.5 (post-test).

Since mosquitoes carrying West Nile Virus arrived in the Northeastern United States in 1999, public health officials and policymakers have been working to develop the information needed to make sound, science-based recommendations on how best to manage this new public health concern. In New Hampshire, members of local select boards and city councils are responsible for all decisions and all costs involving mosquito control within their community's boundaries. In early Spring, UNH Cooperative Extension developed and mailed a 16-page West Nile Virus information packet to decision-makers in each of the state's 234 towns and cities. The packet outlined what scientists and policy-makers know and do not know about this new public health concern. It offered resources for educating local residents about protecting themselves and eliminating mosquito breeding sites on their property. It outlined possible responses to the West Nile threat, listing the possible risks and benefits of each decision, as well as estimating the costs involved. Finally, the packet provided a comprehensive list of outside resources and state agencies involved in West Nile Virus. The likely social benefits include raising the level of public discourse and understanding about this new insect-borne illness. Among the likely economic benefits; more informed leaders and a better informed public mean that spending decisions (such as larval surveillance and control or adult mosquito spraying) will be based on hard data rather than raw emotion.

d. Scope of Impact - state specific

Key Theme - Human Nutrition

- a. Nutrition education activities in New Hampshire are based on the revised Dietary Guidelines 2000 and the Food Guide Pyramid. Educational interventions are typically preceded by a needs assessment process which provides essential information for instructors in the field. This year, the Nutrition Connections program conducted a telephone survey of 407 food stamp recipients. This 78-question survey, administered by RKM Research and Communications, revealed some interesting results which help us understand what our audiences want to learn, how they want to learn, and the most effective way to reach them.
- b. Impact - 477 families graduated from the Nutrition Connections Program. 91% graduated with a positive change in any food group at the exit of the program. 82% of graduates showed improvement in one or more nutrition practices (plans meals, makes healthy food choices, prepares foods without adding salt, reads nutrition labels or has children eat breakfast). 51% of graduates showed improvement in two or more nutrition practices. 22% of graduates showed improvement in three or more nutrition practices. 6% of graduates showed improvement in four or more nutrition practices. And, 2% of graduates showed improvement in all 5 nutrition practices. 73% of graduates showed improvement in one or more food resource practices (plan meals, compares prices, does not run out of food or uses grocery lists). 41% of graduates showed improvement in two or more food resource practices. 18% of graduates showed improvement in three or more food resource practices. And, 4% of graduates showed improvement in all four food resource practices. An additional activity of the Nutrition Connections program was development and distribution of two issues of “Smart Choices” newsletters to 17,000 food stamp households. A self-mailing evaluation card was returned by more than 750 food stamp recipients and the evaluations were extremely positive. In addition, 4,320 youth participated in a series of nutrition interventions resulting in 66% of 3269 youth from 125 groups now eating a variety of foods; 79% of 3462 youth from 132 groups increased knowledge of the essentials of human nutrition; 79% of 2788 youth from 103 groups increased their ability to select low-cost, nutritious foods, and, 88% of 2794 youth from 119 groups improved practices in food preparation and safety. \$746,711 grant dollars were awarded to New Hampshire this year, as well as \$4,100 contributed for programing. Nutrition Connections had a total of 355 volunteers who assisted with nutrition programming which accounted for 4.6 FTE at a value of \$92,000. The Family Lifeskills Program provided nutrition education to 195 individuals who were in the process of making the transition from public assistance to work. 89% of participants had a positive change in any food group at exit from program. An additional activity was the 5th year of our Team Nutrition Institute, a two-week (8 day) residential institute held on campus for school teachers and Cooperative Extension staff. This summer, 17 teachers

to their individual schools and train a total of over 400 teachers and contribute more than 3000 hours of work implementing Team Nutrition throughout the state. Additional nutrition education efforts included: 52 people reached with the *Making Lifestyle Changes and Healthier Choices* program, 286 people were reached with Food Guide Pyramid based program, 14 day care providers were reached with the *Fun with Food* program, 25 day care providers were reached with the *Better Kid Care* program. The *Making Lifestyle Changes and Healthier Choices* program impacts included: 69% planned to increase exercise by 10 minutes each day; 50% planned to make a variety of food choices; and 2% planned to eat smaller portions of foods.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Goal 4 - Greater Harmony Between Agriculture and the Environment

Executive Summary

The natural environment and the state's natural resources are highly valued by New Hampshire residents. Protecting and preserving the environment is 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. Concern is growing about manure storage and nutrient management resulting from federal legislation and pressure from neighbors and town officials about handling and disposal of animal wastes. Extension's Agricultural Waste Management program created awareness and actions in voluntarily adopting proper management practices. As a result several producers were awarded grants to clean up barnyard run-off.

- b. Many accomplishments and successes are reported under this goal in the areas of forest management and harvesting, Integrated Pest Management, management of a broad range of natural resources, sustainable agriculture, water quality, and wildlife habitat. Cooperative Extension is well-known in New Hampshire for its expertise and educational programs in these areas. An advantage, too, is the close working cooperation and partnerships between Cooperative Extension, state and federal agencies, and public and private organizations all concerned with natural resources-related industries and protecting the environment. Cooperative Extension's Forestry & Wildlife program focuses on sustaining forests that support the state's \$1.7 billion forest products industry. It educates citizens to make informed natural resources decisions by providing technical assistance, promoting forest stewardship and increasing knowledge and skills in natural resources protection and management. The Community Conservation Assistance Program assists communities and conservation commissions with land and water conservation planning projects. This year 23 towns and conservation groups were assisted in developing conservation inventories, conservation planning and land acquisition.
- c. The Integrated Pest Management program assists growers in handling pest problems while reducing dependency on chemical insecticides, and maintaining or improving crop profitability. Primary focus of this program is commercial crop production with efforts this year involving apples, greenhouse crops, strawberries and field corn. Nutrient management is another major NH effort as it can have negative effects on both the environment and profitability. The state has about 102,000 acres in cropland with most receiving some type of nutrient application. Educational programs include soil testing and nutrient recommendations, use of cover crops and composts, application of organic residues and phosphorus management.
- b. New Hampshire is home to 15,000 species of plants and animals. In 1995 the Ecological Reserve System Project was established to conserve biodiversity in concert with good stewardship of forest land, wildlife and watersheds. The purpose is to establish voluntarily dedicated lands to protection of biodiversity. Workshops, a web site and electronic newsletter are among the educational efforts in use. Cooperative Extension also conducts the Pesticide

certified and re-certified by the state.

c. Total Expenditures:

Funding - Smith-Lever 3b,c&d - \$767,030

State matching funds - \$1,280,087

County funding - \$427,025

Grants, Contracts, Other - \$613,710

FTEs - 21

Key Theme - Agricultural Waste Management

- a. New Federal legislation dealing with feedlot run-off is causing commercial farmers to be concerned about manure storage and nutrient management plans. Backyard operations with horses, sheep, goats, etc., are under pressure by neighbors and town officials to properly handle animal wastes. The Agricultural Waste Management program supplied engineering expertise to help solve these problems as well as provided information to producers about how to comply with regulations. Other factors driving the program are odor control, lack of the availability of animal bedding and concern for manure pathogens having an impact on human health.
- b. Impact - The economic impact of proper manure management is reduced fertilizer purchased for crops, reduced litigation from pollution problems and less money spent to clean up streams and treat water for public consumption. In New Hampshire the manure management program has involved joint meetings with the Farm Bureau study committee to draft policies, contracting engineering services to assist with the design of manure storage facilities, individual farm visits; and cooperative efforts with the New Hampshire Department of Agriculture and the Natural Resources Conservation Service (NRCS) in dealing with problem cases. The Agricultural Waste Management program has created an increased awareness among farmers about proper management practices, and a desire to voluntarily comply with present and proposed legislation to avoid violations. This has resulted in an increased interest in building manure storage facilities and the applying for state and federal funds to help support these projects. Several \$25,000-100,000 grants have been awarded to clean up barnyard run-off. A \$6,000 grant made engineering services available to New Hampshire dairy farmers at no cost. There were 30 engineering visits made in the State, eight of these visits dealt with waste management issues: three of these farms have made changes to reduce manure run-off, three are working on plans to improve their manure storage facilities, and two are waiting for cost share approval. The impact of the manure management program has been felt statewide. Research and ideas have been integrated from Cornell University, Vermont, and Massachusetts. This program has also involved attending regional meetings such as the Dairy Practices Council, and ideas have been exchanged regionally to help make new technology available for handling waste management problems.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Biodiversity

