

## 2007 University of New Hampshire Extension Annual Report

### 1. Report Overview

#### Executive Summary

Part of the nationwide land-grant university system, UNH Cooperative Extension is a major outreach program of the University of New Hampshire. It provides a direct link between UNH and people throughout the state. In partnership with local residents and volunteers, Cooperative Extension plans and conducts educational programs addressing needs and issues important to New Hampshire people.

Cooperative Extension's broad scope of activities, identified through a statewide needs assessment and reflected through our many partnerships with other organizations, agencies and academic departments, aim to foster development of competent individuals and strong families, strengthen New Hampshire communities, conserve and improve natural resources, and strengthen the economic viability of agricultural, forest and marine industries.

Cooperative Extension is a network of 170 full- and part-time professional and support staff located in New Hampshire's 10 counties, at the main UNH campus in Durham, and the urban campus in Manchester. More than 4,000 volunteers extend the reach of Extension staff throughout the state. Cooperative Extension designs and conducts educational programs in the areas of natural resources, and youth, families and communities. We use a variety of methods to engage the public in an interactive process designed to deliver information, research and programs.

Teaching, clinical, and research faculty from UNH's schools, colleges, centers and institutes work in partnership with Extension faculty to address the state's priority needs. Currently the majority of Extension's campus-based specialists are located in academic departments to maximize the potential for integrating teaching, research and outreach. Efforts are continuing to increase the number of specialists in departments.

**Agricultural Resources** programs respond to the changing needs of a diverse clientele with educational programs that promote environmentally safe practices and effective production, business and marketing strategies for New Hampshire family farms.

- Promotes public awareness of the contributions of productive agricultural enterprises to the health and economic well-being of all New Hampshire residents.
- Works with other agency and organizational partners to deliver educational programs that help farm families meet their business needs.
- Helps farmer-based groups and organizations such as the Plant Growers Association, Winery Association, Fruit and Vegetable Association and Grazing Advisory Group to address emerging problems and needs.
- Uses applied research conducted at UNH and elsewhere to develop sustainable practices that help New Hampshire farmers reduce the risk of environmental damage, maintain or improve their land stewardship and remain financially viable for future years.
- Conducts the Integrated Pest Management (IPM) Program to teach farmers a holistic approach to pest problems.
- Encourages expanded production and marketing of locally grown products by working with state and local government officials to improve the understanding of New Hampshire agriculture and its role in the state's economy
- Staffs the Family, Home & Garden Education Center and trains the volunteers who handle more than 10,000 calls a year to the center's toll-free Info Line. Callers seek information on everything from lawn care and managing pests inside and outside their homes, to gardening, food preservation, and the ABC's of raising children.

**Forestry and Wildlife** programs sustain and improve the economic viability of the state's \$1.9 billion forest products industries, which directly employ 10,000 New Hampshire residents, by providing information and assistance to New Hampshire forest landowners, community leaders, businesses and civic groups.

- Promotes general public awareness of the varied economic benefits and ecological services provided by the state's commercial forests.
- Raises awareness of the economic and ecological values of our forests and wildlife among residents and community decision-makers, through site visits, publications, workshops and seminars.
- Ensures the long-term sustainability of New Hampshire's forest and wildlife resources by educating landowners and land managers about sustainable use, land stewardship and wildlife habitat conservation.
- Raises awareness of sound land stewardship and wildlife habitat conservation among New Hampshire citizens by training and supporting a network of natural resource volunteers, such as Tree Stewards and Coverts.

- Maintains the ecological integrity and economic vitality of the natural resources in New Hampshire's communities by providing research-based information and educational programs on forestry, wildlife, land use planning, estate planning, natural resource inventories and land conservation.

**Sea Grant, Water and Marine Resources** programs educates New Hampshire's residents in the stewardship and wise use of freshwater and marine resources.

- Trains and supports a cadre of 150 volunteer Marine Docents to provide outreach and awareness to a wide variety of audiences. Similarly, the Great Bay Coast Watch supports 75 volunteers to monitor water quality and phytoplankton at 27 sites along the New Hampshire coast and estuaries. Both programs act as catalysts that bring about positive action to help solve problems involving our coastal resources.
- Helps aquaculturists make sound decisions that result in profitable operations.
- Offers coastal and upland residents research-based information to help prevent or reduce water pollution.
- Through the N.H. Lakes Lay Monitoring Program, trains and supports more than 500 volunteer "citizen scientists," who help monitor 250 lake sites and more than 300 tributary sites for more than 120 lake watersheds. This "neighbor-to-neighbor" approach promotes watershed protection, and educates and empowers participants.

**4-H Youth Development**, through diverse programs of hands-on learning, empowers young people to take an active role in decisions affecting their lives, families and communities. Programs include 4-H clubs, special interest groups, after-school programs, camps and short-term special-interest groups. Research has identified a successful positive youth development program as one in which young people feel a sense of belonging, develop a mastery of skills, including life skills that lead to independence and generosity. This philosophy matches the development of the individual through head, heart, hands and health.

- 4-H Youth Development educators are recognized by youth-serving agencies throughout New Hampshire for their knowledge of the principles and best practices of positive youth development and their skilled volunteer management.
- Annually serves approximately 25,000 New Hampshire youth.
- Screens, trains and supports more than 3,000 adult volunteers who deliver 4-H programs. Through their efforts, 4-H youth experience what research has shown to be the most powerful protective factor for a child: having a relationship with a positive, caring adult.
- Reaches out to non-traditional audiences. A Children, Youth, Families at Risk (CYFAR) grant helped community coalitions to support youth and families at highest risk. Best practices from pilot programs and the classic 4-H program led to development of a "4-H Time in After School Time" program.

**Family and Consumer Resources** programs develop diverse research-based programs that help New Hampshire individuals, families and communities gain knowledge and skills that foster effective decision-making and help them solve problems that affect their quality of life.

- Through the Nutrition Connections program, teaches low-income families, pregnant and parenting teens, the elderly and children to eat healthfully, stretch food dollars and practice food safety. Research shows that poverty is the number one indicator for hunger; currently 28,000 New Hampshire children live in poverty and more than 24,000 New Hampshire households receive food stamps.
- Extends UNH research in nutritional sciences to adults throughout the state, offering information about healthy behaviors that reduce risk of chronic disease.
- Delivers programs that provide food-service workers and managers, and consumers, with research-based information about food safety practices aimed at reducing the incidence of food borne illnesses.
- Offers parenting education programs that help parents develop the skills they need to promote the healthy development of their children. Increasing cases of child abuse and neglect indicate a growing need for prevention programs that will make a long-term impact.
- Teaches financial management skills that help youth and adults increase savings and reduce debt, gain confidence and skills in financial decision making, and prepare for financial security in later life.

**Community Development** programs help New Hampshire communities face many emerging and overlapping challenges, which include changing demographics, shifting economic structures, a rise in family and community crises, a decline in volunteerism, loss of jobs and unprecedented growth in some regions and decline in others.

- Develops and communicates capacity-building strategies that help communities achieve long-term human, environmental, economic and social well-being.
- Provides a variety of educational services to individuals, organizations, associations, and local governments. Services include facilitating community forums, training citizens in leadership, helping with community planning

and participatory decision-making, and offering technical assistance in the areas of economic development, volunteer development, and land-use decision-making.

- Coordinates Community Profiles, a community visioning program that works with three or four New Hampshire cities and towns and more than 500 residents each year to develop and implement an action plan to address key community issues and ideas.

**Total Actual Amount of professional FTEs/SYs for this State**

**2. Merit Review Process**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	85.0	0.0	0.0	0.0
<b>Actual</b>	96.0	0.0	0.0	0.0

**Brief Explanation**

New Hampshire entered into a formal partnership with Cooperative Extension in Maine, Massachusetts, and Vermont in 2004 to develop and implement a web-based planning and reporting system. As a result of this very successful (and unique) partnership we share a planning and reporting system that allows each of use to view plans and reports of the other states. We have also agreed to provide Merit Review for each other on a rotating basis so that each state in the partnership gets a thorough, expert-review of their state plan of work every four years. In addition to providing feedback to one another, this rotation asks staff to volunteer to be reviewers to look carefully at plans from other states with similar goals and outcomes to their own. For example, 4-H youth development staff in ME, VT, and MA volunteered to review the 4-H youth development plans for NH in 2007 and Agriculture staff reviewed Agriculture plans. This system not only provided New Hampshire with valuable expert-review, but also increased the level of awareness of potential shared programs in neighboring states and helped the reviewers to reflect more critically on their own plans.

New Hampshire was the first state to undergo review in 2007 and Vermont will be reviewed in 2008. A merit review score sheet was developed jointly so that a similar process would be used for each state. Because New Hampshire was being reviewed, it was our responsibility to provide a list of planned programs and a logical grouping of 2-3 planned programs for a single reviewer to review. This resulted in a single group of reviewers to examine and make comments on only 2 or 3 planned programs in a subject matter they had some knowledge in. The states responsible for the review recruited a team of 2-4 staff members for each grouping. Because the plans were accessible to all staff in the four states through our common planning and reporting system, this made electronic access to the plans they needed to review easy.

Each of the three states reviewing collected data using a common merit review score sheet, then one person from each of the states summarized reviewer scores and comments and prepared the report for the state being reviewed. The reports are shared with staff who are developing the planned programs and suggestions are incorporated into next year's plan.

**3. Stakeholder Input**

**Actions taken to seek stakeholder input that encouraged their participation**

- Targeted invitation to traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder individuals
- Survey of selected individuals from the general public

**Brief Explanation**

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

**A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them**

**Method to identify individuals and groups**

- Use Advisory Committees
- Open Listening Sessions
- Needs Assessments
- Use Surveys

**Brief Explanation**

County Advisory Councils, designated by state statute, play a key role in development of the Plan of Work and in monitoring its implementation and outcomes. Each council includes 12 citizen volunteers, including one or two youth, plus a County Commissioner and one local member of the state legislature. The State Advisory Council provides oversight for the statewide Extension program. The Council's 26 seats include two from each of the state's 10 advisory councils, the state Council for Agricultural Research, Extension and Teaching (CARET) representative and five members at large.

**A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them**

**Methods for collecting Stakeholder Input**

- Meeting with traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of selected individuals from the general public

**Brief Explanation**

Monitoring program outcomes and impacts is an appropriate role since council members represent the state's population, including under-served and under-represented audiences. Advisory Councils helped determine program implementation changes due to downsizing of staff. Council members also assist with the program development process. In 2003, over 300 council members and other citizens identified local issues, Extension's role in addressing these issues and ways to deliver educational programs through listening sessions held in each county by the Associate Director of Extension, on line surveys, and a statewide face-to-face caucus. Listening session and caucus participants received a final report on issues to be addressed by the Plan of Work.

**A statement of how the input was considered**

- To Identify Emerging Issues
- Redirect Extension Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

**Brief Explanation**

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

**IV. Expenditure Summary**

<b>1. Total Actual Formula dollars Allocated (pre-populated from C-REEMS)</b>			
<b>Extension</b>		<b>Research</b>	
<b>Smith-Lever 3b &amp; 3c</b>	<b>1980 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
\$1,547,564	0	0	0

<b>2. Totaled Actual dollars from Planned Programs Inputs</b>				
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1980 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
Actual Formula	\$1,547,564	0	0	0
Actual Matching	\$1,547,564	0	0	0
Actual All Other	\$16,752,080	0	0	0
<b>Total Actual Expended</b>	<b>\$19,847,208</b>	<b>0</b>	<b>0</b>	<b>0</b>

**4. Planned Program Table of Contents**

- 4-H Youth Development
- Agricultural Resources
- Civic Participation and Leadership
- Strengthening New Hampshire Communities
- Family and Consumer Resources
- Forestry and Wildlife
- Land and Water Conservation
- Natural Resource Business Institute
- Program Development and Evaluation
- Seat Grant and Water Resources

**Name of the Planned Program**

4-H Youth Development

**Program Knowledge Areas and Percentage**

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
802	Human Development and Family Well-Being	10%			
805	Community Institutions, Health, and Social Services	10%			
806	Youth Development	80%			
	<b>Total</b>	<b>100%</b>			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	<b>Extension</b>		<b>Research</b>	
	<b>1862</b>	<b>1890</b>	<b>1862</b>	<b>1890</b>
<b>Plan</b>	12.0	0.0	0.0	0.0
<b>Actual</b>	20.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$322,544	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$322,544	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$3,198,159	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

Positive Youth Development• Safe learning environments• Camps-summer, residential, day, Operation Military Kids, family• Technical support, translation of research, data analysis related to youth issues and development• Policy Development

Life Skill Development• County & State Activity Days• Youth Recognition-marketing you, scholarships, achievement awards, etc• Career Education/workforce prep• Project related events/activities demonstrating life skills competencies• Civic Participation• Entrepreneurship• Healthy Life Style Activities

Resource Development and Maintenance• Working with local & state 4-H Foundations• Donor relations-public, private• Marketing-recruiting youth, clubs/groups, general public relations• Fund raising events and activities• Grant Development

Youth Leadership• Youth Voice-committees, group, communities• Officer Leadership Lab• Teen Programming-State Conf., councils, exchanges, etc• Leaders In Training/Mentor Program at 4-H Camp

Volunteer/Staff Development and Management • Recruit, screen, orient, support, and recognize volunteers• Project/activity volunteer training-multiple delivery methods• Certification Programs – Shooting Sports, etc.

Positive Youth Development Training• Middle manager system design and support (includes fair superintendents)• Training for out of school time staff• Regional training efforts including 2008 North East Leaders Forum

Community Youth Development• Youth Community Involvement – Community Youth Mapping, Youth Action groups, teen centers, Youth As Partners, service learning• Family Involvement• Youth Coalition development/participation/grant development, technical support• Children Youth and Families At Risk (CYFAR) Initiatives• Operation Military Kids

Subject Matter Mastery • Subject matter short courses/clinic• Skill-a-thons• Project specific training

**Brief description of the target audience**

Youth – ages 5-18 involved in community 4-H clubs, after school programs, community coalitions and classrooms. Adult volunteers, educators, decision makers, policy makers

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contact Adults	Direct Conducts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2300	200000	23000	5000
2007	16022	46000	21043	5000

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
<b>2007</b>	0	0	0

**State Defined Outputs**

**Output Measure**

Number of youth involved in 4-H community clubs/groups and after school programs that participate in activities designed to increase life skills.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>1500</b>	<b>5549</b>

Number of youth involved in partnerships who learn skills and ethical obligations related to resource development.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>105</b>

Number of adults involved in partnerships who learn skills and ethical obligations related to resource development.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>200</b>	<b>47</b>

Number of youth gaining leadership skills by serving on boards related to 4-H camp, clubs/groups, and/or foundations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>47</b>

Number of adults gaining leadership skills by serving on boards related to 4-H camp, clubs/groups, and/or foundations partnering with youth.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>150</b>	<b>114</b>

Number of adult volunteers serving in middle management roles for 4-H.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>120</b>	<b>68</b>

Number of youth enrolled in 4-H clubs/groups participating in activities to develop subject matter competency.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>1500</b>	<b>9900</b>

Number of adult volunteers supporting traditional or classic 4-H clubs/groups participating in activities to develop subject matter competency.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>1000</b>	<b>2626</b>

Number of youth engaged in activities which effect or change their community.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>1000</b>	<b>1958</b>

Number of adult volunteers who partner with youth to engage in activities which effect or change their community.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>839</b>

Youth involved in presentations through State or County Activities Days, workshops, as community club officers, interviews or as committee members

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>500</b>	<b>1210</b>

Adult volunteers who help youth involved in presentations through State or County Activities Days, workshops, as community club officers, interviews or as committee members

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>100</b>	<b>95</b>

Number of volunteers who are screened, receive orientation and training in positive youth development concepts for 4-H clubs/groups

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>0</b>	<b>40</b>

**State Defined Outcomes**

**Outcome Measures**

Percent of NH youth involved in 4-H YD programs who demonstrate an increase in specific life skills.

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>60</b>	<b>40</b>

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

806 Youth Development

Percent of youth/adults who demonstrate an increase in knowledge and skills related to specific projects and/or subject matter.

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>60</b>	<b>85</b>

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

806 Youth Development

Percent of NH youth involved in 4-H YD programs who explore career aspirations related to their 4-H experience.

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	0	48

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

806 Youth Development

Percent of youth/adults who demonstrate an increase in knowledge and skills related to specific projects and/or subject matter.

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	60	85

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

806 Youth Development

Percent of NH 4-H YD new volunteers who demonstrate an increase in their understanding and use of positive youth development concepts when working with youth.

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	80	81

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

4-H Youth Development volunteers and staff create opportunities where youth learn to better understand themselves and become independent thinkers. UNHCE 4-H Camping programs provide utilize seasonal staff and volunteers to provide a high quality residential camping experience that adheres to positive youth development practices. Although some staff return to work multiple seasons at camp, most are new each spring and a well-planned and implemented training program is required to insure camp runs smoothly and the youth participants have a positive experience.

### **What has been done**

Thirty-five members of the 2007 camp staff, including one-on-one aides, received 15 hours of training on Circle of Courage, including an overview of 4-H and the essential elements, applying the 4-H model to individual roles at camp, and inclusion methods for working with children with special needs. UNH 4-H Camps provided a week of staff training for new and returning staff prior to the start of the 2007 UNH 4-H Camps season. Participants in training included all paid and volunteer staff for the summer camp season, including staff from Barry Conservation Camp, Bear Hill residential and day camp. Included in the training was observation of a family camp prior to training, orientation to 4-H and the essential elements, ages and stages of child development, Circle of Courage, positive behavior management, and more. Staff participated in a written self-assessment at the end of the staff training week in June (pretest, n=35) and again on Sunday of the final week of camp (posttest, n=36). Two focus groups were also conducted on the date of the posttest with counselors in one group and program / support staff in another group. Pre- and post-survey data from written surveys was analyzed and compared with data from the 2006 camp season.

### **Results:**

UNH 4-H Camps staff completed written surveys in June following a week of staff training (pre-test n=35) and at the start of the final camp week in August (posttest n=36). The written survey asked staff to assess their own knowledge and skills related to their roles and responsibilities as a staff member. Staff also participated in one of two focus groups administered prior to completing the written post-test. Focus group participants were asked to reflect on how working at camp had impacted them, how staff training might be improved, and how they might use their experience in the future.

The staff came to their jobs with a range of knowledge and experience. Half of the staff (52%) had some post-secondary training, including three with graduate degrees. Of the remaining staff, half were high school graduates or held a GED, and half were still in high school. Staff assignments included 18 counselors (51%), seven program staff (20%), seven administrators (20%), and three who indicated other positions or did not reply (9%). One-third of the staff had no prior experience working at UNH 4-H Camps (31%) and one-third had just one summer of previous experience (33 %). Three staff had five or more years experience working at UNH 4-H Camps.