- a. New Hampshire is home to more than 15,000 species of plants and animals, 100 types of natural communities, and diverse ecosystems from the Great Bay estuary to the summits of the White Mountains. This rich biological diversity, including the plants and animals and habitats and ecological processes that sustain them, is a living legacy that helps keep our air clean, our water pure, our economy strong, and our quality of life high. The state's biodiversity, however, is vulnerable to ongoing development and degradation. Despite the protected status of 20% of the state, an alarming proportion of species, natural community types and ecosystems aren't sufficiently protected to endure over the long term. For example, close to 60% of rare natural communities, nearly 75% of known rare plants, and 75-90% of rare wildlife have two or fewer known occurrences on existing conservation lands. In 1995 New Hampshire established the Ecological Reserve System Project (ERSP) to conserve biodiversity in concert with good stewardship of forest land, wildlife populations and watersheds. The mission of this broad coalition is to establish and support a well-coordinated, comprehensive system of public and private lands voluntarily dedicated to protecting the full spectrum of biological diversity in NH. The Extension Specialist, Biodiversity, is the ERSP Coordinator. The Project incorporates two main strategies: Incorporating ecological principles and management into land conservation and land use decisions and establishing a system of ecological reserves that conserve areas of biological significance
- b. Impacts - Nineteen educational workshops on biodiversity conservation and management were held and attended by 700 people including natural resource professionals, land trusts, conservation commission members and landowners; A NHERSP web site, <http://ceinfo.unh.edu/forestry/documents/nhecosrv.htm>, was established and is maintained by the Project Coordinator; Three issues of an electronic ERSP newsletter have been distributed to over 500 individuals; The Coordinator co-authored a publication, *Identifying and Protecting Significant Wildlife Habitats: A Guide for Towns and Conservation Groups*; Scientific criteria for identifying ecologically significant areas in NH, including: exemplary natural communities, critical wildlife habitats, rare plants and animals, uncommon geologic features, and ecological linkages were further refined; A Scientific Advisory Group reviewed the criteria and the process for selecting reserves. Hypothetical reserve designs were developed by this Group for 8 pilot properties. This pilot phase was used to test and refine the process and to make changes prior to implementing a statewide ecological reserve system; The Project Coordinator participated on a review panel for a statewide land conservation program to help guide land protection toward ecologically significant areas.

- d. Scope of Impact - state specific

Key Theme - Forest Resource Management

- a. Forests are critical to sustaining New Hampshire's \$1.7 billion forest products industry, tourism industry, wildlife habitat and water supplies. Eighty percent of NH's forestland is owned by approximately 84,000 private forest landowners. Education about forest stewardship is the key to informed decision making by forestland owners. As population growth and development continue to decrease the amount of forestland available, pressure intensifies on the remaining lands to continue to provide the benefits that we have come to expect. Comprehensive planning and management for the future is critical to sustain a healthy, productive resource base. Since 1925, the University of New Hampshire Cooperative Extension Forestry and Wildlife Program has been caring for New Hampshire's forests. Our mission is to educate New Hampshire's citizens about rural and urban forest environments, enhancing their ability to make informed natural resource decisions. Ten Forest Resources Extension Educators and four statewide Extension Specialists provide technical expertise and information about managing forest and community resources to people in each county across the state. Target audiences include forest landowners, natural resource professionals, communities, volunteers, NH forest-based industries, and the public. Extension provides the technical and educational assistance to these audiences through site visits, publications, workshops and seminars.
- b. Impact: Provided technical assistance to encourage landowners to adopt environmentally sound practices and improved management which protects the environment:
- * Extension provided on-site assistance to 1,654 forest landowners influencing approximately 42,489 acres.
 - * The Coos County Extension Forester provided technical assistance to land managers responsible for over 218,000 acres of land in the northern part of the state.
- Increased the level of sustainable forest stewardship activities occurring on private and municipal ownerships:
- * Over 2,000 forest stewardship plans have been written for NH landowners by public and private sector foresters since 1990. Covering nearly 499,000 acres, they represent over 12% of the private forestland in the state.
 - * Extension Educators encouraged over 340 landowners (owning approximately 33,700 acres) to continue or expand their management using the assistance of a licensed forester.
 - * Assistance was provided to over 50 NH communities (including seven conservation and watershed groups) to help protect community resources.

protection:

* Extension provided over 325 natural resource related seminars, workshops and programs throughout the state – *the equivalent of nearly one program every day of the year* – reaching over 12,000 participants.

* Fifty-six of these programs were offered to natural resource professionals (reaching over 2,200 participants).

* Twenty-five new volunteers received intensive training through the NH Coverts Project. After training, they initiate natural resource projects in their communities, expanding the reach of Extension's educational programming.

Increased public awareness about New Hampshire's forest resources

* The web site, <http://ceinfo.unh.edu>, was accessed over 10,000 times this past year

* Since 1998, the Extension's Forestry Information Center has responded to 2,700 requests for information and has sent out over 19,000 publications to nearly 2,000 people. The Center has also produced and distributed over 100 news releases and articles.

* Information was distributed through statewide and county Extension newsletters that collectively target 35,000 to 40,000 people.

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

d. Scope of Impact - state specific

Key Theme - Global Climate Change Education

a The Global Climate Change Education program this past year has been a modest one, with three objectives: To bring global climate change education materials and information to educators To have at least three docents become interested in global climate change and to pursue programs that will increase their knowledge so that they make presentations to others.

b. The Docent program has distributed materials to more than 60 educators through exhibits at state and regional teachers conferences and upon request. We have developed a small data base of interested educators, including those who attended the summer course we offered in 1998, and keep teachers informed of new opportunities to extend their knowledge through direct contact and also through our Marine Education web page. One impact has been to see several of these educators attending information sessions conducted by the Center for Climate Change Research, and a talk on paleoclimate by Dr. Paul Mayewski this summer at the Seacoast Science Center. Three docents have been attending informational meetings held by the New England Global Change Collaborative for Museums, Aquariums and Science Centers and now are confidently preparing a presentation for teachers and the general public. They will make

meeting.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - NH Integrated Pest Management Impact

- a. The IPM program assists growers in handling pest problems, while reducing dependency on chemical insecticides, and maintaining or improving crop profitability. We work collaboratively with extension and research people in NH and other New England states. Our primary focus is on commercial crop production, but we assist backyard gardeners as well. This year we worked on apples, greenhouse crops, strawberries, and field corn.
- b. Impacts - **Apples:** NH apple acreage is shrinking; growers have been forced to switch from wholesale to retail production, and profit margins are smaller. The amount of spraying and pest injury is still far below what it was when the IPM program was first introduced (1978). This year, apple growers sprayed about 40% less than they did when IPM was introduced. The incidence of pest injury was 4.88%, compared with 10 to 12% pre-IPM. Spray savings and fruit quality improvement are certainly over \$100/acre, compared to pre-IPM levels, but state acreage is only about 3000 now. In addition, we have established the new predator mite *Typhlodromus pyri* on 8 farms, and may have succeeded at four more this year. The mite has spread to about 28 acres, but farm downsizing may reduce that figure. Establishment of the mite is slow, but where it is established, growers need no summer miticides (an additional \$20 to \$40/acre savings).

Greenhouse IPM: Collaborating with VT and ME colleagues, we offered 3 winter IPM workshops. All were filled to capacity (40 in each) again this year. Attendees submitted very positive evaluations, but determining dollar impacts would be impossible. In November and December, we visited every NH producer of standard poinsettias, and evaluated crop quality. (By seeing how their plants compared with others, many growers could improve their quality.) We disseminated the results directly to the participants, and through the ornamentals newsletter. We conducted research on barriers for fungus gnat control in potted greenhouse plants. We obtained grant funds for a Tri-state greenhouse pocket IPM guide, due to be completed in FY02.

Field Corn: Having completed a grant funded corn rootworm survey in FY00, I wrote a corn rootworm fact sheet. It gives growers instructions on how to monitor their own fields.

sent it to every field corn producer in the state. (NH has 15,000 acres of field corn.)

Strawberry IPM: We have seen serious black vine weevil problems, so this year we visited every strawberry farm in the state. At each of about 60 farms, we measured the amount of leaf feeding, as an index of BVW population. Infestation levels were lower than expected. As a follow up, I wrote a series of articles on root weevils and their management.

Dairy Fly Management: Steve Turaj has led a fly management program, incorporating releases of fly parasites with cultural fly management techniques. Three Coos and Grafton county farms participated, with a total of about 250 milking cows .

Others: The IPM approach was also incorporated into other projects this year such as West Nile Virus information packets, tick publication, armyworm visits & alerts, gardening fact sheets, and master gardener training. The IPM work represents collaboration of many individuals, too many to name in this space. This summary is by IPM coordinator Alan Eaton.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Land Use

- a. In the Community Conservation Assistance Program (CCAP), the major program vehicle for this reporting theme, we assist a number of NH communities and private conservation groups annually with land and water conservation planning projects. Typically, Extension staff provide assistance to these groups in the form of:

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Helping to establish goals, priorities, and a work plan for conservation planning

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- Providing training and information needed by the community groups to complete specific project tasks, and

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- Providing assistance in addressing issues in specialized areas, such as wildlife habitat or wetlands conservation

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- Remaining available for continuing consultation throughout the duration of a project.

Examples of the types of projects that Extension provides assistance to include:

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- Creating natural resources inventories, including the use of geographic information systems (GIS) technology

-

- Preparing and implementing conservation plans

Assessing wildlife habitats

Evaluating wetlands and other water resources

Implementing land protection projects

Building public support for land and water conservation projects.

b. Impacts - During the 2001 reporting year, Extension staff working with the CCAP assisted 23 towns and conservation groups with natural resources inventories, conservation planning and land acquisition. A brief summary of community accomplishments follows:

- Ten communities and groups involving approximately 85 people completed the Basic Inventory stage of their natural resources inventory.

- Seven communities involving approximately 40 people began working on their Basic Inventory, but have not yet completed the process.

- Two communities began work on evaluating their wetlands using the Method for the Evaluation of Nontidal Wetlands (NH Method).

- Two communities involving a total of 130 (the # of people at the initial presentations) have started working towards comprehensive natural resource and land conservation strategies following a "Dealing with Growth" presentation by the Natural Resources Outreach Coalition, of which UNH Cooperative Extension is a part.

- One community is working on a comprehensive natural resource conservation strategy on a 1,350 acre parcel of land recently acquired by the town. Twelve people are directly involved through a Stewardship Plan Committee.

- Five volunteers from one community are starting to use a 17-acre parcel of land as an educational site for small landowners.

- Two watershed groups involving approximately 30 people are working on watershed-wide natural resources inventories and conservation plans and conducting public education activities.

- One watershed group has started a water quality monitoring program involving approximately 15 people.

- Twelve communities completed projects with assistance from UNH students in the Senior Projects Course.

- In Carroll County, the Forest Resources educator provided five landowners with specific information on land protection options. The major goal is to ensure that a substantial forest land base is retained in order to maintain the rural character and to support a forest economy which is second only to the tourism industry in this county.

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

d. Scope of Impact - state specific

Key Theme - Nutrient Management

environmental and profitability issues statewide. Approximately 102,000 acres of cropland are harvested annually and the majority of this acreage receives some type of nutrient application. Over application of nutrients can contaminate surface and groundwater, and under application of nutrients will reduce profitability. Producers in all of the commodities need to acquire a better understanding of nutrient management if agriculture is to enhance environmental quality. Programs in this area include soil testing and nutrient recommendations, the use of cover crops and composts, land application of organic residuals, and research and education on phosphorus management and riparian buffers. Recent research indicates that the majority of soil tests are at a level where increased risk of environmental contamination is a concern.

b. Impact: In the production of corn and forage crops, nutrient management has enabled producers to more closely match nutrient applications with crop needs. Soil nitrate sampling resulted in fertilizer savings on over 3000 acres of corn statewide and a reduction in the risk of nitrates leaching to groundwater. Improved manure application techniques results in the reduction of offsite movement of nutrients and bacteria. In the greenhouse and containerized nursery industry this has resulted in a reduction of purchased fertilizers as well as the production of higher quality crops. In the vegetable and fruit industries the improved timing and amount of nutrient applications resulting in a reduction of purchased fertilizers. The economic, environmental and societal impacts are statewide but vary with the concentration of the commodity. This also includes an integrated Extension and research component with that involves collaborations with UNH, UVM, Cornell University and the USDA - ARS (Ag Research Service) located in University Park, Pa.

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

d. Scope of Impact - NH, VT, PA

Key Theme - Pesticide Application

a. The Pesticide Applicator Training Program has the responsibility to train commercial and private pesticide applicators to be certified and re-certified by the NH Division of Pesticide Control. Certification requires the passing of a test covering pesticide safety, IPM, rules and regulations, worker protection standards, storage, environmental protection, calibration, and knowledge of the target pest. Re-certification requires 15 hours of additional education within 5 years to maintain certification. Without certification, farmers, landscapers, and pest control operators cannot use any pesticides.

pesticides without certification, the PAT program saves millions of dollars in pest losses to crops, turf and ornamentals, and damage to homes and businesses. The PAT program also impacts human health by reducing the risk of exposure to harmful pests as well as the pesticides used to control them. Since the PAT program educates applicators on the safe and wise use of pesticides, it saves millions of dollars in environmental damage from

misuse of pesticides. The PAT program has a very broad range of impacts. The impacts are economic (saves loss of crops, structures), environmental (reduces risk of pesticide contamination), and societal (maintains profitability of farms, reduces human health problems from exposure to pesticides and insects).

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

d. Scope of Impact - state specific

Key Theme - Wildlife Management

a. 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 wetlands habitats for survival. New Hampshire's population has nearly doubled in the last 30 years. This growth and associated development has placed increasing pressures on the landscape. Studies estimate that approximately 15,000 acres of habitat are lost to development each year in NH. In addition to the direct loss of habitat, continued land development leads to greater fragmentation of natural habitats with resulting adverse impacts to fish and wildlife populations. The protection and enhancement of essential habitats is central to sustaining New Hampshire's fish and wildlife populations. With a majority of the state's land in private ownership, the collective decisions of private landowners and community-decision-makers have a major impact on wildlife and their habitats. Since 1985, NH Fish and Game and UNH Cooperative Extension have worked together to provide a Wildlife Habitat Conservation Program. Through this program, a Wildlife Specialist provides technical information and assistance to landowners, natural resource professionals, community leaders, land use planners, and conservation groups to help them identify, manage and protect critical and significant fish and wildlife habitats.

b. Impact - Land Management Assistance: This year, wildlife habitat information and guidance was provided to approximately 50 landowners, foresters and communities to help guide management activities on 14,000 acres of land. Much of this assistance will have further impact as foresters and towns apply the information to additional lands they manage.

year, nearly 30 workshops were held reaching over 1,000 participants. Community training focusing on *Identifying and Protecting Significant Wildlife Habitat* was a strong focus of this year's programming.

Information and Education: Two issues of the Extension Forestry and Wildlife and Water Resources newsletter, *Habitats*, were developed and distributed to over 3,000 natural resource professionals, teachers, landowners and community decision-makers.

NH Coverts Project: Begun in 1995, the NH Coverts Project promotes wildlife habitat conservation and forest stewardship through volunteer education and outreach. Each year, 25 new volunteers are trained during an intensive 3 1/2 day workshop. These volunteers then work on projects in their local communities. There are currently over 140 active volunteers who reach thousands of their neighbors and other landowners each year through activities such as woodland tours, articles and youth programs.

Connecticut Lakes Headwaters Partnership Task Force: This year, the Wildlife Specialist served on the Connecticut Lakes Headwaters Partnership Task Force that developed a vision for managing and protecting resources on the 171,500 acres of International Paper land currently being held by the Trust for Public Lands. The Wildlife Specialist prepared four briefing statements for the Steering Committee regarding the recreational aspects of this property which provides habitat for over 20 rare wildlife species and is the largest contiguous block of NH land in private ownership.

By providing technical assistance to landowners and others who influence land use decisions, this program helps participants make more informed decisions regarding protecting and maintaining wildlife habitat and it increases the amount of land managed with good stewardship practices

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

d. Scope of Impact - state specific

Goal 5 - Enhanced Economic Opportunity and Quality of Life for Americans

Executive Summary

a. UNH Cooperative Extension conducts a wide array of programs under this national goal. These include implementation of a State Strengthening grant for work with youth and families at risk; programs targeted to limited-income/low-income families that include Nutrition Connections and the Family Lifeskills Program which is part of NH's welfare reform effort; parenting programs offered through various deliveries including a program for incarcerated parents and their families; family finance education for various audiences including a volunteer counseling program for seniors needing assistance with Medicare and Medicaid insurance; community development including Extension's

traditional 4-H programs, 4-H camping and the Teen Assessment Program. Another key aspect of this goal is the extensive use of trained volunteers in implementing many of UNH Cooperative Extension's program.

b. Key successes described in detail below include: establishing community -based youth programs that impact and provide support for at-risk families; continued accomplishments in teaching nutrition and health protection to limited -income families; continued contract funding from the State Dept. of Health and Human Services for Extension to provide the Family Lifeskills Programs for individuals in transition from welfare to work; parenting education delivered through a comprehensive newsletters series, workshops conducted by certified volunteers, and a program conducted for parents in prison with axillary support for their families; financial education programs targeted to farmers, midlife and older women, families with debt, families unable to manage finances, and elders needing assistance dealing with Medicaid and Medicare insurance; continued success and demand from new communities for Extension to conduct a Community Profile; and success in teaching youth life skills, project skills, and in providing positive, healthy learning experiences through summer residential camping programs.