- By the end of the season, most staff (81%) strongly agreed (25%) or agreed (56%) with the statement I know how to use 4-H teaching methods to reinforce learning. Most staff (80%) were in agreement at the start of the camp season (34% strongly agree, 46% agree).
- Most staff were in agreement on both pretest and posttest with the statements: it is important to help campers experience a sense of belonging (97% pretest, 100% posttest), independence (97% pretest, 100% posttest) and generosity (98% pretest, 100% posttest) and mastery (98% pretest, 94% posttest), there was a decline on all elements in those who strongly agree.
- While 98% strongly agreed or agreed on the pretest that I am familiar with the behavioral characteristics of various age groups, there was somewhat less confidence on the posttest (95%). On the pretest, 69% strongly agreed, and 29% agreed. On the posttest, 56% strongly agreed, and 39% agreed.
- Most staff (95% pretest and posttest) strongly agreed or agreed that I know how to adapt an activity to be sure all children in my group are included. On the pretest, 69% strongly agreed, and 26% agreed. Fewer strongly agreed (56%) with the statement on the posttest, while more agreed (39%).
- Most staff (97% pretest and posttest) were in agreement with the statement I know how to help campers learn and practice basic social and life skills, although there were fewer staff strongly agreeing in the posttest (pretest: 66% strongly agree, 31% agree; posttest: 53% strongly agree, 44% agree).
- Since many of the staff at UNH 4-H Camps are foreign, helping staff and campers understand other cultures is a logical expectation. A majority of staff (97% pretest, 94% posttest) were in agreement with the statement I can help campers respect and value differences and similarities in others. There was a slight decline in the number of staff strongly agreeing with this statement, and an increase in those agreeing (pretest: 66% strongly agree, 31% agree; posttest: 61% strongly agree, 33% agree).

### **Associated Knowledge Areas**

806 Youth Development

Percent of the NH 4-H YD middle management volunteers who gain knowledge and practice skills to master specific leadership roles.

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	0	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Hundreds of volunteers plan, implement, and even help evaluate 4-H youth development programs in New Hampshire. These volunteers serve in many different ways, some requiring them to take on new roles that may have previously been filled by paid staff, including running events, taking on responsibility for youth traveling nationally for 4-H-sponsored trips, and training/supporting other volunteers. Middle management volunteers work closely with professional staff and require more in-depth training and support than other volunteers.

**What has been done**

A group of 4-H youth development staff are currently working on the completion of a comprehensive 4-H middle management training curriculum that will include written materials, web-based distance education opportunities, face-to-face training, and plenty of opportunities for 4-H middle managers to practice skills and apply knowledge to extending NH's 4-H program to youth in community clubs, after school programs, 4-H camp, and other non-formal youth programs. This curriculum will be pilot tested in the coming year.

**Results:** This outcome measure will be reported against in 2009.

**Associated Knowledge Areas**

- 802 Human Development and Family Well-being
- 806 Youth Development

Percent of volunteers on UNHCE targeted boards, committees and collaborations who report increased recognition of the value of youth on their boards

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	60	40

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Youth need to gain confidence and skills necessary to make thoughtful decisions, accept responsibility, exercise self-discipline, and move toward independence. They need to know they are able to influence people and events through decision-making and actions. Young people aren't just leaders of tomorrow. They have great untapped potential for responsible leadership today. 4-H Youth Development volunteers create opportunities where youth learn to better understand themselves and become independent thinkers. By exercising independence through 4-H leadership opportunities, youth mature in self-discipline and responsibility. Organizational skills, patience and group dynamics are assets learned as youth become contributing adults.

Through involvement in their community and 4-H groups, 4-H youth gain the important social skills that allow them to thrive with others in society. Learning communication, cooperation and social skills provides a foundation for life-long participation in family, community and work environments.

**What has been done**

In New Hampshire, every 4-H Youth Development staff member has been trained in the concepts of Youth-Adult Partnerships. After a 12-year hiatus, the State 4-H Youth Development Advisory Committee has been established with equal number of youth and adults. Four years ago, teen groups helped at county events after being told what to do. Now these same councils are the core group, planning events and trying to increase the youth appeal while developing their own leadership skills at the same time. The volunteer leader handbook has been updated with more information about Youth-Adult Partnerships, and how to effectively develop them within the club setting.

**Results:**

Currently, all statewide committees have youth representation and more county teen councils are planning, implementing and evaluating county programs. University of New Hampshire Cooperative Extension 4-H Youth Development has become known in the state as a leader in Youth-Adult Partnership philosophy. This has included being part of grants submitted by other agencies to conduct training to support the concepts in afterschool programs, other youth programs and with the Operation: Military Kids program.

The Newport Teen Center Executive Director says that the 4-H training on Youth and Adult Partnerships has been the most helpful training that she and her teens have gone to. She reports that the teens in her center are full partners in fund raising to meet their goals. Teens even raised money to paint and panel their Teen Center space. They are now earning money to take a trip to Washington, DC in April 2008. The teens feel "ownership" of their program.

One county has changed their policy requiring one third of the 4-H Advisory Council to be made up of youth. A youth member has served as chair for the past 8 years in this county and youth served in both chair and co-chair roles in 2007. These youth are currently working with the greater County Extension Advisory Committee to write a new/updated job description to hire a 4-H Extension Educator (to replace one that will be retiring) in the coming year.

Another older youth active in the horse project area asked to serve on a regional committee to plan the Eastern States Exposition (ESE) 4-H horse show (New England's version of a state fair). The planning committee is made of youth and adults from six states. She had been frustrated that this event didn't offer the opportunity for youth to show in a driving division so she collected data, developed and delivered a written proposal to the planning committee, and is now part of the group initiating a new horse show driving division to be held at ESE.

**Associated Knowledge Areas**

- 805 Community Institutions, Health and Social Services
- 806 Youth Development

**Crosscutting Qualitative Outcome or Impact Statement**

- Percent of NH youth involved in 4-H YD programs who demonstrate an increase in specific life skills.
- Percent of youth/adults who demonstrate an increase in knowledge and skills related to specific projects and/or subject matter.
- Percent of NH youth enrolled in 4-H YD who explore career aspirations related to their 4-H experience

**Issue (Who cares and Why)**

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

Successful youth believe they are capable and competent, and have acquired experience making decisions, solving problems and meeting challenges. The subject matter taught in 4-H projects is the foundation enabling 4-H youth to master skills and explore possible careers leading to healthy and productive adulthood. The breadth and depth of 4-H youth development projects and activities enable youth to pursue their own interests. Learning about the environment, science and technology, how to be good consumers, as well as caring for animals provides 4-H subject matter skills that can be of economic, social and/or personal value to youth in their future.

Youth need to gain confidence and skills necessary to make thoughtful decisions, accept responsibility, exercise self-discipline, and move toward independence. They need to know they are able to influence people and events through decision-making and actions. Young people aren't just leaders of tomorrow. They have great untapped potential for responsible leadership today. By exercising independence through 4-H leadership opportunities, youth mature in self-discipline and responsibility. Through 4-H experiences, youth learn to think independently and make decisions that prepare them for the important choices made in later life. 4-H leadership roles allow youth to take responsibility for many decisions and/or actions that once fell solely on adults. Organizational skills, patience and group dynamics are assets learned as youth become contributing adults.

**What has been done**

Through 4-H, youth acquire and practice critical life skills to meet basic needs for belonging, independence, generosity and mastery. Critical program components used in the NH 4-H Youth Development program to achieve this goal include trained and supported 4-H volunteers, 4-H CCS curriculum, educational events and activities, and a variety of delivery methods including 4-H clubs, afterschool programs, and camps.

**Results:**

Youth are developing important life skills through a variety of 4-H programs and activities. Through the Annual 4-H Group Activity Report, 4-H volunteers were asked to assess how 4-H has influenced the development of knowledge and skills among the youth in their groups. Volunteers from 231 4-H groups provided their perceptions of how well 1,736 4-H members are learning and practicing the skills being taught through the 4-H experience.

Learning to communicate in a variety of ways is an essential skill that is highly valued in the workforce, and critically important to social development and interpersonal relationships. 4-H provides opportunities for youth to reflect on their experiences, demonstrate something they have learned, and document their accomplishments.

- One-third of 4-H youth (37%, n = 639) made an oral presentation in public related to something they had learned or worked on through 4-H.
- Over half of 4-H youth (59%, n=1032) shared their knowledge / skills via a display or exhibit.
- One-quarter of 4-H youth from this sample (26%, n=460) documented their 4-H effort through record-keeping activities and/or preparing a resume.

As a result of these communication activities, participation in events, and community service projects the volunteers believe 42% (n=721) of 4-H youth influenced others and 38% (n=660) made an impact on others.

Learning how to be part of a group, plan and carry out group activities, and following through on commitments to a group are important life skills that carry over into family, school, community and future employment. 4-H provides many opportunities, from a very young age through adolescence, for youth to learn and practice a variety of leadership skills.

- Almost three-quarters of the 4-H youth from this sample (70%, n=1210) participated in at least one county 4-H event and 20% (n=345) participated in at least one state event. These activities provide opportunities for youth to gain experience meeting youth from other communities, learning how to be part of an organized activity, and sharing knowledge and skills with others.
- One-quarter of these 4-H youth served on a committee (24%, n = 419) during the past year as part of their 4-H experience, and/or served as an officer in a 4-H group at the local, county, and/or state level (25%, n=437).

Knowledge gained - Providing opportunities for youth to gain knowledge, learn and practice a new skill, and improve on something they do well is an essential element of a quality youth development program, and leads to increased feelings of competence and self-confidence.

- 82% of 4-H youth (n=1421) received new information through 4-H. According to the volunteers, most 4-H youth (85%, n=1476) gained knowledge suggesting these youth are also learning through their 4-H experiences and self-study.

Skill Development and aspirations - Learning and practicing new skills is often a journey in 4-H, according to one 4-H volunteer.

- Three-quarters of 4-H youth (76%, n=1327) learned a skill. Volunteers also report 72% (n=1249) improved a skill, 59% (n=1029) demonstrated a skill, and 51% (n=885) adopted skills learned through 4-H.
- About half of 4-H youth (51%, n=882) modified his/her opinion as a result of their 4-H participation.
- For almost half of 4-H youth (48%, n=835), their experiences raised aspirations for their future.

**Associated Knowledge Areas**

802	Human Development and Family Well-being
806	Youth Development
805	Community Institutions, Health, and Social Sciences

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Appropriations changes
- Populations changes (immigration, new cultural groupings, etc.)

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Retrospective (post program)

**Name of the Planned Program**

Agricultural Resources

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%			
205	Plant Management Systems	20%			
211	Insects, Mites, and Other Arthropods Affecting Plants	5%			
212	Pathogens and Nematodes Affecting Plants	5%			
216	Integrated Pest Management Systems	10%			
315	Animal Welfare/Well-Being and Protection	10%			
601	Economics of Agricultural Production and Farm Management	10%			
602	Business Management, Finance, and Taxation	10%			
604	Marketing and Distribution Practices	10%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	17.0	0.0	0.0	0.0
<b>Actual</b>	20.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$322,543	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$322,543	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$2,984,117	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

Workshops/conferences - including single- and multi-day conferences, Farm and Forest events, and various producer association meetings  
 Pasture walks & twilight meetings  
 Farm/site visits, including kitchen table meetings and private consultations  
 On-farm and university-based applied research projects

Phone consultations  
 Pesticide Applicator Training  
 Soil and plant tissue diagnostic services  
 Publications - newsletters, news releases, fact sheets, publications, web page  
 Radio and TV spots

**Brief description of the target audience**

Farmers/producers, people who work in agriculture-related fields, homeowners, nursery/greenhouse managers, turf managers

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contact Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	200000	0	0
2007	20000	41000	200	1800

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year	Target
Plan:	0
2007:	0

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	0	0	0

**State Defined Outputs**

**Output Measure**

Number of people reached through workshops, conferences, single- and multi-day grower schools, Farm and Forest events, and various producer association meetings

Year	Target	Actual
2007	2200	15240

Number of people attending pasture walks

Year	Target	Actual
2007	100	214

Number of farm/site visits, including kitchen table meetings and private consultations

Year	Target	Actual
2007	3000	1165

Number of people reached through news releases, newsletters, fact sheets and web page with agriculture information

Year	Target	Actual
2007	15000	14460

Number of people who visit and view on-farm and university-based applied research sites

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	500	2323

Number of people who attend agricultural festivals, county fairs, road races, and other miscellaneous events where Extension has agricultural displays

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	10000	5820

Number of people reached with agriculture information via radio and TV spots

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	50000	23000

Number of people who attend twilight grower meetings

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	450	1987

Number of phone consultations regarding agricultural practices, home horticulture and miscellaneous agriculture topics

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	13000	3554

Number of Pesticide Applicators attending recertification training

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	1500	1762

Number of soil and plant analyses conducted by diagnostic labs

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	1250	1059

A new UNHCE Soil Testing Program (SAIS) has been completely updated and provides analysis of samples and fertilizer application recommendations in order to implement nutrient management decisions that balance production and environmental aspects of cropping systems - specific to NH soils. An ongoing effort has been necessary to continue to develop research-based information to support this program.

**State Defined Outcomes**

**Outcome Measures**

Percent of participants who use soil and/or tissue test results to determine crop nutrient needs

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	50	73

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

New Hampshire soils are diverse and soil testing is important for field/forage crops and pasture production to maximize yields and keep input costs at a minimum. To attain ecological and economic sustainability, NH fruit, vegetable, and ornamental growers must 1) make judicious use of farm inputs, 2) minimize crop production costs, 3) maintain high crop quality and yields, and 4) have reliable and consistent markets for their products. Management of nutrients, water, and pests are key components to profitability; as plant size, quality, and time to saleable product are dependent on appropriate nutrition, irrigation and pest control.

**What has been done**

Agricultural Resource educators and specialists worked with farms - commercial vegetable, ornamental, and fruit growers, dairy and livestock producers, homeowners, and municipal officials to provide soil testing services and recommendations

**Results:**

338 commercial farmers submitted soil tests for corn, forage, pasture, hay/forage, fruit or vegetable crops during the one-year period from 6/1/06 through 5/31/07. A stratified random sample (representing all counties) of 37 farmers were surveyed as a follow up to soil testing. Of those 37, 82% (32) felt that soil tests recommendations were useful, 74% (29) followed the recommendations, 79% (31) planned to re-test soil regularly (every 1-3 years), and 90% (35) would recommend soil testing to others. Extrapolating these numbers to the total number that used UNHCE soil testing services in these commodity areas, we estimate that 250 farmers followed the recommendations and based fertilizer decisions on their results and that 267 farmers likely planned to test soil regularly.

33 plant tissue analysis were also completed. Results helped farmers increase profitability, reduce fertilizer inputs, and increase crop production.

Participants were quoted, "I changed my fertilization schedule to allow for additional product during fall"; "I now consider soil testing more seriously."

752 NH citizens submitted soil tests for home grounds and gardens during the same one-year period.

With the assistance of master gardener volunteers, 127 citizens were surveyed, selected at random in representative numbers from each county. Of those, 94% (119) felt that soil test recommendations were useful, 88% (112) followed the recommendations, 27% (45) did something different than they would have done if they had not tested; either reduced or increase fertilizer use, 80% (102) planned to re-test soil regularly (every 1-3 years), and 100% (127) would recommend soil testing to others. Lastly, 3% (4) reported that they chose not to plant a vegetable garden in a site because the soil test had revealed high levels of lead.

Extrapolating these numbers to the total number of NH citizens that used UNHCE soil testing for home gardens, we can estimate that 662 people likely followed the recommendations and based fertilizer decisions on their results, 203 did something different than if they had not tested, and some may have avoided unnecessary lead exposure by avoiding planting vegetable gardens in sites with high lead levels.

**Associated Knowledge Areas**

- 601 Economics of Agricultural Production and Farm Management
- 102 Soil, Plant, Water, Nutrient Relationships
- 205 Plant Management Systems

Percent of participants who formulate a plan to guide their crop production, pest management, nutrient allocation, animal health, or farm management decisions

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	60

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 211 Insects, Mites, and Other Arthropods Affecting Plants
- 205 Plant Management Systems
- 102 Soil, Plant, Water, Nutrient Relationships
- 216 Integrated Pest Management Systems
- 315 Animal Welfare/Well-Being and Protection
- 212 Pathogens and Nematodes Affecting Plants

Percent of participants who adopt management practices that improve farm productivity, quality of life and/or profitability

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	40

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

602	Business Management, Finance, and Taxation
102	Soil, Plant, Water, Nutrient Relationships
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management

Percent of participants who implement risk management strategies including crop insurance, diversification of products and crops, conservation easements, and other risk reducing strategies

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	40

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices

Percent of participants who increase the yield and/or improve the quality of their forage crops

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	20	30

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

205	Plant Management Systems
216	Integrated Pest Management Systems
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management

Percent of participants who diversify their pest management practices

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	25	73

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

205	Plant Management Systems
216	Integrated Pest Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
102	Soil, Plant, Water, Nutrient Relationships

Percent of participants who adopt recommended practices or technologies such as new crops or varieties, production systems, season extension techniques and/or greenhouse lighting

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	40

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The ornamental horticulture industry includes at least 935 businesses in New Hampshire that generate \$438 million or more annually in sales and services, according to a recent New England survey. Greenhouse and nursery crops are the fastest growing component of agriculture in this state, having increased by 87% between 1992 and 1997 (USDA Agricultural Census, 1997). Over half the firms identified landscape and tree services as an important part of their business. Over 80% of the income comes from sales and services within the state, making horticulture an integral and important part of the state's economy.

New products, technologies, and growing systems are continually needed in order to sustain the growth and profitability of the industry. Management of nutrients, water, and pests are key components to profitability; as plant size, quality, and time to sale-able product are dependent on appropriate nutrition, irrigation and pest control. Because of high capital operating costs, as well as increasing competition, quantifying the fixed and variable costs of production is also key to ensuring profitability.

**What has been done**

Farm visits, pasture walks, twilight meetings, workshops, newsletters, etc.

**Results:**

Forty percent of greenhouse growers improved the quality of their crops by adopting improved scouting for nutrient problems which they learned in the greenhouse twilight meetings. Quotes from growers: "I now understand more and more what to look for as I scout for nutrient deficiency symptoms. I purchased an EC and a pH meter and I now use them to check my crops". "Your help in teaching me how to use the EC meter and PH was very useful".

As a result of a farm visit by greenhouse specialist John Bartok, which was part of an energy efficiency Extension program, one farm dropped their thermostats to bench level, and have reduced disease incidence resulting in higher quality plants. The engineer also helped them to improve their greenhouse construction design.

In terms of pest management practices, these growers now use yellow sticky traps, scout more frequently and look for threshold levels of pests before applying any inputs. This has reduced the amount of pesticides they use. When they do find the need to use pesticides they now seek out "green" materials including "Neem Oil" and "Green Shield." The

growers also said that as a result of Extension programs and visits that they have implemented recommended crop rotations, cover cropping practices, cultivation techniques, plastic mulch, raised beds, and rotate the class of chemicals when such inputs are necessary.

These practices have resulted in increased yields per acre, a reduction in crop losses, a reduction in inputs resulting in higher profits per crop, and increased organic matter in the soil. The growers also cited the benefits they have received from the UNHCE Disease Diagnosis Laboratory and Plant Pathology Specialist Dr. Cheryl Smith. Likewise, farm management and marketing programming has improved their marketing techniques resulting in increased sales per customer and increased number of customers. "Cooperative Extension has been an integral part of growing our farm in all areas including crop production, weed and insect management, marketing and sales. Whenever we have a problem, our county educator is always available and provides prompt service and coordinates with other specialists to address our problems." UNHCE's Sustainable Horticulture Specialist and county educators use pH and EC meters to calibrate a fertilizer injector system on one farm, resulting in less fertilizer being used, saving the farm money. Using the pH and EC meters, they found high pH levels in a petunia crop. As a result of this visit, they stopped applying liquid lime to their petunias and switched from using a 20-20-20 fertilizer to a 15-16-17 fertilizer instead. Their crop losses stopped after they adopted the fertility recommendations and their petunias improved in quality.

To counter Bacterial Leaf Blight, a disease that drastically reduced their pepper crop the year before, another grower planted a new variety, Red Knight. They chose this variety as a result of an on-farm demonstration project developed by UNHCE. The farmer had planted several varieties and liked the Red Knight the best. This crop provided them a good yield and solved a disease problem with no chemical inputs.