c. Significant impacts have been achieved for all of the programs identified and are described below. Based on these impacts all programs have been continued in FY2002.

d. We are proud of the accomplishments reported under this goal that are described below. Also significant is the impact achieved through the involvement of over 5,000 volunteers during FY2001. The involvement of volunteers is a high priority for UNH Cooperative Extension and we have mobilized volunteers to conduct a wide variety of programs. These include lake and bay water monitoring, teaching landowners to protect wildlife habitat, master gardeners who conduct community service projects or provide other educational services, 4-H leaders, marine education docents, parenting educators, and trained counselors who advise seniors on health insurance. Another very significant accomplishment in FY2001 is expanding operation of Extension's Family, Home & Garden Education Center. Several years in the planning, the Center opened in January 2000. The Center's Info Line is staffed by 50 extensively trained volunteers who responded to 17,000 callers in 2001 seeking information and assistance with home, garden and related issues.

e. Total Expenditures:

Source of Funding - Smith-Lever 3b&c - \$1,455,170

State matching funds - \$2,562,293

County appropriations - \$921,475

Key Theme - Agricultural Financial Management

a. Agricultural financial management programs emphasize assessing the farm's profitability, efficiency, liquidity and solvency through analysis of the profit and loss, balance sheet and cash flow statements. Budget projections and proforma statements enable the manager to evaluate alternative farm enterprises and business size scenarios. Workshops, seminars and one-on-one assistance are among the educational methods used to teach farm owners and operators financial management principles. Extensive use of examples, computer worksheets and templates provide farmers with practical financial management tools.

b. Impacts - Farmer decision-making based on analysis of business financial strengths and weaknesses improves efficiency and profits. Scheduling loan payments according to asset economic lives and business capacity ensures growth in net worth and adequate funds for family living. Projected budgets provide a means of measuring the economic viability of alternative enterprise combinations and changes in farm size. Approximately 100 to 125 farmers participated in financial management programs across New Hampshire. Improving farm viability ensures preservation of open space

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

d. Scope of Impact - state specific

Key Theme: Child Care/Dependent Care

a. During the 2001 program year, UNH Cooperative Extension offered the Pennsylvania State University's satellite workshop program *Better Kid Care* in six counties. Program topics included: Working with Wood, Children and Food, Hot Topics for Director's Only, Biting and Sharing, Celebrating Diversity, and Planning Activities for Children. Tapes of the 2000 Better Kid Care programs were given to the Family Resource Connection at the New Hampshire State Library to distribute to parents and child care providers throughout the state on request.

b. Impact - 44 workshops were held reaching 715 providers of children. Of those completing end of workshop evaluations (n=453), 80% stated they learned new information by

would use the information now (81%) or in the future (83%), and use or refer to the handouts again (90%). Comments from providers included: “I will be more enthusiastic with the staff and try to keep them happier and have them know they are appreciated,” “I will try not to use time outs when children bite, I will comfort both the biter and the victim and problem solve,” “I will be more sensitive to differences,” “I will use more ideas that interest the children and see where it goes they seem to be my best guides.”

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

d. Scope of Impact - state specific

Key Theme - Children, Youth and Families at Risk - NH 4-H Camps

a. NH 4-H Camps operated 3 sites around the state during the summer of 2001. Eight hundred and sixty-nine (869) individual youth attended a NH 4-H Camp, with a total of 1285 camper weeks. NH 4-H Camps receives significant funding from organizations around the state which support families who otherwise would not be able to afford to send their child to camp. Agencies such as NH Department of Children, Youth and Families, Riverbend Community Mental Health, Inc., Listen, Developmental Services of Strafford County, and Migrant Education Program sent youth to a 4-H camp in 2001.

b. Impact - In 2001, NH 4-H Camps received \$63,077.00 in “camperships” from 86 different organizations, supporting 306 individual campers attend camp. For the first time this past summer, two school districts, based on individual educational plans and extended school year funding, supported two youth to attend Bear Hill Camp. Both youth had significant issues which required one-on-one behavioral management, and each camper came with his own full-time aide to facilitate his integration into the daily camp program. Bear Hill 4-H Camp employed, for the first time, a full-time behavioral specialist to work each day at camp. She provided training, support and guidance for staff and campers while facilitating the successful inclusion of youth at-risk and with disabilities into camp programs and daily life. One counselor stated in his end-of-season report that he could not have made it through the summer without her support. 91% of youth attending a NH 4-H Camp in 2001 are from New Hampshire. The majority of the remaining youth come from the surrounding New England states.

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

Key Theme: Children, Youth and Families at Risk/Teen Assessment Project

a. Youth face many challenges as they grow and develop. While most adolescents manage the transition from the world of childhood to adulthood successfully, some youth have problems negotiating these changes. Many young people in New Hampshire engage in risky behaviors. The prevention of these risk behaviors among our youth is an excellent investment in the future of our State. If left unaddressed, these behaviors can lead to greater societal costs. The Teen Assessment Project (TAP) was developed to promote positive youth development at the individual, family and community level. TAP's primary goals are to increase community awareness and knowledge of teen issues and to encourage collaboration to address areas needing attention. How does TAP work? First, a local steering committee coordinates the review and administration of a survey on various teen-related issues. Data are then analyzed and the results are shared in a variety of ways to evoke positive community change. Some ways include a parent newsletter series containing local data, a comprehensive statistical report and abstract, community forums, youth and family programs, and newspaper articles. TAP survey results provide a vehicle for education and action among youth, parents, schools and communities; stimulate program and policy changes; help communities secure local funding; and lead to changes in attitudes and behaviors that strengthen families, schools, and communities.

b. Impact: TAP provides youth data that enables communities to secure funding for local initiatives. To date, over \$9,000,000 has been received in the form of grants and awards to complete TAP in communities throughout the state and to initiate new programs as well as enhance existing programs. In FY '01, \$2,191,500 was awarded to conduct TAP and carry out follow-up programs in communities. In FY '01, 945 students were surveyed in 2 school districts including 6 communities. A series of 6 parent newsletters entitled, "*Whose Kids?... Our Kids!*" was distributed to the parents of 8,150 youth in the following school districts: Dover, Pemi - Baker (Plymouth), Monadnock Regional/Hinsdale/Winchester, Keene, Fall Mountain (Charlestown), Exeter, Gorham, and Lin-wood (Lincoln/Woodstock). TAP has developed and/or strengthened collaborative efforts with both state and local groups. Specific efforts include: building community awareness of youth issues, resource directories for teens, health curriculum changes, an eating disorder curriculum, mental health counseling, AIDS prevention work, a theater education prevention program called "Acting Out," youth leadership efforts, suicide prevention programs, bullying prevention programs, after school programs, poor choices programs presented by prison inmates, creation and expansion of teen mentoring programs, two teen center/health centers, a new community center, restructuring of community organizations, forming and/or strengthening community coalitions, strategic planning, community youth action planning,

student assistance counselors, two coalition coordinators, two guidance counselors, two youth coordinators, one on-call in-school counselor and two AmeriCorps VISTA positions.

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

d. Scope of Impact - state specific

Key theme - Children, Youth & Families At-Risk: State Strengthening

helping the communities of Boscawen (Merrimack County), Claremont (Sullivan County), and Haverhill (Grafton County) develop comprehensive programs for at-risk children, youth and families. Each community has established an advisory committee, defined project goals, and created after-school enrichment programs. The programs strive to improve academic achievement, aspirations and social skills in youth; and to strengthen parenting skills, family relationships and social capital. Faculty from the UNH Department of Social Work are evaluating the effectiveness of the community collaboration and programs. The project also strives to increase the capacity of UNH Cooperative Extension for collaborative planning and program development to ensure families and children have safe and caring environments to live and grow.

b. Impact: The three community-based programs served 2nd-8th graders (n=93) in after-school enrichment programs during the 2000-01 school year. Year-end surveys of multiple sources (parents, children and youth, collaterals, program staff) indicate participating youth showed improvements in both academic and social skills areas. Parents and participants felt the programs helped with relationships at home. Data from a parent focus group and interviews with school and program staff provide evidence of improvements in homework completion, class participation, sharing, cooperation, solving conflicts, respecting others, and working in groups. A goal of each project is to become sustained within five years. The Claremont project has achieved this in two years, receiving over \$1.7 million from state and federal sources to sustain and expand the after school program to the entire school district. An Organizational Change Survey of Extension staff assigned to family and youth development programs (n=57) was conducted in August 1997 and 2000. Comparison of results show significant progress on six key areas of building organizational capacity to work effectively with at-risk audiences: Increased understanding of an organizational vision (from 32% to 63%) and strategic plan (from 40% to 43%) for work with at-risk audiences. Increased perception of administrative support (from 51% to 77%), quality of training (from 53% to 73%), and frequency of access to Internet resources. Increased confidence in most areas of programming for at-risk audiences. Increased perception of treating staff diversity as critical to program success (from 28% to 54%). Increased perception of support for collaboration among Extension professionals. Increased involvement in community collaboration related to the needs and issues of at-risk audiences (from 75% to 90%).

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

d. Scope of Impact - state specific

Key Theme - Community Development

shifting economic structures, emerging societal crises, unprecedented growth in some regions, and decline in others. Hence, the goal of Cooperative Extension's community development programming is to help communities achieve long-term well being by building human, economic, social, and environmental capacity. In order to build communities' capacity, Extension Educators provide a variety of educational services to community residents, organizations, and local governments. Examples of these educational services include facilitation of community forums and visioning sessions, provision of technical assistance in the area of economic development, assistance with planning activities, and leadership training. Additionally, Cooperative Extension is working to better connect campus-based resources – particularly faculty and students – to New Hampshire communities.

b. Impacts: Extension's Community Profile Project, a strategic planning and visioning program for New Hampshire Communities, has reached over 300 New Hampshire citizens in FY '01 and 4 communities have implemented concrete actions that address key community issues. Training in leadership and public deliberation has been provided to 70 plus individuals from New Hampshire communities, organizations, agencies, and campus academic departments. The Teen Assessment Project – a program that surveys youth and utilizes the results as the basis for action – resulted in the formation of community-based action groups. UNH received a \$20,000 grant to examine the impact of the Community Profiles on 'social capital' in four New Hampshire communities (in collaboration with Survey Center). In the Fall of 2000, Extension hosted the 1st Community Development Academy course in a series of 3, titled "Building Communities From the Grassroots". There were 35 participants. Various projects resulting from Community Profiles focus on business and economic development. New Hampshire communities have incorporated sustainable development principles after receiving training on the costs/benefits of business and residential development. Demographic and Economic Data Profiles were compiled for several New Hampshire communities in order to help them make better planning decisions. Information and training in the area of open space protection has been provided to interested New Hampshire citizens/volunteers (via the Community Conservation Assistance Program). Watershed protection, river clean-up, shoreline restoration, and water monitoring activities have been accomplished in numerous communities via Extension's educational outreach. In the past year, dozens of volunteers have been trained by Cooperative Extension to assist communities with conservation efforts via the COVERTS Program.

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

d. Scope of Impact - state specific

Key Theme - Family Resource Management

- a. Family Resource Management targets a variety of audiences: TANF recipients, workers with earned income less than 200% of poverty, individuals and families with income above 200% of poverty, individuals on probation, Individual Development account program participants, teachers, youth, individuals in debt, those who are food stamp eligible, midlife and older women, Medicare beneficiaries, the unemployed, individuals not achieving their financial goals through a variety of educational efforts. As a result of family resource management education, it is expected that the participants will establish financial goals, start reorganizing their spending to be able to start saving or increase saving for their goals, decrease their debt load, review their insurance coverage, and develop and follow a written spending plan that will achieve their financial goals. The educational series are: “Taking Charge of Your Finances” (8 hours), “Planning Ahead... Staying Ahead” (6-8 hours), “Making Money Work For You” (10 hours), Financial Empowerment For Women (17.5 hours) and Lifeskills for Employment, Achievement and Purpose (22 hours).
- b. .Impact: During this reporting period, 1100 individuals received family resource management education face-to-face and 4,300 individuals through publications. In addition, 105 individuals were trained to provide Medicare education statewide and in a six month period 14,188 individuals were reached either through Medicare counseling or presentations resulting in a savings for the Medicare beneficiary of \$43,276. Impact is measured in the educational series. For “Taking Charge of *Your* Finances” and “Making Money Work For You”: at the beginning of a series 69% of participants didn’t have an emergency fund, 51% didn’t have any financial goals, and 46% never tracked their spending. At the end of these series, those who didn’t have an emergency fund decreased to 48%, not having any financial goals decreased to 15%, and only 4% didn’t track their spending, 46% requested their credit report, 67% had a feeling of control of their saving and 76% had a control of their spending. The range of credit card household balance ranged from \$0 to \$34,000 and the monthly payment on credit cards ranged from \$0 to \$3,000. For Financial Empowerment For Women: 69% are now better able to identify their financial goals, 70% feel more confident about making decisions about money, and 72% have increased their skills in managing money. For LEAP, the participants statistically (p=.000) felt more confident about making money management decisions and have a spending plan for their family. For Planning Ahead... Staying Ahead: 64% showed improvement in paying their bills on time, 86% showed improvement in their spending plans, 50% showed improvement in tracking expenses and 57% showed improvement in managing their money.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Farm Safety

- a. NH’s Rural Safety Program encompasses safety activities within a variety of program areas. Safety among loggers, farmers, rural families, commercial fishermen, and others remains a high priority.

publications. Workers compensation rates remain extremely high for timber harvesters and, although not as high, remain a challenge for the viability of NH's farmers and commercial fishermen as well. New Hampshire is 83% forested. NH's forest industries represent \$1.7 billion and employ over 16,000 people, thus a major emphasis in NH's Farm Safety Program is on the timber industry. UNH Cooperative Extension cosponsors the NH Professional Loggers Program which provides training programs for loggers which help them improve their efficiency, safety and environmental awareness. In response to a severe ice storm which occurred in 1998, additional safety training was provided to loggers, state and municipal workers, and others to increase their application of safe harvesting principles as they remove storm damaged trees.

- b. Impacts - Safety Workshops: This past year, 29 safety workshops were held for loggers, sawmill operators, state and municipal workers and landowners reaching over 515 participants. These workshops included:
- Safe and Productive Felling Workshops for loggers (4 programs)
 - Advanced Felling Workshops for loggers (3 programs)
 - First Aid and CPR workshops for loggers (5 programs)
 - Advanced Logger Rescue Workshops for loggers (4 programs)
 - OSHA Regulations for Sawmills Workshops (2 programs)
 - OSHA regulations for Logging Workshops (2 programs)
 - Chainsaw Safety Workshops for Dept of Transportation workers (5 programs)
 - Chipper/Chainsaw Workshop for Dept of Environmental Services employees (1 program)
 - Chainsaw Safety and Felling Workshops for landowners workshops (3 programs)
- Loggers who participate in the Professional Logger Program Workshops receive a 10% discount on their workers compensation rates.

Other Materials * A Safe Timber Harvesting Booklet was reprinted and distributed

Safety - An Issue for Everyone was printed in the UNH Cooperative Extension Commercial *Ornamentals* newsletter (June 2001) which is distributed to 1,840 readers (<http://ceinfo.unh.edu/agriculture/documents/NV601.pdf>).

* Articles on woodstove safety and cleaning up storm damaged trees appeared in county Extension newsletters.

* Laminated "Stop Sign" placards were distributed to milk producers. The placards ask all visitors to make appointments to visit and are designed to improve visitor safety at farms.

* Several fact sheets were written for the Master Gardener Volunteer Program which address safety issues regarding pesticides.

* Farmers have been encouraged to use integrated pest management approaches to reduce their pesticide use while protecting crop yields.

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

d. Scope of Impact - state specific

Key Theme - Leadership Training and Development/Strengthening NH Communities

- a. The SNHC Initiative focuses on building a foundation of support for healthy families, children and individuals, preserving our natural resources, and supporting the growth and continuation of our democracy.....skilled leadership is at the core of healthy communities and our state. The goal of this part of the initiative is to create opportunities for the citizens of NH to develop leadership skills, and to develop a public/private partnership supporting a Leadership Development Institute at UNH.
- b. Impacts: This past year, a Leadership Vision session was held with 50 individuals attending from private and public sectors. A significant of support was articulated for the need of leadership development activities within the state. Research was actively pursued for gathering information about leadership centers around the country. Information was gathered from Cooperative Extension staff and a position document was drafted.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Leadership Training and Development - 4-H Camps

- a. Bear Hill 4-H Camp offered 2 three week sessions of its Leaders-in-Training (LIT) program, designed for teens, ages 14 years and older, in 2001. The program emphasized team building and the development of leadership skills in a child-oriented setting. Skills learned will be useful for entry into today's working world. LITs learn CPR and first aid, study child development, help with activity leadership at Bear Hill Camp, visit and work at other camps, tour UNH campus, plan group leisure time activities, and learn about themselves as they work together in a group, helping each other achieve their best.
- b. Impact - In 2001, twenty-six youth were enrolled in the LIT program at Bear Hill 4-H Camp. The group was comprised of a wide variety of youth, from varied backgrounds, including youth in foster care. The program was coordinated by the Teen program coordinator, with many other staff assisting with the program. Each group of LITs came to the UNH campus in Durham and worked for a day at Camp Wildcat, a day camp program operated by the campus recreation department. This experience provided the participants the opportunity to practice, in a new environment, what they learned in their program. The experience allowed the LITs the opportunity to observe others in leadership roles, and to begin to compare and contrast their experiences at Bear Hill Camp and Camp Wildcat. The LITs also tour the UNH campus, providing the beginning thoughts regarding attending UNH for higher education.