After attending a program on greenhouse energy efficiency another grower adopted several practices which have helped him tremendously. He now has his greenhouse floors covered with a black cloth fabric. He implemented what he learned at the workshop, first cleaning the greenhouses, then digging drainage ditches and crowning the floor, then covering it with stone and finally black cloth. These changes allow the water to move out of the greenhouses, eliminating pest habitats and environments favorable for diseases. "The greenhouses are now much cleaner, have no weeds in them, and they are easier to clean and easier to manage." He also feels he is saving energy as well.

**Associated Knowledge Areas**

- 601 Economics of Agricultural Production and Farm Management
- 102 Soil, Plant, Water, Nutrient Relationships
- 205 Plant Management Systems
- 604 Marketing and Distribution Practices

Percent of participants implement new marketing practices that increase the number of customers or sales per customer including changing pricing, products, promotion, layout, signage, and/or direct sales

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	15

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 601 Economics of Agricultural Production and Farm Management
- 604 Marketing and Distribution Practices

Percent of participants in home horticulture programs who gain skills that improve self-esteem, enable them to grow and preserve crops, adopt IPM practices and protect and enhance their environment

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	35

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

New Hampshire's population now exceeds 1,288,000. Each year UNHCE receives thousands of requests from New Hampshire citizens for education on a wide range of topics including home gardening, wildlife, water quality, household pests, backyard livestock, food preparation and food safety, urban forestry and many other topics. UNHCE has developed a variety of methods to simultaneously meet this need and reduce the burden on staff. Utilizing over 500 Master Gardeners (who volunteered 8,000 hours in 100 communities last year) UNHCE expanded its impact by responding to over 6,000 phone inquiries, conducting more than 50 workshops in schools and communities and working on a diverse range of projects that resulted in aesthetic, environmental and economic benefits for both NH citizens and volunteers. Each contact with the general public, homeowners, gardeners and municipalities provides the opportunity to teach people how to make changes to their surroundings that optimize the safe use of their properties while protecting the environment.

**What has been done**

Family Home and Garden Education Center (FHGEC) answered more than 6,000 calls this year on home-horticulture related topics. 566 Master Gardener (MG) volunteers man the phones at the center and also deliver workshops and demonstrations to garden clubs, community groups, and churches, reaching more than 2,400 people through the Ask A Master Gardener program.

Two, 135+ hour Master Gardener training programs were conducted reaching 75 participants. In addition, 34 Master Gardeners attended 2, 2-day refresher workshops that covered updates on computers, plant disease and pest diagnosis, and home horticultural updates. The FHGEC has 170 MG volunteers who volunteered for 3,008 hours and answered 6,159 phone calls and emails (1,191). Forty-nine participants were trained in the Ask A Master Gardener program. The program connected MG with 17 local garden centers/nurseries where MG answered consumer questions on gardening. An estimated 2,425 people were reached through the program. The program also promoted the Family, Home and Garden Education Center. In NH, there are 566 Master Gardener volunteers who volunteered 8,022 hours at the FHGEC or in county based educational programs or events.

**Results:**

Participants increased their knowledge in botany, soils and fertilizers, insects and diseases, pesticide use and safety, plant propagation, home vegetable hardening, composting, tree fruits and berries, tree and shrub culture, flower gardening, lawn care, houseplants, organic cultural practices, backyard livestock, food preservation, food safety, backyard wildlife, water quality, invasives, urban pest problems, and became more familiar with family and youth development programs.

Participants gained skills in pruning techniques, diagnosing plant problems, diagnosing sick trees and shrubs, answering consumer calls and problem solving skills.

In one NH county, The Veggie Volunteer Program (VVP) is a county-based volunteer program that provides surplus produce to local food pantries, senior centers, local hospitals, and the County Nursing Home. Master Gardener volunteers meet twice a week during the growing season, rain or shine to pick, weigh, box, and deliver vegetables fresh from the field. In five seasons of vegetable collection and distribution, the VVP has provided approximately 52,000 pounds of fresh vegetables, valued at \$68,550.00 to lower income and elderly people in several Carroll County towns. Recipient organizations report serving an average of 1600 fresh vegetable meals per week during the four VVP seasons, to date they report a total of over 86,000 fresh vegetable meals served as a result of the Veggie Volunteer Program. Veggie Volunteers help their community by gleaning and delivering fresh vegetables to those in need. Being part of the team that makes this possible improves the volunteers' self-esteem and raises their awareness of local agriculture.

**Associated Knowledge Areas**

- 102 Soil, Plant, Water, Nutrient Relationships
- 205 Plant Management Systems
- 216 Integrated Pest Management Systems

Percent of participants who improve the quality of athletic fields, public spaces and/or golf course conditions

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	100

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Turf grass provides recreational areas and playing fields which serve as functional community centers and enhance community pride. Golf course turf also provides significant economic income in the state.

**What has been done**

Site visits, research and demonstration plots, twilight meetings, and workshops were conducted and new research presented. Thirty research and demonstration trials were conducted over eight golf courses and UNH grounds. At each site, the manager was trained in the use of new low risk chemicals and proper scouting techniques.

**Results:**

Where site visits were conducted, 100% of the superintendents and turf managers made documented changes which resulted in better pest control with less impact to the environment. Twenty-five individuals (73%) said they would change their practices and expected to save money and follow ecologically friendlier pest control and fertility management practices.

A single nursery in our IPM program saved over \$10,000 in crop losses through pest monitoring and timely intervention. A municipality saved \$6000 in pesticides costs by taking UNHCE's advice and not treating 6 acres of damaged turf. In the first year, the grubs were too large to treat and in the 2nd year, there were too few grubs to justify treating. UNH has saved thousands of dollars in labor, seed, and fertilizer by following an UNHCE IPM plan that specifies spot treating the highly visible turf areas. Grub damage has been minimized while protecting the students and environment from any unnecessary pesticide exposure.

All participants in the turf and nursery IPM program increased their knowledge of pests and improved the quality of turf and landscape plants without increasing the pesticide load in the environment. They did so by monitoring pests by scouting, using degree days, and applying the appropriate action with minimum risk to the environment.

The Army National Guard saved money by not treating turf for grubs based on our recommendations. Grub levels in most areas were too low to justify treating. Pest scouting and raising the mowing height was recommended.

"As a result of monitoring and spot treating for grubs, we saved a lot of money on labor, seed and fertilizer to repair damaged areas." - UNH groundskeeper

"This IPM program is awesome. We are monitoring weather with our weather station and using it to predict pests. We are saving money on chemicals and putting less pesticides into the environment." -golf course superintendent

**Associated Knowledge Areas**

205	Plant Management Systems
216	Integrated Pest Management Systems
102	Soil, Plant, Water, Nutrient Relationships

**Crosscutting Qualitative Outcome or Impact Statement**

- Percent of participants who formulate a plan to guide their crop production, pest management, nutrient allocation, animal health, or farm management decisions.
- Percent of participants who increase the yield and/or improve the quality of their forage crops.
- Percent of participants who diversify their pest management practices

**Issue (Who cares and Why)**

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

Forage crops, including hay, pastures, and silage corn, account for over 100,000 acres statewide and are valued at approximately \$28 million. These crops support a \$116 million animal industry, since most of New Hampshire's dairy, livestock, and equine operations rely heavily on forage crops. Cattle, sheep, and horses have the ability to utilize

forages efficiently; producers work towards harvesting quality forages that can support animal production while minimizing the need to purchase off-farm feed which can significantly enhance farm profitability. Because of the acreage involved, forage crop production has the potential to affect soil and water quality in the state.

By focusing educational programming on optimizing the use of on-farm and imported nutrients and taking an integrated approach to pest management, we hope to minimize or eliminate detrimental effects on environmental quality. In addition, production and use of high-quality perennial forages in a livestock system has the potential to garner new markets for the producer who wishes to engage that market segment looking for grass-based meats, milk and poultry products.

Further, New Hampshire farmers, orchardists and greenhouse operators face serious challenges with pests, causing yield and/or quality loss. Growers commonly over-rely on pesticides, risking toxicity problems, pest resistance, contamination of water and the environment, injury to non-target organisms, and high costs. Failing to respond effectively risks crop losses, lower yields, loss of markets and other problems. Growers must balance their goals for maximum yields and quality of crop, while responding to increase consumer demands for decreased pesticide use.

#### **What has been done**

UNHCE Agriculture Extension Educators and Specialists conduct workshops, farm visits, pasture walks, and twilight meetings; write newsletters, publications, and news articles; and work with the NH Farm Bureau, NRCS, and other organizations/agencies to deliver a wide-variety of educational programs.

The agricultural waste management program in New Hampshire consists primarily of individual visits to farms requesting help. A team approach is used, usually consisting of the local Extension Educator, State Dairy Specialist, hired agricultural engineering consultant and area NRCS technician. Several of the systems are cost-shared with the Environmental Quality Incentive Program (EQIP) or with small grants from the N.H. Department of Agriculture, Markets & Food. Systems are designed which are environmentally sound, easy to operate, labor saving and cost effective. In addition, individual Educators conduct educational workshops and work individually with producers to address manure management issues.

New Hampshire's Integrated Pest Management (IPM) program teaches growers how to manage pest problems, while minimizing costs and risk of injury, using a three-prong approach; 1) monitoring pests and conditions, 2) preventing conditions that favor pest problems and 3) applying controls (not just chemicals) when necessary. This year in addition to apple and greenhouse efforts, we worked with sweet corn growers as well. Activities included 1) weekly fruit pest update (automated telephone), 2) newsletters disseminated by mail and electronically via the web, 3) weekly sweet corn advisories on website, 4) dozens of publications and handouts, 5) a New England-wide website providing pest management resources (PRONewEngland.org), 6) grower meetings and workshops, with another dozen focused on backyard and home application of IPM. In addition, many county staff recorded weekly growing degree day data, which is posted on the website, to help predict pest events and crop development.

#### **Results:**

302 participants in UNHCE agriculture programs indicated they had formulated plans to better manage pests, allocate nutrients, and make good farm decisions. These plans ranged from minor, involving just one or two production changes, to extensive, whole farm plans to make holistic decisions regarding their farm management, environmental sustainability, and family relationships.

#### **Forage Production:**

76 participants in UNHCE forage programs indicated they had increased their yield or improved the quality of their forage crops through diversification and better mixes of forage crops, increased use of wide-swath mowing and other modified forage harvesting systems, timing of forage harvest, and better pasture management (rotations, re-seeding, improved stocking rates)

Based on follow-up communications with participants at the end of the growing season, four pasture walk participants, representing two equine operations, were able to make better use of hayfields or pastures. Both were new operations, but were able to produce enough hay and pasture forage to meet the needs of their animals.

#### **Nutrient Management:**

In one county, 8 commercial farms reviewed and updated their nutrient management plans on 3500 acres of corn and forage. The majority of the corn (1500+ acres) received only manure at the recommended rates and no additional fertilizer. Fifty percent of the remaining acreage of forage (2000) received only manure at the recommended rates and no additional fertilizer.

"...with the acreage I farm (500+ acres) my nutrient management plan saves me \$50K-\$60K in fertilizer purchases."

Through assistance in field tissue testing for tomatoes, one grower learned the importance of potassium nutrition for tomatoes. He increased the level of potassium fertilization and at the end season reported, "my tomato crop this year was the best I have ever had in years."

**Livestock:**

Program participants in a First Aid for Livestock Series developed plans to manage animal health issues, emergency care and disease prevention. Plans include attention to bio-security issues, vaccination schedules, and proper care to prevent stress leading to disease.

A small grass-based beef and dairy operation selling raw milk and cut wrapped beef provides income for two families looking for a farm plan to guide their business decisions and help them with their grazing methods. They attended a two-day course on Holistic Management and a follow up course on holistic financial planning. He said it has helped him to know the principals to follow for environmental and financial sustainability.

**Integrated Pest Management:**

365 participants in IPM programs reported diversifying their pest management practices in some way. Specific changes in practice included rotating herbicide/insecticide use, increased scouting, improved timing of herbicide/insecticide applications, increased use of cultivation, crop rotation, and pruning, increased ability to identify weeds/insect pests, and use of insect traps.

In a state-wide follow up survey of 21 producers:

- 86% of tree fruit growers (19 of 21 surveyed) changed their pest management program this year, based on Coop. Extension. 28 % of those surveyed (6 of 21) listed three or more things they changed this year.

- 68% of NH greenhouse IPM workshop attendees reported that they are now using biological controls (subject has been taught for several years, but has been hard to get growers to adopt)

- 30% of NH greenhouse IPM workshop attendees reported using banker plants. This is a technique taught the previous year, and it is a 10% increase over last year's results.

**Associated Knowledge Areas**

205	Plant Management Systems
315	Animal Welfare/Well-Being and Protection
211	Insects, Mites, and Other Arthropods Affecting Plants
102	Soil, Plant, Water, Nutrient Relationships
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

**Crosscutting Qualitative Outcome or Impact Statement**

- Percentage of participants who adopt management practices that improve farm productivity, quality of life and/or profitability.
- Percent of participants who implement risk management strategies including crop insurance, diversification of products and crops, conservation easements, and other risk reducing strategies.
- Percent of participants implementing new marketing practices that increase the number of customers or sales per customer including changing pricing, products, promotion, layout, signage, and/or direct sales

**Issue (Who cares and Why)**

About half of State's farmers consider farming their principal occupation. For these and many of the part-time farms, the family relies on agricultural activities to provide money for an adequate standard of living. New Hampshire's farms need to be profitable if they are to continue to exist. Agricultural producers continue to seek information and resources to help them improve the profitability of their existing businesses and farm enterprises as well as to assess the potential profitability of new enterprises.

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

Further, direct marketing to consumers in NH has increased significantly, as evidenced by the rise in the total number of farmers' markets which now stands at 55 up from fewer than 30 five years ago. In addition two NH counties rank 34th and 37th nationally in direct purchase of food items by consumers. Needs assessments have identified that NH producers seek to build their skills in direct marketing and seek to augment their farm profitability through the sale of their products and services directly to consumers. Two additional factors dictate an increase in programming in this area: 1) the loss of wholesale markets for specialty crops as evidenced by the loss of the wholesale apple market and

the impact this had on NH apple growers; 2) the rise in the "so called lifestyle farmers" who have chosen farming as a second occupation yet often have little farming background. These constituents need to earn a premium price with limited production and need assistance with marketing plans.

### **What has been done**

UNHCE Agriculture Extension Educators and Specialists conduct workshops, farm visits, pasture walks, and twilight meetings; write newsletters, publications, and news articles; and work with the NH Farm Bureau, NRCS, and other organizations/agencies to deliver a wide-variety of educational programs.

### **Results:**

One-hundred twenty-five participants indicated they had adopted practices to increase profitability/productivity, through enterprise analysis, better record keeping, pasture management, crop rotation, and energy efficiency. In addition, growers adopted practices to improve sales and profitability. These include different ways of reaching out to customers such as new advertising and promotion approaches, hay rides on the farm, corn maze and other educational opportunities to customers.

One diversified farm was able to generate enough farm income to support returning children from college, as well as to implement the new ideas and approaches that the kids desired to bring to the farm. Specifically, they improved communication between the farmers and their farm workers, increased farm efficiency in terms of time management, added additional crops to the farm to satisfy the new markets and accounts, expanded their record keeping system to track labor and collect additional data, and improved their quality of life including implementing vacations and days off to prevent the annual burnout that have diminished quality of life in years past. The vacations and regularly scheduled days off have also helped address physical health issues some farmers were dealing with.

Another farmer said that he was better off this year than last due to decisions he made after completing a holistic farm management plan. He is profitable and feels secure economically. Likewise, when asked about how some of the major decisions impacted his farmland and the farm's natural resources, he said he has gained on weed issues and increased organic matter content. He also improved the drainage of his wet fields which allows him to crop a greater area. Finally, he said his quality of life is far better, everything has improved. He said he has far less stress, sleeps better, is accomplishing personal goals and has far greater satisfaction in his life now.

Risk management programs center on five themes. Production risk examines the variability associated with yield or output. Marketing risk deals with price fluctuations and target market sales. Financial risk addresses securing business equity while meeting cash flow needs. Human resource risk focuses on the role of family members and employees in the firm. Legal risk considers business agreements and environmental issues.

One hundred eighty-seven participants reported implementing risk management practices such as plans for farm transfers and suitable legal structures for their business. The program provided farmers and agricultural professionals with information and training on assessing farm risks, understanding the range of available tools to manage those risks, and developing risk management strategies. Traditional delivery methods employed included farmer workshops and seminars, training programs for agricultural professionals, release of news articles, and participation in trade shows. Web based efforts focused on upgrading and improving information pages. Target audiences for risk management education were small family farms, organic producers, corn and forage producers, and fruit growers.

Participating Garden Centers and farms adopted new practices resulting in increased sales. Some started to advertise in local newspapers and also direct mail and email advertising to customers. Others have improved on signage, while others have adopted different techniques of reaching out to their customers such entertainment, i.e. hayrides, and other introduced educational workshops for their customers. Extension Educator and Master Gardener volunteers were involved in some of the workshops. At least three towns established new agriculture commissions that resulted in better road signage, customer service, and parking access for customers and employees of farm stands.

### **Associated Knowledge Areas**

601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
602	Business Management, Finance, and Taxation

### **Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Economy
- Appropriations changes
- Natural Disasters (drought, weather, extremes, etc.)
- Competing Programmatic Challenges

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

**Name of the Planned Program**

Civic Participation and Leadership

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	50%			
806	Youth Development	30%			
903	Communication, Education, and Information Delivery	20%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.2	0.0	0.0	0.0
<b>Actual</b>	2.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$32,254	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$32,254	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$223,637	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

Facilitation/leadership skills course: Provide yearly skills courses of two to five sessions to community leaders in group facilitation, participatory planning techniques and leadership

Global Positioning System (GPS) Training: Provide training to community groups on using global positioning systems to map community assets

Participatory Planning: Provide assistance/training for communities to implement participatory planning processes (i.e. Community Profiles, Master Plan visioning, visioning for the arts, youth-adult partnerships, juvenile justice, accessible agriculture)

Inventory Citizen Engagement/Leadership Resources: Gather and post resources on web that focus on engaging citizens and building leadership capacity

1. Inventory of current resources

- 2. Analysis of quality of resources
- 3. Determine how to best disseminate information

**Brief description of the target audience**

Youth and adult audiences will be addressed through civic participation and leadership programs. Particular emphasis will be made to include formal, informal, and potential community leaders and disenfranchised audiences (low-income, minority, individuals with disabilities).

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contact Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	130	1100	150	0
<b>2007</b>	958	1383	0	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
<b>2007</b>	1	0	0

**State Defined Outputs**

Number of community leaders who complete a facilitation/leadership skills course

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>20</b>	<b>141</b>

Number of youth who complete a teen lifeskills training

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>25</b>	<b>0</b>

Number of adults who complete a teen lifeskills training

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>25</b>	<b>0</b>

Number of adults involved with Community/Youth Asset Mapping

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>15</b>

Number of youth involved with Community/Youth Asset Mapping

<b>Year</b> <b>2007</b>	<b>Target</b> <b>100</b>	<b>Actual</b> <b>37</b>
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Number of people receiving Global Positioning System (GPS) Training

<b>Year</b> <b>2007</b>	<b>Target</b> <b>15</b>	<b>Actual</b> <b>817</b>
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Number of people receiving newsletters with Voting Media Campaign information on the importance of voting.