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

d. Scope of Impact - state specific

Key Theme - Parenting

a. During the 2001 program year, parenting education was delivered through one - on-one interventions, seminars, workshop series, newsletter series, fact sheets, UNH Cooperative Extension's web site, and the media.

b. Impact - 3,973 parents were reached through Family Focus, Extension's face to face parenting program (323 - one-on-one/home visitors; 1,156 - seminars/one time workshops; 2,494 - workshop series). 5,110 parents of infants from birth to 12 months of age received the age-paced newsletter, Cradle Crier, and 4,303 parents of toddlers from 13 to 24 months of age received the age-paced newsletter, Toddler Tales. 8,150 parents received six issues of a newsletter, Whose Kids?... Our Kids, through the Teen Assessment Project. 32,844 fact sheets were distributed on issues ranging from bullying to the impact of divorce on children. Approximately 250,000 people were reached per episode through various television programs: 39 episodes of a 25 minute program, Ask the Expert about Parenting; 36 episodes of a 30 minute program, Today's Parent; and 28 episodes of a 3 minute program, Positive Parenting. Approximately 180,000 parents were reached monthly through a statewide news article dealing with parenting and family issues.

Of those parents completing end of workshop series evaluations of the Family Focus program (n=110) 97% stated they gained knowledge as a result of attending the series in areas such as child development (74%), positive discipline techniques (86%), parent-child communication (83%), and ways to increase children's self-esteem (75%). In addition, 79% of parents indicated their behavior had changed. For example, 68% were more patient with their children, 63% held more age-appropriate expectations for their children, 63% used more positive discipline techniques, 24% used less corporal punishment, 58% used more effective communication techniques, and 58% used more techniques to help their children develop a positive self-esteem. 60% said their children's behavior had improved and 70% of parents indicated they had better relationships with their children. Of those parents completing Cradle Crier evaluations (n=240) 98% stated they gained knowledge or skills that helped them in their role as a parent in the following areas: physical growth (99%), emotional growth (98%), intellectual development (100%), health and safety (98%), and playing games with their babies (97%). Because of the newsletter, parents stated they talk more to their babies (83%), play more games (87%), teach their babies more (87%), and allow their babies to explore more (89%). Parents reported they feel more confident in their parenting role (92%) and talk more to their partner about their baby (86%) because of the newsletters.

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

Key Theme - Parenting/Teen Assessment Project

- a. The Teen Assessment Project (TAP) is a community-based research and education program designed to help youth, parents, schools, youth-serving agencies, the spiritual community, law enforcement and community leaders collaborate to support positive youth development. TAP involves surveying youth in grades 7-12 about topics like teen attitudes and worries, future aspirations, alcohol and other drug abuse, sexuality, time use, diversity and discrimination, personal safety, violence and delinquency, health, interactions with peers, perceptions of parental behavior and monitoring, family relationships and values, perceptions of school, and neighborhood monitoring and support. Data are analyzed and results are shared through a parent newsletter series containing local data, a comprehensive statistical report and abstract, community forums, youth and family programs, and newspaper articles. TAP survey results provide a vehicle for education and action among youth, parents, schools and communities. Results stimulate program and policy changes; help communities secure local funding; and lead to changes in attitudes and behaviors that strengthen families, schools, and communities.

- b. Impacts - TAP provides youth data that enables communities to secure funding for local initiatives. To date, over \$9,000,000 has been received in the form of grants and awards to complete TAP in communities throughout the state and to initiate new programs as well as enhance existing programs. In FY '01, \$2,218,500 was awarded to conduct TAP and carry out follow-up programs in communities. A portion of this funding was devoted to parenting efforts.

A series of 6 parent newsletters entitled, "Whose Kids?... Our Kids!" was distributed to the parents of 8,150 youth in the following school districts: Dover, Pemi-Baker (Plymouth), Monadnock Regional (Hinsdale/Winchester), Keene, Fall Mountain (Charlestown), Exeter, Gorham, and Lin-wood (Lincoln/Woodstock). These newsletters included parenting information as well as local data to inform parents about youth issues. Newsletter topics include: 1) Parent-Teen Communication, 2) Teen Use of Alcohol, Tobacco and other Drugs, 3) Teen Sexuality, 4) Teen Depression and Suicide, 5) Parent-Teen Relationships, and 6) Working Together: Youth, Families, Schools and Communities. Results from a survey of parents in one school district show 58% to 82% of middle and high school parents increased their knowledge of various youth issues, such as parent/teen communication, alcohol and drugs, sexuality, and depression and suicide. In addition, it was found that 79% of the parents are now more aware of youth issues in their community and 92% consider the newsletters of value to their community. Also, 42% to 62% of the parents reported the newsletter series helped to increase parent-teen communication, depending on the issue being discussed. Issues included parent-teen communication, sexuality issues, substance abuse, depression and suicide, discipline and setting limits and parent-teen decision making. Survey results show 81% of the parents felt encouraged to share their own opinions about risky behavior with their teens, 35% increased parental monitoring and 46% wanted to become involved with others in the community to address teen issues.

provide information on youth issues. Forums reached 600 parents, 925 school personnel and 425 community members.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Workforce Preparation - NH 4-H Camps

a. In 2001, NH 4-H Camps operated three sites around the state, serving 869 individual campers in 20 weeks of camp programs. Seventy-nine staff provided the necessary supervision and support to operate the programs. Twelve youth, ages 15-18 years, in the new Mentor Program at Bear Hill Camp, provided additional support to the 45 counselors who directly supervised campers. Twenty youth participated in Teen Discovery Programs, with emphasis on career awareness.

b. Impact - Forty-five young adults, ages 15-24 years, participated in an extensive, six day, mandatory pre-camp orientation. During this time, they were trained in the areas of child development, behavior management, activity leadership, health care, first aid, risk management, safety issues, and other topics relevant to supporting a nurturing camp environment. This training, coupled with their summer experience, has had direct impact on choices for education and careers. Two of the camp counselors have chosen UNH as their choice of college for 2001-02, and are exploring therapeutic recreation by taking RMP 501 spring semester 2002, to be taught by the Extension Specialist for NH 4-H Camps. Twelve participants in the mentor program, as well as twenty participants in the new Teen Discover Programs, were exposed to a wide variety of career options. They received hands-on experience in the specific program areas and obtained insight into careers as child care workers, park rangers, and lifeguards.

Seventy-seven teens and young adults receive awareness for and/or training for a wide variety of jobs and career options. These experiences are not only relevant for the programs at NH 4-H Camps, but have impact on other jobs they pursue and choices they make about continuing education. While camps provide these experiences in the context of a social environment, there is an economic impact, through summer employment for counselors and the enhanced potential of employment of the youth who participated in the Mentor and Discovery Programs.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, Fees.
- d. Scope of Impact - state specific

Key theme - Workforce Preparation: Mini-Society®

designed to engage 8-12 year youth in developing a self-governing society driven by the entrepreneurial spirit to cope with a scarcity of resources. Since 1998, New Hampshire Cooperative Extension's 4-H Youth Development program has partnered with four other New England states to introduce Mini-Society® through after-school programs, 4-H clubs and camps, and groups of home schooled children. The program involves rigorous training of Mini-Society® teachers who must guide the learning, recognize and process trigger moments, and allow the children to create their own model society, rules, and methods of dealing with the problems that emerge. Children gain a sense of the complexity of democracy, an appreciation for the challenges of adulthood, and a strong desire to conserve precious resources, take charge of their own learning, and develop a better world. The program is especially effective with at-risk and fragile youth, and youth with special learning and behavioural issues.