<b>Year</b> <b>2007</b>	<b>Target</b> <b>1000</b>	<b>Actual</b> <b>0</b>
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Number of youth completing Youth As Partners: Support Youth as Partners training initiatives in NH

<b>Year</b> <b>2007</b>	<b>Target</b> <b>30</b>	<b>Actual</b> <b>105</b>
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Number of adults completing Youth As Partners: Support Youth as Partners training initiatives in NH

<b>Year</b> <b>2007</b>	<b>Target</b> <b>20</b>	<b>Actual</b> <b>47</b>
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Number of people viewing web-based Inventory Citizen Engagement/Leadership Resources

<b>Year</b> <b>2007</b>	<b>Target</b> <b>100</b>	<b>Actual</b> <b>2964</b>
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**State Defined Outcomes**

**Outcome Measures**

Number of groups/organizations around the state that network more effectively and share resources, expertise, and assistance with other groups. This will enable groups to provide more needed services to individuals and communities.

**Outcome Type:** Change in Action outcome measure

<b>Year</b> <b>2007</b>	<b>Target</b> <b>20</b>	<b>Actual</b> <b>2</b>
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**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences

Number of groups/organizations that work with youth and adult leaders to engage diverse citizens in community decision-making and needs assessment

**Outcome Type:** Change in Action outcome measure

<b>Year</b> <b>2007</b>	<b>Target</b> <b>20</b>	<b>Actual</b> <b>74</b>
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**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Information gleaned from needs assessments held in all 10 NH counties, as well as needs identified as a result of 45 Community Profiles conducted in NH towns over five years, indicates that communities find it difficult to engage diverse citizens in activities and decision-making processes. Lack of volunteerism and deficiencies in leadership exacerbate this decline in civic engagement and it is becoming increasingly difficult to recruit and develop new leaders for community activities. Community engagement around youth initiatives may not only yield positive outcomes for youth, families, and communities, but engaging with youth will also provide leaders for the next generation.

**What has been done**

Two New Hampshire's Juvenile Justice projects provide technical assistance for the development of collaboration and planning teams; asset mapping, effective communication, partnerships, engaging citizens, collecting/analyzing data.

New Hampshire has two Children Youth and Families at Risk (CYFAR) projects currently and youth civic leadership is an important component of both projects.

**Results:**

The Carroll Juvenile Justice Project - Fifteen adults met monthly to plan and implement a year-long county-wide collaborative strategic planning process funded by the State Advisory Group on Juvenile Justice for the purpose of creating an on-going collaboration and strategic plan to address juvenile justice issues. Two half-day strategic planning sessions (August, September) engaged 35 adults in a process to define common values, vision, mission, goals, objectives, and action plans. Youth (n=11) were also engaged in learning about juvenile justice and gaining skills in mentoring their peers. They facilitated focus groups in schools across the county and used what they learned to write an action plan to continue and expand their peer education and mentoring activities.

The Coos County Juvenile Justice Project is situated in the northern-most county of New Hampshire. Ten adults met monthly to plan and implement a year-long county-wide collaborative strategic planning process funded by the State Advisory Group on Juvenile Justice for the purpose of creating on-going collaboration and a strategic plan for addressing juvenile justice issues, especially for young offenders, under age 13. A one-day strategic planning session engaged 24 adults in a process to identify common values, mission, vision, goals, capacity, and action steps. Identified goals were prioritized and the group is engaged in searching for model programs and resources to support new initiatives. The project has been adopted by the Coos County Coalition for Substance Abuse Prevention for long-term sustainability and expanded agency support.

Hillsborough CYFAR Project - A group of community residents formed an alliance known as FYI - Family Youth Investment with an initial goal of sustaining existing afterschool programs including the CYFAR program and the 21st Century Community Learning Center programs at the elementary and middle schools. Citizens have also formed a task force to review the Teen Center Project Genesis, develop a logic model for the future, and develop plans to revitalize active programming for 7th-12th graders during out-of-school hours.

The Seacoast Youth Services center has brought together multiple community partners, including the 21st Century Community Learning Center Sea-Arts Program in Seabrook, City Year, and CYFAR/4-H to revitalize an old school house as a community youth center providing a wide array of on-site wrap-around services for at-risk youth. A community board of directors has reviewed its existing membership, brought in new members, and is working to develop a logic model for sustaining and expanding the services at the center. CYFAR has been active in supporting the center staff, providing training and curriculum, identifying viable partners, and engaging youth and families in social and community service activities.

**Associated Knowledge Areas**

- 805 Community Institutions, Health, and Social Sciences
- 806 Youth Development

Number of communities that form youth-adult partnerships and seek the Civic Participation and Leadership Team's assistance

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	3	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

This technical assistance has been discontinued. Youth and adult partnership training and support will continue as part of the 4-H youth development program.

**Results:**

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences

Number of participants in groups around the state to implement participatory decision-making processes as a result of Civic Participation and Leadership Team activities (i.e. Master Plan Visioning Session, Community Profile Action Planning, strategic planning)

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	20	432

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences  
 903 Communication, Education, and Information Delivery

Number of groups that learn to collaborate more effectively to form partnerships and/or community coalitions

**Outcome Type:** Change in Action/Knowledge outcome measure

Year	Target	Actual
2007	20	12

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences  
 903 Communication, Education, and Information Delivery

Number of community leaders who learn skills to more effectively lead groups/organizations

**Outcome Type:** Change in Action/Knowledge outcome measure

Year	Target	Actual
2007	100	80

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

903 Communication, Education, and Information Delivery

Number of communities that build a knowledge base of resources for building civic engagement and leadership

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	20	12

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences  
 903 Communication, Education, and Information Delivery

Number of community leaders who learn processes and techniques for engaging citizens in community decision-making

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	100	80

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

805 Community Institutions, Health, and Social Sciences

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of groups/organizations around the state that network more effectively and share resources, expertise, and assistance with other groups. This will enable groups to provide more needed services to individuals and communities.
- Number of groups that learn to collaborate more effectively to form partnerships and/or community coalitions
- Number of groups around the state to implement participatory decision-making processes as a result of Civic Participation and Leadership Team activities (i.e. Master Plan Visioning Session, Community Profile Action Planning, strategic planning)
- Number of community leaders who learn processes and techniques for engaging citizens in community decision-making
- Number of community leaders who learn skills to more effectively lead groups/organizations
- Number of communities that build a knowledge base of resources for building civic engagement and leadership

**Issue (Who cares and Why)**

New Hampshire communities face challenges such as changing demographics, shifting economic structures, societal crises, unprecedented growth in some regions, and decline in others. As a result of these and other challenges, community leaders are forced to make decisions about policies, plans, and projects that will impact the long-term health and well-being of their communities. Yet, community leaders struggle to engage citizens in decision-making.

### **What has been done**

The goal of Strengthening New Hampshire Communities Initiative (SNHC) and Civic Participation and Leadership Program (CPL) is to help communities to achieve long-term well-being by building their human, economic, social, and environmental capacity and to help them to engage the public in decision-making processes. Examples of these educational services include organization and facilitation of community forums, group process/facilitation training, assistance with community planning, and provision of technical assistance in community and economic development activities.

Community Profiles, a community-level strategic planning program enables diverse community citizens to come together and map out their desired future and develop an action plan to achieve that future. In addition to working with communities to organize and facilitate Community Profiles, SNHC and CPL staff provide follow-up technical assistance to community action teams working on specific projects.

Through grant funding from the NH Endowment for Health, Extension staff worked with UNH's Complex Systems Research Center, and Research Computing to develop a prototype of a web-based system designed to help communities, organizations, and agencies in NH share information with the public (and with each other) about a range of community, regional, and statewide assets and resources. This information will be displayed in GIS format via the web and will be based on GRANIT's Data Mapper, but with the added wiki-like function of enabling any entity to input info into the system.

eXtension Entrepreneurship: As a member of the core team that developed eXtension's eEntrepreneurship site, an Extension faculty member developed multiple fact sheets, learning lessons, and interactive tools that are designed to help communities and entrepreneurs access resources, information, and assistance to expand/strengthen businesses.

Newmarket Community Garden: Extension helped a group of Newmarket citizens to form the Newmarket Community Garden Association, identify a parcel of land, engage community members to participate in the garden, and implement the garden. The garden engaged 13 gardeners this past year and will be expanding this coming summer.

### **Results:**

Community Profiles: Provided facilitation assistance for two Community Profiles in New Hampshire (Epping and Rumney). Together, these Profiles engaged over 300 individuals. Extension also worked with the Epping Profile Steering Committee post Profile to help them refine their plan and assisted three Community Profile Action Committees in Epping to help them to implement their plans. Outcomes include revisions to the Rumney Master Plan, the development of a newsletter in Epping, and the creation of a Volunteer network in Epping.

Master Plan Public Participation Process: Helped the cities/towns of Andover, Claremont, and North Hampton conduct Master Plan Public input processes during the Winter and Fall of 2007. Extension helped each respective community forming a Master Plan Advisory Committee, establish goals/objectives, conduct Master Plan Visioning forums, collect and synthesize trend data, and implement Master Plan surveys. As a result of the Master Plan public input processes, each of the respective communities has revised/updated their Master Plan with public buy-in. As well, the Planning Boards have become reinvigorated with new members and new volunteers and committees have been mobilized to work on Master Plan related issues.

Applied Research on Housing: An Extension faculty member conducted primary research and wrote a journal article on resident-owned manufactured home co-ops for the Journal of Extension (article pending). The article was based on interviews with town officials and residents of mobile home co-ops in 8 NH towns. As a result of the research, sponsored by the by the NH Community Loan Fund and the Carsey Institute, lenders, residents of co-op parks, and state agencies have a better understand the benefits of resident ownership of manufactured home parks. Equally important, the journal article will enable Extension staff in other states to glean lessons from the New Hampshire model for resident-owned home parks.

Citizen Planner Collaborative: Extension staff worked with other agencies to form a statewide Citizen Planner collaborative that engages 12-plus agencies and organizations. The goal of citizen planner is to provide training, resources and assistance to lay planning officials throughout the state via workshops, on-line curriculum, and through tailored community programs. The objective is to provide lay planners and civic leaders with the skills and resources to engage the public in land use, transportation, and natural resources planning. Funding to support Citizen Planner activities will come from in-kind partner support, an Outreach Scholars grant, and Community and Technical Assistance (CTAP) funds from the NH Department of Transportation.

Natural Resources Outreach Coalition (NROC): Extension provides assistance to several communities through NROC - in particular, currently assisting the Environmentally Sound Economic Development Group as part of a central NH town's NROC group to conduct economic base assessment and implement business retention/expansion surveys.

Healthy Eating Active Living Steering Committee (HEAL): Extension staff serve on the Steering Committee of statewide Healthy Eating Active Living initiative. This grant-funded initiative is designed to help communities and organizations promote healthier living. Our role is to convey these concepts to planners so that they incorporate HEAL concepts in community/regional planning activities.

**Associated Knowledge Areas**

- 805 Community Institutions, Health, and Social Sciences
- 903 Communication, Education, and Information Delivery

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Appropriations changes
- Natural Disasters (drought, weather, extremes, etc.)
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings etc.)

**Planned Program (Evaluation Studies and Data Collection)**

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

**Name of the Planned Program**

Strengthening New Hampshire Communities

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	20%			
608	Community Resource Planning and Development	30%			
802	Human Development and Family Well-Being	30%			
805	Community Institutions, Health, and Social Services	20%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.4	0.0	0.0	0.0
<b>Actual</b>	.8	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$12,902	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$12,902	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$89,455	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

- **Community Profiles:** Community Profiles, a community-level strategic planning program enables diverse community citizens to come together and map out their desired future and develop an action plan to achieve that future. In addition to working with communities to organize and facilitate Community Profiles, SNHC staff provide follow-up technical assistance to community action teams working on specific projects
- **Participatory Planning:** Provide assistance/training to enable communities to implement participatory planning processes (i.e. Master Plan visioning, visioning for the arts, youth-adult partnerships, juvenile justice, and accessible agriculture).
- **Economic and Tourism Development Assistance:** SNHC Team members provide technical and planning assistance to local economic development corporations, regional economic entities and tourism development groups to enhance their decision-making with regard to tourism and economic development plans, projects and activities.
- **Web-Based Community Planning Tools:** The SNHC team is developing a suite of web-based tools that will enable community decision-makers to conduct community assessments, inform community decisions and implement community-based plans. Examples of tools include the Community Capacity Assessment and the Land Use Resource Clearinghouse.

**Brief description of the target audience**

Formal and informal community leaders - organizational leaders, town officials, entrepreneurs

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contact Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	780	200	20	0
2007	2187	50	455	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
Plan:	0
2007:	0

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0		
<b>2007</b>	0	0	0

**State Defined Outputs**

**Output Measure**

Number of community members who take part in community profile workshops (a community-level strategic planning program enables diverse community citizens to come together and map out their desired future and develop an action plan to achieve that future)

<b>Year 2007</b>	<b>Target 500</b>	<b>Actual 1423</b>
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Number of adults provided with assistance/training to enable their communities to implement participatory planning processes (i.e. Master Plan visioning, visioning for the arts, youth-adult partnerships, juvenile justice, and accessible agriculture)

<b>Year 2007</b>	<b>Target 250</b>	<b>Actual 850</b>
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Number of youth provided with assistance/training to enable their communities to implement participatory planning processes (i.e. youth-adult partnerships)

<b>Year 2007</b>	<b>Target 20</b>	<b>Actual 100</b>
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Number of members of local economic development corporations, regional economic entities, and tourism development groups provided with technical and planning assistance to enhance their decision-making with regard to tourism, and economic development plans

<b>Year 2007</b>	<b>Target 30</b>	<b>Actual 225</b>
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Number of community decision makers using a suite of web-based tools that will enable them to conduct community assessments, inform community decisions and implement community-based plans

<b>Year 2007</b>	<b>Target 50</b>	<b>Actual 50</b>
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**State Defined Outcomes**

**Outcome Measures**

Number of citizens who take on new leadership roles within their community

**Outcome Type:** Change in Action outcome measure

<b>Year 2007</b>	<b>Target 10</b>	<b>Actual 10</b>
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**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 802 Human Development and Family Well-Being

Number of steering/planning committees helped to facilitate a minimum of 10 Community Profiles/thematic processes that create a minimum of 30 action groups

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10	21

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 805 Community Institutions, Health, and Social Services

Number of action groups/committees that utilize UNH Cooperative Extension expertise in partnership with other agencies/organizations around the state to preserve and conserve open space

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	15	25

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 131 Alternative Uses of Land

Number of communities to implement mechanisms/tools to analyze the current situation and identify emerging issues to be addressed

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	15	9

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 805 Community Institutions, Health, and Social Services

Number of communities that form youth-adult partnerships through mapping social services. These partnerships provide workforce opportunities for youth that prevents youth migration.

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	3	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

Due to reallocation of staff, this outcome measure was not measured. See planned programs for 4-H Youth Development and Civic Participation and Leadership.

**Results:**

**Associated Knowledge Areas**

- 802 Human Development and Family Well-Being

Number of community leaders who develop a new understanding of the issues facing their community

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	30	86

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 802 Human Development and Family Well-Being

Number of action groups/committees that engage diverse audiences in planning for the economic viability of their communities

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10	25

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 805 Community Institutions, Health, and Social Services
- 802 Human Development and Family Well-Being

Number of citizens and community leaders who develop a better understanding of local land use planning and zoning policies

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	100	100

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narratives for Civic Participation and Leadership planned program.

**Associated Knowledge Areas**

- 608 Community Resource Planning and Development
- 131 Alternative Uses of Land

Number of youth who gain knowledge of social, health, nutrition and employment opportunities available to them in their own communities

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	40	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

Due to reallocation of staff, this outcome measure was not measured. See planned programs for 4-H Youth Development and Civic Participation and Leadership.

**Results:**

**Associated Knowledge Areas**

- 802 Human Development and Family Well-Being

Number of adults who gain knowledge about existing resources for youth as well as resource gaps

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	100	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

Due to reallocation of staff, this outcome measure was not measured. See planned programs for 4-H Youth Development and Civic Participation and Leadership.

**Results:**

**Associated Knowledge Areas**

802 Human Development and Family Well-Being

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Natural Disasters (drought, weather extremes, etc.)
- Competing Programmatic Challenges
- Appropriations changes
- Population changes (immigration, new cultural groupings, etc.)

**Planned Program (Evaluation Studies and Data Collection)**

- During (during program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Case Study

**Name of the Planned Program**

Family and Consumer Resources

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	20%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	20%			
724	Healthy Lifestyle	20%			
801	Individual and Family Resource Management	20%			
802	Human Development and Family Well-Being	20%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	27.0	0.0	0.0	0.0
<b>Actual</b>	28.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$451,561	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$451,561	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$4,445,118	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

- Nutrition Connections - educational courses to income eligible New Hampshire residents' - ability to meet nutritional needs through available resources. Includes EFNEP (Expanded Food and Nutrition Education Program) and FSNEP (Food Stamp Nutrition Education Program.)
- Lighten Up NH! - a statewide initiative of UNHCE that will identify, organize and integrate the diversity of human, educational, and environmental resources involving obesity prevention and reduction in New Hampshire. Specifically a new website will be developed and marketed.
- ServSafe®, SAFE (Safety Awareness in the Food Environment) - Food safety programming in Nutrition Connections - educational courses to income eligible New Hampshire residents on how to eat healthier on a limited budget.
- Parenting Education such as Strengthening Families 10- 14, Dare To Be You, Family Focus, Supportive Connections for Single Parent Families, Stepfamilies, Relatives as Parents; Cradle Crier and Toddler Tales ( age- paced newsletters); Single topic sessions including Positive Discipline, Raising Your Child's Self- Esteem, Better Kid Care, Promoting the Social Emotional Competence of Young Children, Collaborations with NH Resource and Referral Agencies.
- Family Impact Seminars for NH legislators and other decision makers
- Making Money Work for You, Planning Ahead...Staying Ahead, Credit Check Up, Debt Check Up, Starting Over Bankruptcy Education, Take the Road to Financial Security in Later Life, Investing for Your Future, Legally Secure Your Financial Future, High School Financial Planning

**Brief description of the target audience**

Parents, child care providers, policy makers, human service agencies, families, food service workers

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contact Adults</b>	<b>Direct Conducts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	90000	200000	1750	0
<b>2007</b>	16808	300000	15470	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
<b>2007</b>	0	0	0

**State Defined Outputs**

**Output Measure**

Percent increase in web usage of Lighten Up! New Hampshire web site

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>5</b>	<b>0</b>

Number of people who participate in ServSafe® workshops, SAFE (Safety Awareness in the Food Environment)

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	700	2123

Number of low-income adults participating in Nutrition Connections - educational courses to income eligible New Hampshire residents - Includes EFNEP (Expanded Food and Nutrition Education Program) and FSNEP (Food Stamp Nutrition Education Program)

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	1000	27623

Number of people participating in Better Kid Care, Promoting the Social Emotional Competence of Young Children, Collaborations with NH Resource and Referral Agencies

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	1200	519

Number of people who participate in Prepare for Eldercare programs

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	0	0

Number of people participating in LEAP (Lifeskills for Employment, Achievement and Purpose) a three-week, 90-hour job-readiness program offering family lifeskills and personal development education

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	600	205

Number of adults participating in Making Money Work for You, Planning Ahead...Staying Ahead, Credit Check Up, Debt Check Up, Starting Over Bankruptcy Education, Take the Road to Financial Security in Later Life, or Investing for Your Future

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	350	1718

Number of youth participating in Making Money Work for You, Planning Ahead...Staying Ahead, Credit Check Up, Debt Check Up, Starting Over Bankruptcy Education, Take the Road to Financial Security in Later Life, or Investing for Your Future

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	350	5302

Number of adults participating in food safety programming through Nutrition Connections - educational courses to income eligible New Hampshire residents on how to eat healthier on a limited budget

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	500	344

Number of youth participating in food safety programming through Nutrition Connections - educational courses to income eligible New Hampshire residents on how to eat healthier on a limited budget

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	875	1785

Number of people participating in Parenting Education such as Strengthening Families 10- 14, Dare To Be You, Family Focus, Supportive Connections for Single Parent Families, Stepfamilies, Relatives as Parents; receiving Cradle Crier and Toddler Tales

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	7000	9930

Number of NH legislators and other decision makers attending Family Impact Seminars

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	0	0

**State Defined Outcomes**

**Outcome Measures**

Percent of program participants who report utilizing effective practices that lead to quality child care experiences

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	50	80

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

802 Human Development and Family Well-being

Percent of money management education participants who document their improved money management practices on evaluation instruments

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	75	91

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

801 Individual and Family Resource Management

Percent of program participants who report their intention to apply their understanding of general developmental milestones and progressions in ways that support their child's progress - socially, emotionally, physically, and intellectually

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	50	89

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

802 Human Development and Family Well-being

Number of participants who report an increase in their physical activity

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	1750	235

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

Lighten Up NH! - a statewide initiative of UNHCE identifies, organizes and integrates the diversity of human, educational, and environmental resources involving obesity prevention and reduction in New Hampshire. Specifically a new website has been developed and marketed ([www.lightenupnh.org](http://www.lightenupnh.org)).

**Results:**

This initiative is just in it's beginning stages with launch of the website taking place December, 2007.

**Associated Knowledge Areas**

724	Healthy Lifestyle
703	Nutrition Education and Behavior

Percent of participants who report eating nearer to the recommended number of cup equivalents from the Fruits and Vegetable Group

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	30	58

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

724	Healthy Lifestyle
703	Nutrition Education and Behavior

Number of participants who adopt one or more healthier food/nutrition practices (choose foods according to MyPyramid and the Dietary Guidelines)

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	600	655

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

724	Healthy Lifestyle
703	Nutrition Education and Behavior

Percent of participants who report eating nearer to MyPyramid amounts (unspecified)

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	85	95

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

724	Healthy Lifestyle
703	Nutrition Education and Behavior

Percent of participants who report keeping food at safe temperatures

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	81

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, & Naturally Occurring Toxins
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Percent of participants who practice personal hygiene such as hand washing

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	96

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, & Naturally Occurring Toxins
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Percent of program participants who report an increased ability to deal emotionally and financially with the care of aging parents, relatives and friends

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	0	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** No data for 2007

**Associated Knowledge Areas**

802 Human Development and Family Well-Being

Number of participants who have the ability to have foods readily available for self and family

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	300	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** No number reported -- see crosscutting narrative on nutrition/food security.

**Associated Knowledge Areas**

703 Nutrition Education and Behavior  
801 Individual and Family Resource Management

Percent of program participants who document an increase in their financial literacy on evaluation instruments

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	85	88

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

801 Individual and Family Resource Management

Number of counties where resource and referral agencies make Better Kid Care training available

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	10	9

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

802 Human Development and Family Well-Being

Number of youth who learn how to choose foods according to the Pyramid and Dietary Guidelines

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	2200	4024

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

724 Healthy Lifestyle  
703 Nutrition Education and Behavior

Percent of program participants who score 75% or greater on knowledge tests of high risk practices including: \* Personal hygiene \* Holding/time and temperature \* Cooking temperatures \* Prevention of contamination

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	80	93

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

712 Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

Percent of LEAP participants who express or demonstrate to the Family Lifeskills Program Coordinators a gain in self confidence and/or a motivation of decreasing barriers preventing future employment

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	90	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

UNH Cooperative Extension discontinued this program in late 2006 as funding for the LEAP program was eliminated (the subcontract for this educational program was awarded to another state agency).

**Results:**

**Associated Knowledge Areas**

801 Individual and Family Resource Management

Percent of LEAP graduates who express knowledge gained in the areas of parenting, food and nutrition, money management, personal development, problem solving, decision making, and healthy support networks

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	95	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

UNH Cooperative Extension discontinued this program in late 2006 as funding for the LEAP program was eliminated (the subcontract for this educational program was awarded to another state agency).

**Results:**

**Associated Knowledge Areas**

801 Individual and Family Resource Management

Percent of New Hampshire decision makers who gain knowledge about child and family issues as a result of attending Family Policy Impact Seminars

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	0	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** No data available for 2007

**Associated Knowledge Areas**

802 Human Development and Family Well-Being

**Crosscutting Qualitative Outcome or Impact Statement**

- Percent of participants who report keeping food at safe temperatures.
- Percent of participants who practice personal hygiene such as hand washing
- Percent of program participants who score 75% or greater on knowledge tests of high risk practices including: \* Personal hygiene \* Holding/time and temperature \* Cooking temperatures \* Prevention of contamination

**Issue (Who cares and Why)**

Food borne illness is one of the greatest concerns of public health experts and the food industry. Each year, as many as 76 million Americans experience food borne illness, and an estimated 5,000 deaths are linked to tainted foods. Incredible as these figures are, they probably represent only a fraction of the whole picture. Many mild cases of food borne illness are never reported for a number of reasons: The victims pass off the symptoms as flu and do not seek medical attention, the illness is misdiagnosed as another problem with similar symptoms, the victim fails to recognize food as the source of the illness, or the physician doesn't report the illness to local health agencies. Diarrhea, nausea, abdominal pain, or vomiting without fever or upper respiratory distress is often taken to be flu, but people who experience such symptoms are highly likely to be suffering from food borne illness.

### **What has been done**

Forty-four Safety Awareness in the Food Environment (SAFE) programs were conducted statewide in FY 07 reaching 893 food workers. Educators indicated the primary establishments attending these programs as: 18 programs were conducted for restaurants, 2 for food entrepreneurs, 14 for food pantries, 21 for non-profits such as schools and nursing homes, and 4 programs were conducted for volunteer food workers. Educators administered the ServSafe examination to 294 food managers/workers in formal programs and individually.

Nutrition Connections administers the federally funded EFNEP and the USDA Food Stamp Nutrition (FSN) grant funded Food Stamp Nutrition Education (FSNE). Both programs target low income families, youth and individuals. Nutrition Connections focuses on improving short and long term outcomes related to diet quality and physical activity; food safety; and shopping behavior and food resource management. Individuals gain awareness and knowledge to apply skills and/or change behaviors. A total of 655 families participated in lessons with 404 graduating from a series. Sixty one percent of the program families were at or below 125% of poverty.

Food safety and preservation education was offered through some local offices to consumers.

### **Results:**

759 post-workshop knowledge questionnaires were received from SAFE participants. 703 participants (93%) scored 75% or greater on the knowledge questionnaire.

557 post-workshop SAFE practices questionnaires were completed. These data report food workers' intent to implement 8 food safety practices recommended during the SAFE program. Here is a listing of the practices along with the number and percent of participants who indicated they were practicing it routinely:

- Wash hands before and after preparing food. 533 (96%)
  - Wash hands for 20 seconds. 490 (88%)
  - Change single-use gloves between tasks. 494 (89%)
  - Wash and sanitize utensils, equipment and surfaces before and after using. 517 (93%)
  - Use gloves, tongs, or tissues to prepare and /or serve ready-to-eat food. 508 (91%)
  - Check food temperature with a calibrated thermometer. 340 (61%)
  - Keep perishable food out of the temperature danger zone. 453 (81%)
  - Use a SAFE recommended method for cooling a large amount of hot food. 394 (71%)

Of the 294 ServSafe participants, 234 (80%) passed the examination with a score of 75% or greater.

### **Home Food Safety**

Entry and exit food recalls and survey question evaluation results show that:

- 28% (100 of 354) of participants more often did not allow meat and dairy foods to sit out for more than two hours
- 51% (180 of 355) of participants more often did not thaw foods at room temperatures

Comments from participants:

- "I defrost food in the refrigerator."
- "When my daughter helps me cook, I make sure she cleans her hands before and after a little bit longer, and clean up better when she's done using cooking utensils."

### **Associated Knowledge Areas**

- 712 Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

### **Crosscutting Qualitative Outcome or Impact Statement**

- Percent of money management education participants who document their improved money management practices on evaluation instruments.
- Percent of program participants who document an increase in their financial literacy on evaluation instruments.

### **Issue (Who cares and Why)**

Americans are making less and saving less. Personal income declined from 6.1% in 2004 to 4.3% in 2005 (U.S. Department of Commerce, Bureau of Economic Analysis). Personal savings as a percentage of disposable personal income declined from 1.8% in 2004 to -.4% in 2005 (U.S. Department of Commerce, Bureau of Economic Analysis). Consumer credit increased 3% in 2005 (Federal Reserve). There were 6058 bankruptcy filings in NH in 2005 which was a 32% increase from 2004 (United States Bankruptcy Court for the District of New Hampshire). Households are saving less and spending more putting their financial security at risk. Spending habits start early. Comparing 2005 to 2004,

teens overall spending level declined 6% but nearly half believe they'll spend more in 2006 than they did in 2005 (Teenage Research Unlimited). The Jump\$tart Coalition for Personal Financial Literacy 2004 survey found 12th graders' personal finance knowledge level to be 52.3% which is a failing grade based upon the typical grade scale. Many young people could establish bad financial management habits, and stumble through their lives learning by trial and error.

### **What has been done**

Those with poor money skills are risking their financial security. The University of New Hampshire Cooperative Extension's curricula of "Making Money Work For You" and "Taking Charge of Your Finances" (including Credit Check Up and Don't Get Crushed By Debt) have made a tangible difference in New Hampshire residents' lives. The various parts of two curricula are designed to address the most needed financial skills. Good financial record keeping, among other things, allows a person to evaluate the adequacy of his or her insurance coverage, and more easily determine the amount of an insurable loss. Obtaining and reviewing a credit report helps in determining credit worthiness. Calculating one's net worth allows one to see progress toward goals. A spending and savings plan sets the financial map the person follows to achieve those goals. Increasing savings gives a person a feeling of accomplishment, as well as a sense of well being in times of emergencies. An emergency fund is essential for back up in case an unexpected bill occurs, an emergency arises, a person is sick and unable to work, or a worker is laid off. Savings, goals and emergency fund go hand in hand. Without savings in an emergency fund, a household has no internal resources to fall back on in case of an unexpected situation that has a financial impact. Without savings, a household is unable to reach their goals and financial goals are unable to be reached if money leaks aren't plugged.

Furthermore, confidence in making their financial decisions prompts a person to act and be in the driver's seat of their financial affairs. The fact that they feel more confident in working with money matters results in the increased likelihood of actually doing what they are planning to do. These skills and more are the foci of the two primary curricula presented by UNH Cooperative Extension in Family Financial Management.

### **Results:**

Both workshop curricula have the goal of helping participants to increase their savings.

- Before the educational workshops began, only 42% of participants reported having non-retirement savings. After the education, 57% had non-retirement savings. Only 39% of participants reported having retirement savings, and 48% reported having retirement savings after education.

- Only 28% of the participants indicated that they had set any money aside for future wants and needs. This percentage increased to 39% at the end of the series. Participants reported increasing savings an average of \$97 a month.

- Nearly two-thirds (57%) of the participants initially indicated that they would half the time, always or often run out of money at the end of the month. At the conclusion of the educational experience, only 39% indicated this was true. Additionally, only 8% were indicating that they were always running out of money at the end of the month, when 23% had stated this was true when they began the workshops.

A second goal of both workshop curricula is for participants to decrease debt.

- At the end of the educational workshops, 59% reported they had managed credit and reduced debt and 32% percent plan to. Amount saved averaged over \$118 a month.

- Furthermore, fewer participants indicated they were paying bills late at the end of the workshops - 25% compared with 44% at the beginning of the workshops. The most dramatic decrease was for those reporting they "often or always" paid their bills late: 9% after compared with 24% before the workshop experience. This is important because paying bills late has the potential of increasing the bill due to late charges or increased interest as well as negatively affecting a person's credit rating.

- Seventy-two percent of the participants stated that they were satisfied with the steps they were taking to reduce debt, compared to 39% before education.

A third major goal of both the educational curricula is to increase participant's confidence in making financial decisions.

- At the beginning of the workshops, 66% of the participants reported they felt confident about making decisions about money; after the workshops, 88% indicated they were confident about making money decisions.

- Participants' confidence about setting financial goals also increased as a result of taking these educational workshops. At the end of the workshops, 91% of participants felt confident about setting financial goals, compared to 70% before the workshops began.

In addition, 96% would recommend to others with 72% of the participants indicating that they have shared the workshop information with an average of 3 others. UNH Cooperative Extension financial management classes are making a difference in NH residents lives by helping them develop their financial skills and thereby increase their financial security.

In addition to money management education for adults, Family Resource Management Educators promote personal financial education for youth with the NEFE High School Financial Planning Program, in collaboration with NH Jump\$tart Coalition. Last year over 5,000 high school students received personal finance education in New Hampshire (as reported on the ES237) which is estimated to be about 7% of the New Hampshire high school student population.

#### **Associated Knowledge Areas**

802	Human Development and Family Well-Being
801	Individual and Family Resource Management

#### **Crosscutting Qualitative Outcome or Impact Statement**

- Percent of program participants who report utilizing effective practices that lead to quality child care experiences.
- Number of counties where resource and referral agencies make Better Kid Care training available.
- Percent of program participants who report their intention to apply their understanding of general developmental milestones and progressions in ways that support their child's progress - socially, emotionally, physically, and intellectually.

#### **Issue (Who cares and Why)**

Strong families raise children to become responsible, productive and caring adults. As a nation we have gradually increased the supports that we offer for families and overall, our knowledge and understanding of children and their developmental needs have greatly improved. However, deficits remain and many families face problems that place their children at risk for a life of adversity. Parents, from diverse backgrounds and with diverse strengths and weaknesses, are in need of education to help them understand how to more effectively parent their children. For example, many parents do not understand that infants begin to "take in" their environment in the first few days of life; and, about the harmful effects of children being exposed to violence or how a parent's state of depression can place his or her children at risk for adjustment problems. Characteristics about children's families can also place them at-risk for future problems. In 2003, 1 in 5 New Hampshire children lived in families that were headed by a single parent and 22% of children lived in families that were considered low-income. In that same year, over 12,000 children lived in extreme poverty and 7,000 children lived in a household where no adult worked in the past 12 months. When these types of risk factors are combined with a lack of knowledge, children can suffer. For example, in the year 2001 1,436 cases of child maltreatment were substantiated in the state of New Hampshire and in that the same year 1,214 children were in state-sponsored placements because of maltreatment. In 2000, 132 New Hampshire youth were committed to a state correctional facility; children from the poorest New Hampshire communities were almost more than twice as likely to be committed to a correctional facility as children from middle income communities. There is vast evidence to indicate that education and prevention campaigns over the past three decades have helped to reduce the adversity in children's lives, such as lower rates of maltreatment, crime and higher rates of high school completion. However, more education and programming is needed to assist those children who continue to be at-risk for future problems.

It is not only parents who need assistance in raising and caring for children. Many caregivers outside the home have a significant impact on children's lives. More parents work outside the home today than ever before. This is especially true of parents with young children. Nationwide, 72% percent of women with minor children participate in the work force, and among New Hampshire families with children under the age of six, 61% of those families have both parents in the workforce. Nationally, almost three-quarters of children under the age of 5 whose mothers are employed are in non-relative child care. The demand for necessary child care services was met with a 25% increase in the number of licensed child care facilities in the state of New Hampshire between 1987 and 1997. While many children attend an organized daycare or nursery school center, many others do not. This can lead to great variations in the level of knowledge of caregivers and in the quality of care that children receive. Variations in the quality of care that children and families receive is true just not of childcare providers, but for many different types of family providers. There is evidence which suggests that adults have significant gaps in their knowledge about children and developmental norms, and that general education may be beneficial for providers on many different levels.

#### **What has been done**

Parenting and child care education programs are offered state-wide on a variety of topics: Strengthening Families Program (SFP)10- 14, Parenting Under Difficult Circumstances, Dare To Be You, Family Focus, Supportive Connections for Single Parent Families, Stepfamilies, Relatives as Parents; a Parenting Book Group, Cradle Crier and Toddler Tales ( age paced newsletters); Single topic sessions including Positive Discipline, Raising Your Child's Self- Esteem, Better Kid Care (BKC):Promoting the Social Emotional Competence of Young Children, Collaborations with NH Resource and Referral Agencies.

To better meet the needs of smaller center and home-based child care programs, providers are offered a "study at home" program where we send them a copy of the telecast as well as any supporting handouts. They can choose to view the materials on their own or as part of training for their staff. Both methods are used. When the evaluation is completed and returned with the tape to the office, a certificate of completion is forwarded to them. This is accepted by the Child Care and Licensing Board for NH as satisfying two of the hours of training needed by each staff person every year.

During the past year the four current programs of BKC as well as two programs from the previous year were made available. The general response from participants is once they have viewed at least one of the tapes is "send me everything you have".

**Results:**

Eighty-nine percent of participants involved in parenting education programs indicated on post program surveys and/or follow ups they had gained knowledge of what to expect of children at different ages, increased their understanding of why children misbehave and almost all participants reported that the program helped to improve their parenting skills.

These responses indicate a significant amount of specific knowledge learned that will impact the children of these parents in a positive way. The majority of these parents indicate that they will change behaviors that will directly support all areas of their children's development. Specific behavior changes planned are:

"Using natural and logical consequences", "Working on a contract with my 12-year-old", "Think before I speak", "Appreciating my children more", "Listening", "Thinking and processing how I ask my child things, and make them give me the answer instead of me giving the rule all the time", "To have limits and rules", "Giving more attention to my parenting techniques for my children's benefit", "Thinking problems with my family over more thoroughly", "To analyze my life and times with my children better to understand the causes and effects of situations", "Enjoy the time I have with my kids and set more clear limits for their ages", "Being very consistent with discipline and routines"

Research on SFP 10-14 show positive outcomes for youth and parents. Longitudinal studies have demonstrated a reduction in youth substance abuse. Iowa State University researchers have calculated that brief family intervention programs designed to discourage teen drinking are both beneficial and cost-effective. Their study found that each dollar spent on intervention programs for adolescents was returned many times over in savings by preventing future costs associated with alcohol problems in adulthood. The researchers conservatively estimated that prevention of a single case of adult alcohol abuse produces an average savings of \$119,633 in avoided costs to society. Factoring these savings into the costs and effectiveness of the Strengthening Families Program revealed that this intervention saved \$9.60 in future costs for each dollar invested. SFP longitudinal studies showed that other youth risky behaviors are reduced through this family strengthening intervention.

In particular, inmate participants from the NH State Prison for Women and the Belknap County House of Corrections who participated in parenting education programs indicated they benefited from the in-class discussion and hearing experiences of other mothers who were experiencing some of the same challenges and that they, "learned to cool down before acting." and "...to wait to react if I'm angry." Others indicated they learned how to better communicate with their children and one inmate indicated that she would, "write more letters to my children. Let them know I love them and that they are the world to me."

Participants in child care provider workshops were given a post-workshop survey to measure how much new information was learned, whether the information that was presented was relevant to the children they serve, and to what degree they will be able to use the information learned in the educational session. Just over 80% of the respondents indicated they planned to try at least one practice they learned of during the workshop. Participants indicated knowledge gained in the area of social/emotional development and strategies to promote social/emotional competence in young children. Participants also identified strategies that they would implement as a result of participating in these workshops. Several participants mentioned they would use the "new play ideas" designed to fight obesity through active play. Other practices participants indicated they planned to adopt included the use of classroom safety checklists, and changing some of the snack offerings to include more whole grain foods.