- b. **Impact:** In FY01, New Hampshire coordinated the New England effort. This included providing 30 Mini-Society® teachers from six states with a 20-hour training and 6-hour follow-up booster session. Of those trained, 40% (n=12) were able to fully implement the 30-hour Mini-Society® program at 10 sites in five states, reaching 202 children. New Hampshire accounted for 40% (n=4) of the sites and 37% of the participants (n=75). The impacts on participating youth were measured using an observation checklist developed by the New England Extension Task Force on Workforce Preparation. Teachers reported that over two-thirds of participants demonstrated increased mastery of life skills including oral communication (n=158), conflict resolution (n=157), problem solving (n=156), decision making (n=154), and leadership (n=135). A majority of participants also demonstrated they had learned new concepts of citizenship, economics, and entrepreneurship including: scarcity (n=194), the roles of currency (n=189) and civil servants (n=184) in society, strategies for developing a society (n=179), basics of starting a business (n=172), how to run a town council (n=157), market mechanisms (n=172), supply and demand (n=140), plurality vs. majority decisions (n=135), principles of democracy (n=135), start-up costs (n=123), recognizing opportunity and opportunity costs (n=118), and challenges of managing a society (n=110). This is a multi-state effort, with specific state-wide impacts. Mini-Society® has been implemented in school classrooms for over twenty-five years. In 1998, the Kauffman Center for Entrepreneurial Leadership collaborated with the national 4-H program to extend the program to out-of-school settings. The New England Extension Task Force on Workforce Preparation nearly reached its goal of introducing the program in the six states; Vermont chose not to follow through with implementation after participating in the teacher training. New Hampshire was successful introducing the program through after-school and home school programs.
- c. **Source of Funding** - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. **Scope of Impact** - NH, VT, ME, MA, RI, CT

Key Theme - Workforce Preparation/Adults

- a. The goal of the Lifeskills for Employment Achievement and Purpose (LEAP) is to provide current TANF recipients with enhanced competencies that can bring them into the job market. These competencies fall into two basic categories: knowledge -based skills communicated through planned curriculum offered by LEAP and personal/interpersonal skills that are enhanced through the actual group process that takes place during the sessions. The knowledge-based skill areas are divided into four sections: food and nutrition; money management; parenting skills; and personal skills facilitating balancing work and family. The personal/interpersonal skills gained through the group process includes enhanced self-esteem and healthy social support networks. During this reporting time period 303 TANF recipients attended the 90-hour LEAP program.
- b. Impact - Faculty evaluates the LEAP program using pre, post, and follow -up assessment tools. Scores on the LEAP areas were examined to look for significant differences between pre and post-test scores. The overall scores for the areas are: food nutrition $p=.000$, money management $p=.000$, work and family $p=.000$, social support $p=.000$ and self esteem $p=.000$. In addition more than 90% of LEAP participants report that they feel more prepared for the job market, 58% reporting that they feel “much more” prepared; 94% reported having gained knowledge about available services and 90% felt better able to handle problems which increases their self efficacy. Follow up data was conducted and 33% were working (69% stating they were satisfied with their jobs overall and of these 33% stating very satisfied), 42% were participating in a New Hampshire Employment Activity and 15% reported that they are working in the Alternative Work Experience Program activity. Forty-five percent reported having kept in touch with their LEAP co-participants and 64% said the program had helped them find new sources of support.
- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Youth Development/4-H/Animal Science Events/Activities

- a. New Hampshire 4-H Youth Development programs provide a variety of high quality educational events and activities for youth interested in animal science. In addition to opportunities to exhibit animals at shows and fairs, many youth improve their knowledge and skills in animal science by participating in judging events, quiz bowls, career tours and communication events. These events and activities are designed so that youth are able to practice life skills including decision-making, communication, working as a team and acting as a leader. New Hampshire hosts a New England-wide Horse event each year - involving youth from five states in horse judging, quiz bowl, communications and hippo logy. Youth are invited to serve on animal science advisory (curriculum) committees along with adult volunteers so that they may practice leadership skills and suggest ideas that are truly meaningful to youth.

participated in some kind of animal-related event or activity (fair exhibit, demonstration, quiz bowl, career trip, etc.) A survey was mailed to a random sample of youth and volunteers (animal science and non-animal science), asking them about their experiences and how their participation affected their knowledge and skills. 94% of the youth surveyed reported they had gained more knowledge & skills within their project area. 70% reported they had improved their communication skills and had opportunity to work as a leader and worked more effectively on a team. 66% percent indicated they were better able to make decisions. There was a very high correlation to the amount of club and county event participation and skills learned/practiced, and a lower correlation with state, regional and national participation. This seems to indicate that a strong club and county program is very effective in teaching youth skills and knowledge in the animal sciences. 100% of the adult volunteers who responded to a similar survey felt that the youth they work with gained knowledge and skills and attributed their increase in skills to participation in county or state events. Adults didn't always agree that youth gained skills in decision-making, communication and being able to learn things on their own. Only 50% agreed that these skills were increased as a result of participation. One comment from the survey: "The 4-H Animal Science program is and has been an incredible experience that I would replace with no other. It's given me countless number of skills that I will take with me for the rest of my life. I hope that someday my children will get to share in the same experiences I did."

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

Key Theme - Marine Education for Youth

- a. Objectives: to have at least 75% of participating teachers adopt the Floating Lab as a part of their regular science curriculum - to increase time by teachers on marine education through participating in the other SeaTrek programming; to provide diverse opportunities for 4-H youth (staff and leaders, families); to increase their knowledge, sense of stewardship, and knowledge of marine careers. The outreach program is under one umbrella name: SeaTrek. This includes individual classroom instruction and activities, our all-school "Day of the Coast Celebration," and all the boat-based programs: The Floating Lab, The Great Bay Living Lab, and the UNH Discovery Cruises to Great Bay and Appledore Island, and participation with exhibits and activities at science conferences and community events. Most programs are delivered by the Marine Docent volunteers. Docents also lend their expertise to the Great Bay Coast Watch, our other volunteer program which not only monitors the estuarine and coastal waters of New Hampshire, but also provides experiential education opportunities for teachers and students.
- b. Impact - All 18 teachers participating in the Floating Lab program this year used the Floating Lab program as an integral part of their science curriculum, thus exposing 900 students to marine science careers and teaching them basic marine science concepts. Discovery Cruises this summer gave about 60

learned some basic marine science concepts. They reported learning more about current marine research such as the open ocean aquaculture project, and enjoying their exposure to marine science careers and further education possibilities in that field. Boat safety and being on a research vessel was a new experience for many of the 4-h'ers, most of whom came from Rockingham, Strafford, and Hillsboro Counties. Eighteen teen-agers from the 4-H Teen Conference learned about UNH marine research, were exposed to a variety of marine careers through a day-long program created especially for them. About 80 third graders from Vermont and their chaperones and teachers spent 4 hours investigating the estuarine environment through the Great Bay Living Lab program in June. This program has developed into a part of their regular curriculum every other year.

The Great Bay Coast Watch (GBCW) provides educational and stewardship opportunities to three home-school families with young children. The NH Estuaries project recognized their efforts as well as those of the whole 4th grade from Mastway School in Lee who have learned much about the riverine and estuarine environment through their study of the Lamprey River curriculum. In addition, the GBCW monitoring program provides experiential education impacts for students at the Portsmouth Elementary Middle Schools, Oyster River, Winnicunet, Marshwood (Maine), St. Mary's Academy in Dover. The Portsmouth schools have also participated in several research projects with the GBCW and Jackson Lab, planting mussels, oysters, salt marsh grasses and measuring fish. The Day of the Coast Celebrations at two schools brought 6 – 12 hours of marine education for each of the 700 students who participated last year – students who wouldn't have otherwise had this exposure. Teachers provided introductory and follow-up projects to the actual day, thus extending the experience. Ten home-school students and their parents gained knowledge and resources for marine education through a workshop featuring a salt marsh program, a visit to Jackson Estuarine Lab and a plankton sampling activity plus a folder of 25 marine science education activities (which reportedly is being used by the families). About 50 marine docents impacted several thousand students, teachers and families who visited the Seacoast Science Center and the Sandy Point Discovery Center, through delivery of educational programs they taught there.

- c. Source of Funding - Smith-Lever 3b&c, State matching funds, County funds, grant funds.
- d. Scope of Impact - state specific

B. Stakeholder Input Process

UNH Cooperative Extension actively involves stakeholders in Plan of Work development and in monitoring its implementation and evaluation. Included are County and State Cooperative Extension Advisory Councils, County Commissioners, State Legislators, University administration and faculty, program committees, commodity committees, state agencies and organizations, external relations volunteers and clientele input and feedback.

implementation and outcomes. Each council is comprised of 12 citizen volunteers plus a county commissioner and one local member of the state legislature. The State Advisory Council provides oversight for the statewide Extension program. It is comprised of two members from each of the state's ten advisory councils, the state CARET (Council for Agricultural Research, Extension and Teaching) representative, plus five members at large, for a total of 26 members. Monitoring outcomes and impacts is an appropriate role as council members represent the state's population and because council members have voiced a desire for an increased role in the program development process. During 2001 both county and state advisory councils, partners, stakeholders and UNH faculty were also actively involved in development of UNH Cooperative Extension's 2001 - 2006 Strategic Plan.

Program outcomes and accomplishments are shared with advisory councils in a variety of forms. Specific program presentations, reports and discussions are routinely scheduled as part of advisory council meetings. Annual accomplishment reports and impact statements are widely distributed to advisory council members, elected officials and other stakeholders. The UNH Cooperative Extension web page is being increasingly used as a means for stakeholders and advisory council members to track program implementation and assess the value and relevancy of efforts and outcomes. In addition, Cooperative Extension works closely with many partners and other stakeholders. These include state and federal agencies, public and private organizations, University faculty, town government and non-profit agencies. Key individuals representing these partners and stakeholders are routinely involved with Extension in planning, implementing and evaluating programs.

C. Program Review Process

There are no significant changes in the program review process since development and submission of the FY2000-2004 Plan of Work.

D. Evaluation of the Success of Multi and Joint Activities

1. Multi-State Extension activities include a wide-range of partnership and collaborative efforts that have been in place for many years. Many of the activities reported are joint efforts with the National Cooperative Extension System, Northeast Region and the New England Region. A particular emphasis is placed on joint activities with other New England states due to our common regional issues, individual programming limitations and close proximity to neighboring states. This has been enhanced and encouraged through joint funding of the New England Extension Consortium planning and implementation grants. The Consortium awarded nine grants for regional projects in 2001. Cooperative Extension has also benefitted from the closer relationship with research. The Agricultural Experiment Station at the University of New Hampshire functions under the agricultural dean while Cooperative Extension is a separate entity functioning under its own dean. This separate administrative structure has limited collaborative efforts in the past but the current joint activities demonstrate substantial progress in this state and the beginning of greater collaboration and partnerships between research and extension.

development programs and NH 4-H Camps also target and involve under-served and low-income youth, including youth with disabilities. Several agricultural and forestry programs include women as a targeted audience and also include financial management components important to producers whose income is limited by their business management skills. Several of the integrated Extension and Research projects are focused on profitability and sustainability. Due to our short growing season, lack of fertile soils and limited open space, many agricultural producers are only marginally profitable and will potentially benefit from research addressing these factors.

3. All planned multi-state and integrated Extension and Research projects have clear goals, objectives and expected outcomes. Program evaluation is a planned part of all Extension programs with outcomes and impacts to be clearly identified. In 2001 UNH Cooperative Extension adopted the Logic Model, currently being adopted by many other states. Staff training is planned for 2002, and the model will serve as the basis for future program planning including development of the next Plan of Work.

4. Both multi-state programs and integrated Research and Extension programs have improved effectiveness and efficiency. Through UNH Cooperative Extension's active partnership in the National Cooperative Extension System, we can access and use the combined resources and expertise of the total system. Joint planning strengthens the entire system through agreement on common initiatives, goals and procedures. This collaborative effort encourages and supports joint programming due to similar structures and operations within which each partner can easily connect. Integrated Extension and Research has also improved effectiveness in New Hampshire. Because of Extension's responsibility to extend the university's knowledge and research for application in the state, joint work facilitates this role. As Extension Educators and faculty research scientists work more closely together, both sides will benefit. Extension staff will be aware of research findings and be better equipped to convey research results to those who need it. Researchers, through their closer relationship with Extension, will better know the research needs of the state.

1. New England Extension Consortium	\$5,726
2. Eastern States Exposition	1,712
3. Natural Resources, Agriculture & Engineering Service (NRAES)	1,963
4. Northeast Leadership Development	4,160
5. National Extension Leadership Development	631
6. Northeast Land-Grant Group	4,252
7. Nat. Assoc. of State Universities and Land-Grant Colleges (NASULGC)	9,470
8. American Distance Education Consortium (ADEC)	6,250
9. Regional/National Program Leader Meetings	150
10. Multi-State Program Planning and Implementation	108,153
11. New England/Multi-State meeting/conferences/trainings	8,213
12. Participation of Director, Associate Director, Business Administrator, CIT Manager and Educational Marketing & Information Manager in regional and national meetings	50,948
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Total FY01 Expenditures -	\$201,628

Brief Report of Progress in Planned Multi-State Programs:

1. New Hampshire continues its active partnership in the New England Extension Consortium. A major activity in FY01 was the awarding of 9 regional planning and implementation grants in the amount of \$23,000 to support multi-state Extension programs.
2. Eastern States Exposition continues to provide valued youth education opportunities for 4-H members throughout New England. This opportunity is highly appealing to 4-H members and leaders and provides a strong incentive for youth to set goals and reach their potential.
3. Participation in the Natural Resources, Agriculture and Engineering Service (NRAES) continues to provide essential technical publication support for New Hampshire, and provides important coverage for topics and subjects for which we lack staffing or expertise. Fees paid from state funds.
4. New Hampshire is a funding partner in the Northeast Leadership Development Program and currently has one staff member enrolled in the program.
5. New Hampshire is a funding partner in the National Extension Leadership Development but currently has no state participant in the program.
6. Both the Dean & Director and Associate Director are active participants in the Northeast Land-Grant group that meets three times annually to promote multi-state Extension programs and the further integration of Research and Extension throughout the Northeast. John Pike, New Hampshire's Dean and Director is currently chair of the Northeast Extension Directors groups and served as a member of the planning committee for the summer 2001 Northeast joint meeting.
7. New Hampshire Cooperative Extension is a funding partner in the National Association of State Universities and Land-Grant Colleges. The Dean and Director attended the FY2000 NASULGC national meeting. New Hampshire also supports a representative on NASULGC's Council on Agricultural Research, Extension and Teaching.

9. New Hampshire Cooperative Extension Program Leaders actively participate in periodic regional and national Program Leader meetings for program planning, collaboration, networking and implementation of national initiatives.

10. Cooperative Extension staff in New Hampshire actively participate in multi -state program planning and implement, many of which are New England regional efforts. Examples include groups addressing IPM, nutrition and food safety, dairy management, nursery and greenhouse production, fruit and vegetable production, plant diagnostics, youth entrepreneurship, and sustainable agriculture.

11. During FY2001 New Hampshire Extension staff participated in regional and New England planning meetings for producer/grower association events, professional development conferences, and multi -state collaboration including development and implementation of New England Extension Consortium program grants.

12. In support of the National Cooperative Extension System, New Hampshire's Associate Director, Business Manager, CIT Manager and Educational Marketing and Information Manager participated in national civil rights training, Administrative Officers Meeting, National Leadership Conference, National Extension Technology Conference, Agricultural Communicators in Education meetings and Extension Directors national meetings.

1. William Lord	\$11,423
2. Dr. Peter Erickson	14,646
3. Dr. William MacHardy	8,227
4. Dr. John Roberts	23,239
5. Dr. Stefan Seiter	10,523
6. Dr. David Kopsell	13,947
7. Dr. Catherine Neal	21,456
8. Dr. Paul Fisher	19,133
9. Dr. Charles Schwab	730
10. Dr. J. Brent Loy	1,160

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Total FY2001 Expenditures - \$124,484

Brief Report of Progress

1. Salary support provided for William Lord, Extension Fruit Specialist, to conduct research projects: (1) Intensive Production for Strawberries, and (2) Multi-disciplinary Evaluation of New Apple Cultivars.
2. Salary support provided for Dr. Peter Erickson, Extension Dairy Specialist, for research in Management Systems for Improved Decision-Making and Profitability of Dairy Herds.
3. Salary support provided for Dr. William MacHardy, Extension Pathology Specialist, for research in Epidemiology and Control of Apple Scab.
4. Salary support provided for Dr. John Roberts, Extension Turf Specialist, who functions in a split Extension and Research position.
5. Salary support provided for Dr. Stefan Seiter, Extension Agroecology Specialist, who functions in a split Extension, Teaching and Research position.
6. Salary support for Dr. David Kopsell, Extension Vegetable Specialist, for research in Mild Onion Production in New England.
7. Salary support for Dr. Catherine Neal, Extension Ornamentals Specialist, for research in Nutrient Management for Production and Maintenance of Ornamental Plants.
8. Salary support for Dr. Paul Fisher, Extension Ornamental Specialist, for research in A Decision-Support System for Control of pH in Soilless Container Media.
9. Salary support for Dr. Charles Schwab, Professor of Animal & Nutritional Science, for research projects: (1) Metabolic Relationships in Supply of Nutrients in Lactating Cows; and (2) Management of Systems for Improved Decision-Making and Profitability of Dairy Herds.
10. Salary support for Dr. Brent Loy, Professor of Plant Biology and Genetics, for research projects: (1) Conservation and Utilization of Plant Genetic Resources, and (2) Genetics and Breeding of Cucurbits.