**Associated Knowledge Areas**

- 802 Human Development and Family Well-Being
- 703 Nutrition Education and Behavior

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of participants who have the ability to have foods readily available for self and family
- Percent of participants who report eating nearer to the recommended number of cup equivalents from the Fruits and Vegetable Group

- Number of participants who adopt one or more healthier food/nutrition practices (choose foods according to MyPyramid and the Dietary Guidelines)
- Percent of participants who report eating nearer to MyPyramid amounts (unspecified Number of participants who report an increase in their physical activity)
- Number of youth who learn how to choose foods according to the Pyramid and Dietary Guidelines

### **Issue (Who cares and Why)**

Over 76,800 New Hampshire people live below the federal poverty guidelines. Most of these people rely on a combination of government food assistance programs and emergency food providers to get enough to eat. The New Hampshire Food Bank will have distributed about four million pounds of food to its member agencies this year. Increasingly, food banks, soup kitchens and food pantries are called upon to meet the needs of participants with fewer resources.

Nutrition plays a vital role in overall health. In fact, research has found that diet is associated with the leading causes of death, many of which are preventable heart disease, diabetes, obesity, and several types of cancer. Cardiovascular disease and cancer together account for almost two thirds of all deaths in the United States. Despite the importance of diet, however, Americans fail to achieve recommendations of the Dietary Guidelines which lower the risk of disease.

In the 2006 telephone survey, food stamp recipients were asked to describe the quality of both their general health. Over the last 5 years, respondents have described their overall health less favorably than the general New Hampshire population. In 2006, 16% of respondents described the overall nutritional quality of their diet as excellent (5%) or very good (11%). By comparison, according to the 2000 Centers for Disease Control Behavioral Risk Factor Surveillance System Survey, general population residents in New Hampshire (63%) described their health as excellent or very good. Food Stamp recipients were asked to rate the nutritional quality of their diet. Twenty-eight percent of respondents said the nutritional quality of their diet was either excellent (8%) or very good (20%). More respondents (41%) described the nutritional quality of their diet as excellent (13%) or very good (28%) in 2005.

Lack of money is the most common barrier preventing Food Stamp recipients from improving their diet. Over one-third of respondents (37%) mentioned that they can not afford to improve their diet.

Money is an especially prevalent barrier among recipients under 62 (41%) and those who currently rate their diet as fair or poor (50%). These results suggest that financial constraints pose an especially strong barrier for younger respondents and those with the greatest need to improve the nutritional quality of their diets.

### **What has been done**

Nutrition Connections administers the federally funded EFNEP and the USDA Food Stamp Nutrition (FSN) grant funded Food Stamp Nutrition Education (FSNE). Both programs target low income families, youth and individuals. Nutrition Connections focuses on improving short and long term outcomes related to diet quality and physical activity; food safety; and shopping behavior and food resource management. Individuals gain awareness and knowledge to apply skills and/or change behaviors.

A total of 655 families participated in lessons with 404 graduating from a series. Sixty one percent of the program families were at or below 125% of poverty.

Lighten Up NH! - a statewide initiative of UNHCE identifies, organizes and integrates the diversity of human, educational, and environmental resources involving obesity prevention and reduction in New Hampshire. Specifically a new website has been developed and marketed ([www.lightenupnh.org](http://www.lightenupnh.org)).

### **Results:**

Through education with the Nutrition Connections program, participants have learned, applied skills and behaviors to improve diet quality, physical activity, food safety and food resource management. Continuing with these changes can potentially reduce their risk factors and complications for nutrition related health problems and chronic diseases; increase their ability to have nutritious and culturally accepted foods available for their family; and reduce the incidents of food borne illness associated with unsafe food handling practices.

Entry and exit food recalls and survey question evaluation results show that:

- 54% (211 of 388) of participants eat closer to the USDA recommendation for fruit
- 58% (224 of 388) of participants eat closer to the veggie recommendation
- 95% (370 of 388) of participants eat closer to the general recommendations of the Dietary Guidelines and MyPyramid
- 58% (206 of 356) of participants more often chose healthy foods
- 37% (134 of 362) of participants more often did not use salt
- 66% (234 of 355) of participants more often read food labels

- 80% of participants improved at least one nutrition practice: choosing healthy foods, not using salt, reading food labels
- 47% (170 of 358) of participants improved their ability to plan meals
- 41% (147 of 356) of participants more often compared prices
- 49% (157 of 321) of participants more often used a grocery list
- 74% (244 of 329) of participants improved at least one food resource management practice of planning meals, comparing prices and using a grocery list

Comments from participants:

- "I have learned that the only thing that works is making changes in my lifestyle and behavior, not going on fad diets. It took me awhile but I finally caught on. I've been able to take the weight off and keep it off. I manage my portions and do not overeat the way I used to. I have more energy and feel so much better."
- "I have always been receptive to nutrition information but when it is combined with a food stamp program it is even better because the food stamps allow you to experiment with more nutritional items that the course promotes. Like buying more protein like cottage cheese, more deep colored vegetables like beets, more whole wheat items like brown rice. Ordinarily I skimp on buying food because I am very low income. However with the food stamps and the course I have more buying power!"
- "I've learned to save a lot of money by shopping on certain days watching for manager specials."
- Comments from Staff: "...it actually cost (her) less to eat healthier if you're willing to do more cooking from scratch."

Evaluation results for physical activity indicate that:

- 36% of participants increased the amount of daily physical activity
- 23% of participants were physically active at least 10 minutes per day most of the time
- 46% of participants were physically active at least 10 minutes per day almost always

Comments from participants:

- "I began a workout program for myself 5 months ago and have lost 20lbs! As a family we're working on daily physical activity."
- "I'm doing well and getting more exercise. Now I am walking 3.5 miles daily."

In addition, exit surveys from 4,969 youth participating in a series of lessons in schools, after-school settings and other youth related organization meetings indicated: 78% eat a variety of food and 81% increased knowledge of nutrition.

**Associated Knowledge Areas**

- 724 Healthy Lifestyle
- 703 Nutrition Education and Behavior

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Retrospective (post program)

**Name of the Planned Program**

Forestry and Wildlife

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	60			
124	Urban Forestry	20			
135	Aquatic and Terrestrial Wildlife	20			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	13.0	0.0	0.0	0.0
<b>Actual</b>	16.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$258,035	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$258,035	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$2,726,955	0	0	0

**Planned Program (Activity)**

Brief description of the Activity

- Implement components of the NH Forest Resources Plan - Conduct, sponsor, co-sponsor or provide educational expertise for over 250 workshops, seminars or educational events.
- Develop statewide and regional coordinated/standardized programs accomplished by Forestry and Wildlife staff working individually or in teams.
- Develop messages and strategies using ownership size, watershed location or landscape location. Audiences, messages and strategies may differ by location in the state.
- Develop key messages for landowners consistent with our public awareness strategy.
- Develop a checklist of topics to cover on site visits
- Landowner outreach to reach new clientele
- Review and update standard operating procedures on staff approaches to landowner site visits.
- Develop an evaluation and improvement process for follow-through on site visits.
- Maintain contact with landowners through newsletters, web page, and special mailings.
- Develop materials to help landowners make informed decisions when selling timber and disseminate these materials through town offices and other means.
- Involve key family members in woodlot visits and woodlot planning
- Reach clientele through training programs (Coverts - Tree Stewards)
- Maintain volunteer's role as ambassadors of messages and programs and not as providers of technical expertise.
- Work with Project Learning Tree and 4-H Youth Development to educate teachers and youth leaders on forest resource issues.

**Brief description of the target audience**

Target audiences include non-industrial private forest owners (NIPF), municipal and other forest landowners, natural resource professionals, communities, volunteers, NH forest-based industries and the public.

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contact Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	6700	22000	0	500
<b>2007</b>	12421	245655	976	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
<b>2007</b>	0	0	0

**State Defined Outputs**

**Output Measure**

Number of people reached implementing components of the NH Forest Resources Plan

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>3500</b>	<b>2807</b>

Number of workshops, seminars or educational events where educational expertise is offered

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>250</b>	<b>505</b>

People reached through development of statewide and regional coordinated/standardized programs accomplished by Forestry and Wildlife staff working individually or in teams

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>12000</b>	<b>12421</b>

Number of people reached through messages and strategies around ownership size, watershed location or landscape location

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>700</b>	<b>120</b>

Number of landowners receiving key messages consistent with our public awareness strategy

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2500</b>	<b>120</b>

Number of site visits where a check list of topics is used

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>500</b>	<b>793</b>

Number of one-on-one consultations with new landowners

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>125</b>	<b>404</b>

Number of staff who review, update, and evaluate standard operating procedures on landowner site visits

Year	Target	Actual
2007	13	14

Number of people reached through newsletters, web page, and special mailings

Year	Target	Actual
2007	10000	42400

Number of landowners who receive materials to help them make informed decisions when selling timber

Year	Target	Actual
2007	200	106

Number of key family members involved in woodlot visits and woodlot planning

Year	Target	Actual
2007	450	106

Number of clientele reached through training programs (Coverts and Tree Stewards)

Year	Target	Actual
2007	500	500

Number of volunteers who maintain role as ambassadors of messages and programs, but don't provide technical expertise inappropriately

Year	Target	Actual
2007	1250	500

Number of teachers and educators using Project Learning Tree to teach youth about forest resource issues

Year	Target	Actual
2007	150	125

## State Defined Outcomes

### Outcome Measures

Number of acres of forest management plans meet or exceed NH forest stewardship standards

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	20000	29339

### Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

#### What has been done

**Results:** See crosscutting outcome measure narrative.

#### Associated Knowledge Areas

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife

Number of forest owners who receive federal or state financial incentives for implementing conservation practices

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	40	141

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife

Number of new landowners engaged with a forester or natural resources professional for the first time or for the first time in 10 or more years

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	115

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife

Number of volunteers in conservation work in NH communities as a result of training and continued work by UNHCE primarily in the Coverts and Community Tree Stewards programs

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	500	470

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
124	Urban Forestry

Number of NH licensed foresters trained by UNHCE in each of the two-year licensing period for CEUs

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	80	234

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife

Number of NH communities engage in natural resource inventories or natural heritage assessments to identify natural assets

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10	25

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 124 Urban Forestry

Number of people who influence the forest environment in NH with increased working knowledge about forest resource management through workshops, seminars, or educational events annually

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	1000	6353

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife

Number of acres landowners develop conservation easements on in NH acres each year

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10000	12500

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123 Management and Sustainability of Forest Resources

Number of licensed foresters who increase business opportunities through 300 referrals from UNHCE staff - thereby sustaining a cadre of private sector licensed foresters offering services to the public

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	100	483

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123 Management and Sustainability of Forest Resources

Number of Tree Steward and Coverts who volunteer each year beyond the required 40 hour commitment

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	25	144

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

123 Management and Sustainability of Forest Resources  
 135 Aquatic and Terrestrial Wildlife  
 124 Urban Forestry

Number of NH women who improve forest business management as a result of the Women and the Woods program

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	25

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife

Number of professional loggers in NH who increase their knowledge and market forest products to Sustainable Forestry Initiative companies requiring certified loggers through the Professional Loggers Program with NH Timberland Owners Association and the UNH Thompson School

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	250	423

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of acres of forest management plans meet or exceed NH forest stewardship standards
- Number of forest owners who receive federal or state financial incentives for implementing conservation practices
- Number of new landowners engaged with a forester or natural resources professional for the first time or for the first time in 10 or more years
- Number of NH licensed foresters trained by UNHCE in each of the two-year licensing period for CEUs
- Number of people who influence the forest environment in NH with increased working knowledge about forest resource management through workshops, seminars, or educational events annually
- Number of NH communities engage in natural resource inventories or natural heritage assessments to identify natural assets
- Number of acres landowners develop conservation easements on in NH acres each year
- Number of licensed foresters who increase business opportunities through 300 referrals from UNHCE staff - thereby sustaining a cadre of private sector licensed foresters offering services to the public
- Number of professional loggers in NH who increase their knowledge and market forest products to Sustainable Forestry Initiative companies requiring certified loggers through the Professional Loggers Program with NH Timberland Owners Association and the UNH Thompson School
- Number of NH women who improve forest business management as a result of the Women and the Woods program

**Issue (Who cares and Why)**

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

Forests landowners hold the key to protecting NH's environment. 70% of NH, or 3.2 million acres, is privately owned. The average size woodlot is just under 40 acres and it is these family forests that help define our state.

**What has been done**

Forest Resource Extension Educators, three statewide Extension Specialists, a Land and Water Conservation Educator and Community Forestry Volunteer coordinator provide technical expertise and information about managing forest and community resources to people in each county across the state. Target audiences include non-industrial private forest owners (NIPF), municipal and other forest landowners, natural resource professionals, communities, volunteers, NH forest-based industries and the public.

**Results:**

As a result of the individual and workshop-based activity, Extension foresters referred over 400 landowners owning 35,000 acres to licensed foresters who wrote forest stewardship plans on over 29,000 acres. This represents \$435,000 of direct economic activity as well as improved management and timber harvesting. Over 25% of New Hampshire's private forest land is managed according to an integrated forest stewardship plan.

New Hampshire licensed foresters attending Extension workshops manage an estimated 650,000 acres of private forest land resulting in improved practices. 80% of attendees reported that attendance had a positive influence on their land management practice.

Improved timber harvesting emphasizing the use of best management practices (BMPs) and minimizing negative impacts on water quality has been a focus of Extension programming with a variety of audiences. An Extension evaluation of BMP effectiveness demonstrated that in New Hampshire, BMPs are being used effectively during timber harvesting resulting in soil stability 77% of the time at crossing structures; 80% at approaches outside 50' buffer and 76% at approaches inside the buffer.

Minimizing Fragmentation and Sprawl through Community Conservation Planning and Permanent Land Protection: 12 communities completed natural resource inventories as a prelude to conservation planning and identifying important lands to permanently protect. Over 6,000 acres of forest and field have been permanently protected as a result of assistance provided by the Extension Land and Water Conservation Educator.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife
- 124 Urban Forestry

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of volunteers in conservation work in NH communities as a result of training and continued work by UNHCE primarily in the Coverts and Community Tree Stewards programs
- Number of Tree Steward and Coverts who volunteer each year beyond the required 40 hour commitment

**Issue (Who cares and Why)**

**What has been done**

The Community Tree Steward Program educates volunteers in community and urban forestry. Tree Stewards participate in a course that meets once a week for 11 weeks with optional Friday field trips. The goals are to strengthen communities, promote social change, and enhance urban ecosystems. In return, they spend 40 hours volunteering in their communities, although many volunteer many more hours.

During FY 07, Tree Stewards worked on a wide variety of natural resource projects in several communities around the state. As graduates many developed networks and formed partnerships with residents, community officials and organizations, as well as with Cooperative Extension staff and other natural resource professionals. Volunteer activities with greatest amounts of time included:

- Natural Resource Committee
- Land Conservation
- Community landscaping projects
- The NH Big Tree Program
- Youth Education
- Water Quality
- Forest and Land Management
- Invasive Species Management and control

The New Hampshire Coverts Project trains volunteers to promote wildlife habitat conservation and forest stewardship. The goals of the project are twofold: 1) To enhance, restore, and conserve habitat for the rich diversity; 2) To increase the amount of New Hampshire's public and private land managed with a stewardship ethic

A "covert" (pronounced "cover" with a "t") is a thicket that provides shelter for wild animals. Modeled on similar Coverts Projects in other states, the name of the NH program symbolizes the Project's focus on wildlife habitat. The Coverts Project works to bring a message of wildlife conservation and habitat stewardship to NH's private landowners, who combined own more than 80% of NH's forestland. Research has shown that landowners are highly receptive to hearing about good stewardship from "knowledgeable peers", e.g. other landowners armed with knowledge. The Coverts Program has trained over 250 volunteers in wildlife ecology, habitat management, and sound land

stewardship. These volunteers now work in 120 different communities throughout New Hampshire, including many rural areas not covered by other conservation programs. Coverts volunteers are selected into the program based on their commitment and enthusiasm for wildlife conservation and forest stewardship, so it is no surprise that they are involved in a wide range of activities.

Projects by Coverts volunteers in FY07 included active management of over 18,900 acres of habitat, including almost 300 acres of early successional habitat, a habitat type emphasized in the Coverts training due to its importance for many wildlife species of conservation concern. Almost half of all Coverts volunteers serve on their town's Conservation Commission, bringing knowledge of wildlife and habitat to these local decision-making bodies. Coverts volunteers are asked to spread what they've learned at the Coverts training workshop to other landowners, to community members, and to members of the public. In FY07, Coverts volunteers estimate that they reached over 40,000 people with a message of sound land stewardship--through field trips on their land, volunteer efforts with other groups, newspaper articles, or personal conversations with neighbors and friends. Coverts volunteers appreciate the value of the training they've been given (for free), and work tirelessly to spread that message to others.

**Results:**

The Community Tree Steward and Coverts Projects ask volunteers to serve 40 hours doing outreach on wildlife and forestry topics each year. In FY07, Coverts volunteers averaged 105 hours of volunteering on behalf of forest stewardship or wildlife habitat issues. These hours reflect the volunteers' involvement in many different wildlife and conservation groups, and reflect the intense dedication of Coverts volunteers.

The aim of the NH Coverts Project is to find people who are already volunteering in wildlife or conservation projects, who are well-connected and community-minded, and then to give them new tools, knowledge, and connections so they can volunteer in a more effective and knowledgeable way. The on-going stories collected about the efforts of Coverts volunteers around the state indicate that they are indeed "right" people. They are movers-and-shakers, and as a result of the Coverts training, we also know that they have good training, correct information, and contacts with resource professionals at their disposal.

Several Community Tree Stewards hold leadership positions in important NH agencies/organizations, i.e. Vice President of the NH Landscape Association, Executive Director of the Strafford Rivers Conservancy, the only town-paid Land Protection Administrator in NH, Vice President of the Southeast Land Trust of NH, and President of the Souhegan Valley Land Trust. Many Community Tree Stewards also hold positions on conservation commissions, planning boards, tree committees, watershed associations, and other land trusts throughout New Hampshire. One dam project taken on by a Community Tree Stewards exceeds state of NH standards, and they have been the advisors to the Planning & Zoning Boards for 4 major developments that resulted in stopping a large gas station complex to be built on the aquifer, and a major mining expansion effort of 140 acres.

**Associated Knowledge Areas**

- 123 Management and Sustainability of Forest Resources
- 135 Aquatic and Terrestrial Wildlife
- 124 Urban Forestry

**Planned Program (External Factors)**

**External factors which affected outcomes**

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

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

**Name of the Planned Program**

Land and Water Conservation

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%			
111	Conservation and Efficient Use of Water	5%			
112	Watershed Protection and Management	20%			
131	Alternative Uses of Land	20%			
133	Pollution Prevention and Mitigation	10%			
135	Aquatic and Terrestrial Wildlife	5%			
136	Conservation of Biological Diversity	10%			
205	Plant Management Systems	5%			
307	Animal Management Systems	5%			
605	Natural Resource and Environmental Economics	10%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.2	0.0	0.0	0.0
<b>Actual</b>	.7	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$10,644	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$10,644	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$73,800	0	0	0

**Planned Program (Activity)**

Brief description of the Activity

**COMMUNITY NATURAL RESOURCE BASED STEWARDSHIP**

1. Promote and deliver The Dollars and Sense of Saving Special Places

- Train additional presenters if needed.
- Market the program to NH communities and conservation groups
- Present the program to communities and conservation groups
- Provide follow up assistance as requested
- Revise the program as needed.

2. Provide focused training and long-term assistance to communities on natural resource planning and land conservation.

- Provide direct assistance to towns and conservation groups upon request.

- Conduct land conservation and natural resources workshops and other educational activities as suggested by program staff and as requested by communities and conservation groups.
- Provide guidance to UNH Senior Project Teams assisting communities with natural resource conservation projects.
- Plan and conduct the Saving Special Places Conference.
- Conduct the Natural Resources Outreach Coalition program for communities selected annually.
- Produce printed presentation, web and other educational materials.

**Brief description of the target audience**

Community officials (conservation commissioners, planning board members, select board members), other community decision-makers, other volunteers, conservation groups, landowners, land managers, licensed foresters, agricultural producers, and homeowners.

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contact Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	2000	0	0
2007	1807	1301	0	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year	Target
Plan:	0
2007:	0

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan	0	0	0
2007	0	0	0

**State Defined Outputs**

**Output Measure**

Number of people who attend The Dollars and Sense of Saving Special Places workshops

Year	Target	Actual
2007	100	250

Number of people provided with focused training and/or long-term assistance to communities on natural resource planning and land conservation. Includes face-to-face, newsletters and web based assistance

Year	Target	Actual
2007	800	740

Number of producers, fertilizer dealers, consultants and landscapers who are encouraged to use economically and environmentally appropriate use of pesticides and fertilizers through workshops, soil tests, demonstrations, newsletters, web sites, etc.

Year	Target	Actual
2007	330	1059

Number of homeowners who are encouraged to reduce phosphorus application to lawns and gardens through soil testing and garden center information

Year	Target	Actual
2007	330	752

Number of real estate agents trained about the economic value of better managed forest lands

Year	Target	Actual
2007	50	0

Number of producers and landscapers trained in IPM principles and techniques

Year	Target	Actual
2007	30	364

## State Defined Outcomes

### Outcome Measures

Number of landscapers who make at least one practice change as a result of completing a training class on landscaping to protect water quality

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	10

### Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

The fresh and coastal waters of New Hampshire represent a valuable water resource contributing to the state's economic base through recreation, tourism, and real estate revenues. In addition some lakes and rivers serve as current or potential water supplies. For most residents (as indicated by boating and fishing registrations) our waters help to insure a high quality of life. However, New Hampshire currently leads all of the New England states in the rate of new development and redevelopment. The long-term consequences of the resulting pressure and demands on the state's precious water resources remain unknown. Of particular concern is the response of our waters to increasing non-point source pollutant loading due to watershed development and land use activities.

Landscaping choices near the shore affect ground water and ecologically-based design, and low-impact maintenance practices, can protect--even improve--the quality of our water resources, but many landscapers and homeowners are unfamiliar with some of the basic principles of water-friendly landscaping practices.

#### What has been done

Extension educators and specialists have teamed up with the landscape industry to write a book, *Landscaping at the Water's Edge: An Ecological Approach*. This book, new from UNH Cooperative Extension, explains how landscaping choices affect ground water and demonstrates how, with simple observations, ecologically-based design, and low-impact maintenance practices; you can protect--even improve--the quality of our water resources.

This book, along with more than 20 workshops offered to landscape professionals and homeowners, is designed to help people understand the basics of how watersheds and shore land ecosystems function so they might use the strategies and techniques presented to help prevent soil erosion, nutrient and pesticide runoff, exotic plant invasions, and other detrimental processes associated with developed landscapes.

#### Results:

A follow up survey was conducted and a small number of participants (n=10) from workshops responded. The responses came from landscape professionals, town board or conservation comm. members, lake associations representatives and shore land property owners. They reported using what they had learned in the following ways:

90% felt they had improved their advice to customers or citizens

40% had incorporated what they learned in design projects  
 30% had used it to improve maintenance practices on shore land properties  
 10% had incorporated the information into decisions made by town boards  
 10% had incorporated the information into proposed ordinances  
 70% had made recommended changes on personal property or those of a friend/relative  
 In addition, 90% had shared the information with other people.

Implementation on a total of fourteen properties on 1.5 acres was reported.

Specific impacts on these properties included reduced erosion (40%), reductions in runoff (20%), drainage changes (20%), design modifications (40%), increased vegetative buffers (40%), better plant selection (40%) and plant establishment (30%), less phosphorus or other nutrients applied (20%), and reduced pesticide usage (20%).

Many people added narrative comments, of which a select few are shown below:

"A friend of mine has property on a pond in xxx which was severely affected by flooding this past spring. In the clean up I was able to change the configuration of his driveway to some degree to minimize runoff into the pond."

"A local regional conservation group looking at conserving land and working with landowners in the surface water areas to protect water resource and the natural environment."

"I directed runoff from going directly into the lake and had it go into a flat area before draining into a marsh. I also installed two more small culverts in order to help direct he water into better drainage areas."

"Where I work I am using less fertilizer and it has helped me start to create better buffers along my water areas."

"We are planning to have a public meeting on this subject within the next year."

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 102 Soil, Plant, Water, Nutrient Relationships

Number of community decision-makers who identify actions they will take to conserve the state's biodiversity

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	279

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 131 Alternative Uses of Land
- 136 Conservation of Biological Diversity
- 605 Natural Resource and Environmental Economics

Percent of garden centers that carry low- or no-phosphorus fertilizers

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	50	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 102 Soil, Plant, Water, Nutrient Relationships

Number of community leaders, volunteers and others who increase knowledge about natural resource and land conservation topics by attending ten workshops in different parts of the state

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	200	643

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 111 Conservation and Efficient Use of Water
- 131 Alternative Uses of Land
- 136 Conservation of Biological Diversity
- 605 Natural Resource and Environmental Economics

Number of landowners that increase knowledge about forest management, land conservation and water quality protection

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	200	635

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative in Forestry and Wildlife planned program section

**Associated Knowledge Areas**

- 131 Alternative Uses of Land
- 136 Conservation of Biological Diversity
- 605 Natural Resource and Environmental Economics

Number of producers who increase their knowledge about managing soils to minimize environmental impacts

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	773

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative in Agricultural Resources planned program.

**Associated Knowledge Areas**

205	Plant Management Systems
102	Soil, Plan, Water, Nutrient Relationships

Number of realtors who learn about natural resource contributions to property values

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** Data not collected due to changes in staffing.

**Associated Knowledge Areas**

131	Alternative Uses of Land
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**Crosscutting Qualitative Outcome or Impact Statement**

- Number of community decision-makers who identify actions they will take to conserve the state's biodiversity.
- Number of community leaders, volunteers and others who increase knowledge about natural resource and land conservation topics by attending ten workshops in different parts of the state

**Issue (Who cares and Why)**

Rapid land use changes are causing environmental, economic and social impacts. People have less connection with traditional uses of land. Rural and pristine waters and habitats are at risk and urban water quality remains in need of improvement and/or protection.

People often respond most when the impacts are personal. Community and conservation leaders are mainly volunteers without extensive backgrounds in natural resources and other disciplines related to land use and water quality issues. Tools are available for conserving natural resources and managing growth but many community and conservation leaders have limited understanding of them. Groups and individuals need long-term, sustained assistance as well as timely access to information and other resources for better natural resources stewardship. There is currently broad public support for land and water conservation. Commercial audiences are faced with increasing environmental, regulatory and economic pressures that strain the ability to maintain open space. The general public does not fully understand the consequences of land and water protection and development impacts. There are many opportunities to work together, including cross-over (multi or interdisciplinary) programming opportunities, for example, farm, forest and wildlife habitat management on land and water with these resources.

**What has been done**

Land and water educational programs are delivered to communities through direct and indirect community assistance and educational events, newsletters, and web support. Specifically, the Natural Resources Outreach Coalition (NROC) and Community Conservation Assistance Programs (CCAP) are highlighted in this report.

The primary goal of the Natural Resources Outreach Coalition (NROC) program is to provide education, outreach, technical assistance, and facilitation to communities in the NH Coastal Watersheds that are dealing with the effects of growth and looking for ways to conserve open spaces and natural resources. In 2007, NROC worked with two new

client communities (Milton and Hampton) to achieve the objectives outlined above. Both communities received NROC's Dealing with Growth educational presentation, customized for each community, followed by a series of follow-up meetings in each community to address issues raised in the presentation and community concerns about growth and natural resources. At the same time, NROC continued to work with two previous NROC communities (Fremont and Rollinsford). NROC worked with a total of four communities during the funding period.

CCAP assists New Hampshire communities and conservation groups with land and water conservation planning projects, such as natural resources inventories, conservation planning, land protection, public outreach, and building public support. Education and training provided by CCAP programming has increased communities' abilities to be proactive about land conservation. Specific accomplishments and impacts are summarized below:

- \* 1178 participants attended 38 workshops and other events on land conservation and related topics:
- \* 258 participants attended the Saving Special Places Land Conservation Conference, receiving education on a variety of land conservation and stewardship issues. This event is co-sponsored by UNHCE and the Center for Land Conservation Assistance.
- \* 285 participants attended a NH Wildlife Action Plan Workshop

**Results:**

Two communities, with a total attendance of 81 participants, received NROC's Planning for Growth presentation and follow-up assistance. Three communities were working towards natural resource and land conservation strategies in FY 2007 as a result of the Dealing with Growth presentation and extended follow-up assistance by the Natural Resources Outreach Coalition.

- o Fremont: Land conservation planning, natural resources inventory development and public community outreach focused on open space protection.
- o Rollinsford: Natural resources inventory & conservation planning
- o Strafford: Hosted an educational workshop

Two communities, with a total attendance of 110 participants, received the Natural Resources Outreach Coalition's (NROC) Dealing with Growth presentation, 261 participants from six communities are working towards comprehensive natural resource and land conservation strategies as a result of the Dealing with Growth presentation and extended follow-up assistance (multiple meetings) by the Natural Resources Outreach Coalition (NROC), which CCAP staff coordinates and is part of. Community projects initiated with NROC assistance include: natural resources inventory, water resources education and planning, master plan & zoning, environmentally sound economic development, natural resources planning, and land conservation.

Three-hundred eighty-one participants from 18 communities attended workshops on land conservation topics and during the reporting period, Extension staff working with CCAP assisted 30 towns and four conservation groups with natural resources inventories, wetland evaluation, water resources protection, conservation planning and land protection, and participated in 25 regional meetings. Direct assistance to communities, workshops and courses involved total participation of 1,807 participants.

Education and training provided by CCAP programming has increased communities' abilities to be proactive about land conservation. Conserved land has significant water quality benefits, helps maintain the state's biodiversity, and supports natural resource-based industries such as forestry and agriculture. Program highlights include the following:

- \* 96 participants from nine communities received assistance with natural resources inventories and land conservation
- \* 25 participants from two communities received assistance with wetlands evaluation and ecology.
- \* 142 participants from three conservation groups received assistance with land conservation planning.
- \* 250 participants attended the 6th Annual Saving Special Places Conference, receiving education on a variety of land conservation and stewardship issues. This event was co-sponsored by UNHCE and the Center for Land Conservation Assistance.
- \* 114 participants attended seven workshops offered through CCAP's Summer Land Conservation Workshop Series (Vernal Pools, Historic and Cultural Resources on Conserved Land, Birds and their Habitats, Invasive Plant Species, Conservation Easement Stewardship & Navigation, Town Forest Management, Ecology of Great Bay Estuary).

**Associated Knowledge Areas**

- 135 Aquatic and Terrestrial Wildlife
- 111 Conservation and Efficient Use of Water
- 102 Soil, Plant, Water, Nutrient Relationships
- 136 Conservation of Biological Diversity
- 112 Watershed Protection and Management
- 605 Natural Resource and Environmental Economics

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Natural Disasters (drought, weather extremes, etc.)
- Competing Programmatic Challenges
- Appropriations changes
- Populations changes (immigration, new cultural groupings, etc.)

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Retrospective (post program)

**Name of the Planned Program**

Natural Resource Business Institute

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Ag Production & Farm Management	25%			
602	Business Management, Finance, and Taxation	25%			
604	Marketing and Distribution Practices	25%			
605	Natural Resource and Environmental Economics	25%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.0	0.0	0.0	0.0
<b>Actual</b>	.5	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$8,064	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$8,064	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$55,910	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

Conduct two 13-week, intensive Natural Resources Business Institutes annually across the state for new and existing natural resource-based businesses. The institute will include forty hours of instruction, homework, and the opportunity for participants to receive college credit.

**Brief description of the target audience**

People interested in starting or already running natural resource-based businesses in New Hampshire

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contact Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	20	0	0	0
<b>2007</b>	120	0	0	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0		
<b>2007</b>	0	0	0

**State Defined Outputs**

**Output Measure**

Number of people completing the Natural Resource Business Institute

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>20</b>	<b>17</b>

**State Defined Outcomes**

**Outcome Measures**

Percent of participants who start, expand or modify a business enterprise

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>10</b>	<b>82</b>

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 601 Economics of Agriculture Production & Farm Management
- 602 Business Management, Finance, and Taxation
- 604 Marketing and Distribution Practices
- 605 Natural Resource and Environmental Economics

Percent of participants who are active in groups that advocate for an improved natural resource business environment

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	25	100

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 601 Economics of Agriculture Production & Farm Management
- 602 Business Management, Finance, and Taxation
- 604 Marketing and Distribution Practices
- 605 Natural Resource and Environmental Economics

Percent of participants who report completing a planning worksheets on a regular basis

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	50	62

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 601 Economics of Agriculture Production & Farm Management
- 602 Business Management, Finance, and Taxation
- 604 Marketing and Distribution Practices
- 605 Natural Resource and Environmental Economics

Percent of participants who indicate on a post institute survey they gained information and/or experiences to help reach their personal goals

**Outcome Type:** Change in Knowledge outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	80	81

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 601 Economics of Agriculture Production & Farm Management
- 602 Business Management, Finance, and Taxation

**Crosscutting Qualitative Outcome or Impact Statement**

- Percent of participants, who start, expand or modify a business enterprise.
- Percent of participants who are active in groups that advocate for an improved natural resource business environment
- Percent of participants who report completing a planning worksheets on a regular basis
- Percent of participants who indicate on a post institute survey they gained information and/or experiences to help reach their personal goals

**Issue (Who cares and Why)**

Businesses directly or indirectly involved with farming, fishing or forestry enterprises not only make significant contributions to the New Hampshire economy, but also provide stewardship of the state's natural resources and a working landscape benefiting citizens and attracting tourists. If the present natural resource businesses are to continue and new ones start, they need to carefully evaluate their personal goals, resource base and enterprise options. UNH

Cooperative Extension is familiar with and especially positioned to assist natural resource businesses through a natural resource business institute.

**What has been done**

Curriculum was developed and a 13-week Natural Resources Business Institute was offered. The goal of this institute was to help build viable natural resource businesses in New Hampshire, and topics presented included, human and financial resources, equipment and facility needs, family considerations, record-keeping, legal issues, and enterprise profitability. The institute was taught by an interdisciplinary team of UNHCE educators from across the state working closely with government agencies, private businesses, and nonprofit organizations. Seventeen people completed the Institute.

**Results:**

Participants gained a greater understanding of the interrelationships among human, biological, and financial resources in creating a successful business, connected with other natural resource entrepreneurs, and had the opportunity to develop an operating plan for their natural resource business proposal.

Eleven of the 21 completed an operational plan to start or expand an existing business. Other reported practices that were adopted were better record-keeping, identification of new markets, and enterprising analysis. Thirteen out of 21 enrolled had completed planning worksheets on a regular basis. Seventeen out of 21 participants indicated on a post institute survey they gained information and/or experiences to help reach their personal goals.

**Associated Knowledge Areas**

- 601 Economics of Agriculture Production & Farm Management
- 602 Business Management, Finance, and Taxation
- 604 Marketing and Distribution Practices
- 605 Natural Resource and Environmental Economics

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Economy
- Competing Programmatic Challenges

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Time series (multiple points before and after program)

**Name of the Planned Program**

Program Development and Evaluation

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
902	Administration of Projects and Programs	100%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.2	0.0	0.0	0.0
<b>Actual</b>	1.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$16,127	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$16,127	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$111,818	0	0	0

**Planned Program (Activity)**

**Brief description of the Activity**

- Provide in-service opportunities and training using the logic model to develop outcome-based programs, evaluation methods/tools, use of new on-line system, and writing impact statements
- Web-based support for outcome-based program development, evaluation and reporting
- One-on-one consultations with staff requiring assistance in outcome-based program development, evaluation tools, data analysis, using the on-line planning and reporting system; and writing impact reports
- Email tips/newsletter on program development and evaluation topics; reporting system use; and updates to web page support
- Evaluation of various organizational policies and programs - report results to Extension Administration. (Graduate Assistant Funding, Interdisciplinary Team policies, County Conversations with University President)

**Brief description of the target audience**

Extension professional staff

**Planned Program (Outputs)**

**Standard output measures**

Target for the number of persons (contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults	Indirect Contact Adults	Direct Conducts Youth	Indirect Contacts Youth
	Target	Target	Target	Target
<b>Plan</b>	80	180	0	0
<b>2007</b>	120	180	0	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
<b>2007</b>	1	0	0

**State Defined Outputs**

**Output Measure**

Number of staff attending in-service opportunities and training using the logic model to develop outcome-based programs, evaluation methods/tools, use of new on-line system, and writing impact statements

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>40</b>	<b>50</b>

Number of staff who use web-based support for outcome-based program development, evaluation and reporting

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>140</b>	<b>140</b>

Number of one-on-one consultations with staff requiring assistance in outcome-based program development, evaluation tools, data analysis, using the on-line planning and reporting system; and writing impact reports

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>75</b>

Number of staff receiving email tips/newsletter on program development and evaluation topics; reporting system use; and updates to web page support

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>180</b>	<b>180</b>

Number of evaluation projects of various organizational policies and programs - report results to Extension Administration. (Graduate Assistant Funding, Interdisciplinary Team policies, County Conversations with University President)

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>1</b>

**State Defined Outcomes**

**Outcome Measures**

Percent of UNHCE staff attending professional development workshops who use program development resources to develop, submit, and implement evaluation plans that can accomplish measuring formative and summative data for their programs.

**Outcome Type:** Change in Action outcome measure

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>70</b>	<b>40</b>

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

Percent of staff who report using data for reports, improving programs, making decisions about future programs, or other uses

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	0	10

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

Percent of UNHCE Extension Educator staff who submit outcome-based plans and evaluation data according to the plans

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	70	97

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

Percent of UNHCE staff who attend PD&E professional development functions who show an increase in skills and knowledge on a post-workshop test designed to measure knowledge and skills in developing outcome-based programs and using appropriate evaluation methodology

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	75	66

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

Percent of staff using the on-line planning and reporting system who report having the appropriate skills and knowledge to plan and report outcome data using the system

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	70	82

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

**Crosscutting Qualitative Outcome or Impact Statement**

- Percent of UNHCE staff attending professional development workshops who use program development resources to develop, submit, and implement evaluation plans that can accomplish measuring formative and summative data for their programs.
- Percent of staff who report using data for reports, improving programs, making decisions about future programs, or other uses
- Percent of UNHCE Extension Educator staff who submit outcome-based plans and evaluation data according to the plans
- Percent of UNHCE staff who attend PD&E professional development functions who show an increase in skills and knowledge on a post-workshop test designed to measure knowledge and skills in developing outcome-based programs and using appropriate evaluation methodology
- Percent of staff using the on-line planning and reporting system who report having the appropriate skills and knowledge to plan and report outcome data using the system

**Issue (Who cares and Why)**

Accountability and outcome evaluation are important to any public organization and UNH Cooperative Extension has committed resources to developing an on-line planning and reporting system and to supporting staff in developing an on-line planning and reporting system and to supporting staff in developing and evaluating high quality educational programs.

We are aware that future resources available to UNHCE will be based on our ability to measure and communicate programmatic impacts. There will also be political pressure to continue some programs regardless of evaluation data and we will rely more on competitive grant funding to provide innovative and relevant educational programming. Evaluation data will help staff improve existing programs and make decisions regarding the continuation of programs that yield little impact.

**What has been done**

Professional development workshops, e-newsletters, and web resources have been developed and delivered to staff to support their evaluation of programs, reporting impacts, and using the on-line planning and reporting system.

**Results:**

Forty-five staff members attended one or more training sessions on evaluation and program developing using the logic model. Thirty (66%) indicated they planned to use techniques/methods presented to evaluate their own programs in the next year.

On post workshop web survey -- 24 out of 36 staff indicated an increase in skills and knowledge in:

- \* Developing logic models to plan educational programs
- \* Understand the difference between inputs, outputs, and outcomes
- \* How the logic model is incorporated in the online planning & reporting system
- \* Understand when to appropriately use various types of evaluation methods.

Thirty-six out of 44 (82%) of staff indicated they had the skills and knowledge to use the on-line system in a follow up survey.

Sixteen out of 44 (36%) staff who responded to survey indicated they were using data from the on-line system.

One hundred and five out of 108 (97%) of staff required to have a POW entered into the system did so.

**Associated Knowledge Areas**

902 Administration of Projects and Programs

**Planned Program (External Factors)**

**External factors which affected outcomes**

- Appropriations changes
- Competing Programmatic Challenges

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- Retrospective (post program)
- Time series (multiple points before and after program)

**Name of the Planned Program**

Sea Grant and Water Resources

**Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	10%			
131	Alternative Uses of Land	20%			
133	Pollution Prevention and Mitigation	30%			
135	Aquatic and Terrestrial Wildlife	25%			
307	Animal Management Systems	5%			
903	Communication, Education, and Information Delivery	10%			
	<b>Total</b>	100%			

**Planned Program (Inputs)**

**Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	9.5	0.0	0.0	0.0
<b>Actual</b>	7.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1980 Extension	Hatch	Evans-Allen
\$112,890	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
\$112,890	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
\$2,843,111	0	0	0

## Planned Program (Activity)

### Brief description of the Activity

- Provide educational workshops on the following:
  - Economic benefits of fish handling strategies aimed at enhancing product freshness and shelf-life
  - Mobil fishing gear and methods to reduce sea-bed impact in the fishing industry
  - Blue mussel aquaculture technology
- Assist fishermen with cooperative research projects as necessary - Act as a “match maker” to identify potential partners among commercial fishermen and researchers and assist fishermen in developing research ideas that can be incorporated into joint fishermen/scientist proposals
- Conduct dockside or on-water demonstrations of innovative gear technologies and of low impact mobile fishing gear innovations
- Provide outreach on Open Ocean Aquaculture, targeting commercial fishermen, decision makers, media, potential investors, and interested parties
- Help interested individuals and companies obtain aquaculture permits in NH waters and federal waters
- Help individuals and companies develop business plans for starting and expanding mussel farms
- Use the UNH Open Ocean Aquaculture project to improve the mussel aquaculture process, trying new equipment, as well as grow out and harvesting techniques
- Help mussel growers expand marketing opportunities, including value added products
- Work with mussel growers, helping them create sustainable and profitable businesses
- Provide focused training and long-term assistance to communities on natural resource planning and land conservation
- Provide direct assistance to towns and conservation groups upon request
- Conduct land conservation and natural resources workshops and other educational activities as suggested by program staff and as requested by communities and conservation groups
- Provide guidance to UNH Senior Project Teams assisting communities with natural resource conservation projects
- Plan and conduct the Saving Special Places Conference
- Conduct the Natural Resources Outreach Coalition program for communities selected annually
- Produce printed, presentation, web and other educational materials
- Promote and deliver the Dollars and Sense of Saving Special Places program
- Provide education program to NH Realtors about natural resource contributions to property values
- Conduct workshops for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection - workshops will include a presentation and when possible, a practical assessment of the property where the workshop is held
- Conduct activity-based Great Bay Discovery Cruises to provide citizens with the opportunity to learn about the estuary aboard the University’s research vessel
- Continue to write scripts, record and monitor a low power radio station (Great Bay Area Radio) dedicated to informing the 30,000 motorists passing by the Estuary daily. Scripts focus on natural history, research, educational opportunities and Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET). Share CICEET derived research and resources relevant to coastal communities
- Work with the Natural Resource Outreach Coalition (NROC) to recruit communities and develop marketing materials
- Develop, enhance and deliver presentations (including GIS-based) about land use/water quality to local decision makers
- Facilitate community meetings to develop action plans for implementing water and natural resource based planning
- Review and revise existing programs and curriculum materials to support teaching core science standards through a marine context
- Develop new marine education K-12 Sea Trek programs that reflect emerging national scientific issues and address prioritized education standards
- Expand our programs and materials that target adult audiences and recruit and train a cadre of Docents specifically for that role
- Develop programs focused on high school level teachers and students that provide exposure to marine research and encourage students to pursue marine fields in college and beyond
- Develop convenient and effective teacher training in conjunction with all boat-based and field programs utilizing both face-to-face and remote methods
- In partnership with schools and UNH, develop new programs that engage in-service and pre-service teachers directly with researchers, faculty, and graduate students
- In collaboration with the Leitzel Center, the Education Department, and Marine Program faculty, develop both credit and non-credit marine science programs for middle and high school teachers

- Hold water quality monitoring training sessions for new and existing volunteers - conduct field visits for in-depth monitoring and quality assurance
- Provide analytical services, data base management and data analysis for Great Bay Coastal Watch and NH Lakes Lay Monitoring Program collected samples
- Produce annual lake reports and coastal reports on water quality assessments from volunteer monitoring efforts
- Hold regular meetings of the monitors to provide program updates, advanced monitoring technique trainings and data interpretation/presentation skill building. Also conduct needs assessment and evaluation
- Provide data and data interpretation as requested by decision-makers, cooperators and watershed stakeholder groups

**Brief description of the target audience**

Commercial fishermen and related industries; land owners and recreational users of New Hampshire's lakes, estuaries, rivers, and ocean beaches; Formal and non-formal educators and K-12 students; policy and decision makers

**Planned Program (Outputs)**

**Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contact Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	2000	210,000	0	0
<b>2007</b>	1781	210,000	0	0

**Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	<b>0</b>
<b>2007:</b>	<b>0</b>

**Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0		
<b>2007</b>	5	0	0

**State Defined Outputs**

**Output Measure**

Number of fishermen attending workshops on the economic benefits of fish handling strategies aimed at enhancing product freshness and shelf-life

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>30</b>	<b>90</b>

Number of fishermen attending workshops on focusing reducing sea-bed impacts by mobile fishing gear.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>30</b>	<b>90</b>

Number of fishermen who participate in cooperative research proposals submitted to appropriate programs or agencies

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>40</b>	<b>39</b>

Number of individuals who attend training sessions designed to transfer blue mussel aquaculture technology from the research phase to commercial phase

<b>Year 2007</b>	<b>Target 30</b>	<b>Actual 20</b>
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Number of interested individuals and companies helped to obtain aquaculture permits in NH waters and federal waters

<b>Year 2007</b>	<b>Target 5</b>	<b>Actual 1</b>
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Number of individuals and companies helped to develop business plans for starting and expanding mussel farms

<b>Year 2007</b>	<b>Target 5</b>	<b>Actual 2</b>
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Number of mussel growers helped to create sustainable and profitable businesses.

<b>Year 2007</b>	<b>Target 5</b>	<b>Actual 1</b>
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Number of UNH Senior Project Teams provided with guidance in assisting communities with natural resource conservation projects

<b>Year 2007</b>	<b>Target 8</b>	<b>Actual 12</b>
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Number of people reached through the Dollars and Sense of Saving Special Places program

<b>Year 2007</b>	<b>Target 100</b>	<b>Actual 250</b>
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Number of activity-based Great Bay Discovery Cruises provided to citizens with the opportunity to learn about the estuary aboard the University's research vessel

<b>Year 2007</b>	<b>Target 8</b>	<b>Actual 5</b>
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Number of motorists passing by the Great Bay estuary exposed to a low power radio station (Great Bay Area Radio) dedicated to informing them with recorded messages on natural history, research, educational opportunities and Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)

<b>Year 2007</b>	<b>Target 30000</b>	<b>Actual 30000</b>
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Number of water quality monitoring training sessions held for new and existing volunteers

<b>Year 2007</b>	<b>Target 3</b>	<b>Actual 1</b>
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Number of field visits made for in-depth monitoring and quality assurance

<b>Year 2007</b>	<b>Target 20</b>	<b>Actual 10</b>
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Number of annual lake reports and coastal reports published on water quality assessments from volunteer monitoring efforts

<b>Year 2007</b>	<b>Target 30</b>	<b>Actual 13</b>
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Number of new volunteers trained in proper water quality sampling methods and who participate in seasonal sampling as part of the Great Bay Coastal Watch or Lakes Lay Monitoring Program

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>9</b>

Number of NH Lakes Lay Monitoring Program and Great Bay Coastal Watch volunteers who contribute hours toward conducting water quality monitoring and analysis activities in their local watersheds

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>500</b>	<b>500</b>

Number of informational workshops and/or presentations aimed at facilitating partnerships between fishermen and scientists

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>5</b>	<b>5</b>

Number of articles published detailing the results of cooperative research and their benefit to the fishing industry

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>4</b>	<b>5</b>

Number of dockside and/or at-sea vessel demonstrations of enhanced fish handling strategies

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>1</b>

Number of information sheets, technical reviews, and web pages authored which detail fish handling strategies and enhance economic value and shelf-life

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>9</b>

Number of commercial fishermen, decision makers, media, potential investors, and interested parties reached through programs on Open Ocean Aquaculture

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>50</b>	<b>20</b>

Number of towns and conservation groups provided with direct assistance regarding land and water conservation

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>20</b>	<b>38</b>

Number of education programs provided to NH Realtors about natural resource contributions to property values

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>0</b>

Number of meetings and other events where Wildlife Action Plan information is presented

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>5</b>	<b>12</b>

Number of partners involved in determining actions to provide research-based information to help landowners and producers adopt sustainable practices

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>5</b>	<b>0</b>

Number of workshops conducted for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>2</b>

Number of presentations (including GIS-based) developed, enhanced and delivered about land use/water quality to local decision makers

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>15</b>	<b>38</b>

Number of community meetings facilitated to develop action plans for implementing water and natural resource based planning

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>10</b>	<b>38</b>

Number of workshops delivered as educational follow-up related to community action plans

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>10</b>	<b>38</b>

Number of invasive species identification trainings and monitoring programs delivered for recreational divers

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>4</b>

Number of new marine education K-12 Sea Trek programs that reflect emerging national scientific issues and address prioritized education standards

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>3</b>	<b>11</b>

Number of marine science education programs focused on high school level teachers and students that provide exposure to marine research and encourage students to pursue marine fields in college and beyond

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>12</b>	<b>5</b>

Number of home-school and other under-represented people reached through Marine Docent and the Great Bay Coast Watch programs.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>8</b>	<b>20</b>

Number of teachers assisted in measuring the improvement in student performance as a result of participation in programs

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>5</b>	<b>0</b>

Number of guides developed to existing curricular and program materials that identify how the marine context can be used to address core content standards

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>7</b>

Number of convenient and effective teacher training programs held in conjunction with all boat-based and field programs utilizing both face-to-face and remote methods

<b>Year</b>	<b>Target</b>	<b>Actual</b>
<b>2007</b>	<b>2</b>	<b>4</b>

Number of new programs developed in partnership with schools and UNH, that engage in-service and pre-service teachers directly with researchers, faculty, and graduate students

Year	Target	Actual
2007	1	0

Number of credit and non-credit marine science programs developed in collaboration with the UNH Leitzel Center, the Education Department, and Marine Program faculty for middle and high school teachers

Year	Target	Actual
2007	1	0

Number of workshop trainings conducted at regional and national conferences

Year	Target	Actual
2007	3	4

Number of NROC communities provided with water resource/water quality related technical assistance

Year	Target	Actual
2007	4	3

**State Defined Outcomes**

**Outcome Measures**

Number of coastal watershed residents who report a greater willingness to participate in additional educational and/or stewardship events about the Great Bay Estuary

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	123

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 133 Pollution Prevention and Mitigation
- 131 Alternative Uses of Land
- 112 Watershed Protection and Management

Number of coastal community members who report an increase in knowledge about growth and its effects on habitat, water quality, and water quantity

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	100	218

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 133 Pollution Prevention and Mitigation

Number of community members, including divers, seafood handlers, and baitfish dealers who report an increase in knowledge and understanding of marine invasions and impacts on the ecosystem as well as an increase in knowledge of how they can minimize introductions from their activities

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	50	5

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 135 Aquatic and Terrestrial Wildlife

Number of adults and children with a measurable increase in their marine science literacy through specialist and volunteer delivered outcome-based, formal and informal education programs

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	0	3930

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 903 Communication, Education, and Information Delivery

Number of teachers who learn to utilize marine science concepts and contexts to support teaching core science and other content standards in their classrooms

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	150	30

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 903 Communication, Education, and Information Delivery
- 135 Aquatic and Terrestrial Wildlife

Number of marine docents, educators, students, and the general public who gain knowledge of a web-based site containing marine science educational activities, programs, images and research results

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	5000	5000

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 112 Watershed Protection and Management
- 133 Pollution Prevention and Mitigation
- 135 Aquatic and Terrestrial Wildlife

Number of new aquaculture businesses started growing blue mussels on long lines in the open ocean

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	2	1

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 131 Alternative uses of land
- 307 Animal Management Systems

Number of fishermen who choose non-mandatory conservation-minded gear over traditional equipment

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10	3

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 135 Aquatic and Terrestrial Wildlife
- 903 Communication, Education, and Information Delivery

Dollars generated the blue mussel aquaculture industry

**Outcome Type:** Change in Condition outcome measure

Year	Target	Actual
2007	0	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done** – Did not collect data in 2007

**Results:**

**Associated Knowledge Areas**

307 Animal Management Systems

Number of cooperative research proposals submitted involving scientists and fishermen that focus on reducing benthic impacts of mobile fishing gear are submitted to appropriate programs/agencies

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	5	10

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife  
 903 Communication, Education, and Information Delivery  
 112 Watershed Protection and Management

Number of fishermen who choose soft-bottom fishing gear over traditional equipment

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	10	4

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife  
 903 Communication, Education, and Information Delivery  
 112 Watershed Protection and Management

Amount (\$) fishermen will receive in competitive funding for cooperative research

**Outcome Type:** Change in Knowledge/Action outcome measure

Year	Target	Actual
2007	200000	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** Cuts in NOAA funding – see crosscutting qualitative narrative.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife

Number of bank loans made to individuals seeking to enter the aquaculture industry

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	1	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife  
307 Animal Management Systems

Percent of clientele who report increased conservation activity as a result of UNHCE programming

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	25	20

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

131 Alternative Uses of Land  
112 Watershed Protection and Management

Number of towns and conservation groups receiving direct assistance with and that conduct natural resource planning and conservation

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	35	38

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 131 Alternative Uses of Land
- 112 Watershed Protection and Management

Number of municipal officials and others from twenty communities who apply information presented at Dollars and Sense programs to local land use decision-making and public policy development

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	75	121

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative in Land and Water planned program.

**Associated Knowledge Areas**

- 133 Pollution Protection and Management
- 112 Watershed Protection and Management

Number of municipalities that take action to raise funds for land/water conservation after participating in UNHCE programs

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	20	11

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative in Land and Water planned program.

**Associated Knowledge Areas**

- 131 Alternative Uses of Land
- 112 Watershed Protection and Management

Number of community decision-makers and Coverts Cooperators who identify actions they will take to conserve the state's biodiversity

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	70	279

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative for Forestry and Wildlife planned program.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife

Number of communities that develop action plans that include a variety of approaches for making progress in community based natural resource protection projects

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	2	9

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative for Land and Water planned program.

**Associated Knowledge Areas**

112 Watershed Protection and Management

Number of communities seeking technical or financial assistance from program partners in order to implement natural resource protection projects. Assistance might include help with developing plans, conducting outreach or reviewing regulations

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	2	9

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative for Land and Water planned program.

**Associated Knowledge Areas**

112 Watershed Protection and Management  
131 Alternative Uses of Land

Number of divers, seafood handlers, and baitfish dealers who adopt practices that prevent accidental introduction of invasive species

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	15	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** Not measured

**Associated Knowledge Areas**

112 Watershed Protection and Management

Number of K-12 teachers who adopt marine science concepts and contexts learned through Sea Grant /UNHCE programs that support teaching of core sciences and other content standards

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	100	15

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

135 Aquatic and Terrestrial Wildlife  
 903 Communication, Education, and Information Delivery  
 112 Watershed Protection and Management

Number of K-12 students who improve performance in content areas as a result of teachers incorporating marine science into their lesson plans

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	500	5540

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

903 Communication, Education, and Information Delivery  
 112 Watershed Protection and Management

Based on data generated by the Great Bay Coastal Watch and the Lakes Lay Monitoring Program, number of pollution problem areas that are addressed by lake associations or regulatory agencies

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	3	0

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 133 Pollution Prevention and Mitigation
- 112 Watershed Protection and Management

Percent of active NH Lakes Lay Monitoring Program monitors who report that program results were presented to their communities and/or associations through newsletter/newspaper articles, formal and informal presentations, data summaries and report distributions

**Outcome Type:** Change in Action outcome measure

Year	Target	Actual
2007	90	90

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 133 Pollution Prevention and Mitigation
- 112 Watershed Protection and Management

Percent of new or existing volunteer monitoring programs that request assistance and then initiate enhanced or expanded program efforts due to assistance provided by the project

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	70	70

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

- 133 Pollution Prevention and Mitigation
- 112 Watershed Protection and Management
- 903 Communication, Education, and Information Delivery

Number of fishermen who gain knowledge about the economic benefits of fish handling strategies aimed at enhancing product freshness and shelf-life

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	30	95

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

133	Pollution Prevention and Mitigation
112	Watershed Protection and Management
135	Aquatic and Terrestrial Wildlife

Number of individuals who attend training sessions designed to transfer blue mussel aquaculture technology for the research phase and indicate an increased understanding of the concepts

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	30	10

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative.

**Associated Knowledge Areas**

131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife

Number of community leaders, volunteers and others who increase their knowledge about natural resources and land conservation topics by attending workshops

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	200	643

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative for Land and Water planned program.

**Associated Knowledge Areas**

131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife
112	Watershed Protection and Management

Number of municipal officials and others who increase their knowledge about the economics of open space, and the financial alternatives available to conserve open space by attending UNHCE Dollars and Sense workshops

**Outcome Type:** Change in Knowledge outcome measure

Year	Target	Actual
2007	100	250

**Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results:** See crosscutting outcome measure narrative for Land and Water planned program.

**Associated Knowledge Areas**

131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of community members, including divers, seafood handlers, and baitfish dealers who report an increase in knowledge and understanding of marine invasions and impacts on the ecosystem as well as an increase in knowledge of how they can minimize introductions from their activities
- Number of adults and children with a measurable increase in their marine science literacy through specialist and volunteer delivered outcome-based, formal and informal education programs
- Number of teachers who learn to utilize marine science concepts and contexts to support teaching core science and other content standards in their classrooms
- Number of marine docents, educators, students, and the general public who gain knowledge of a web-based site containing marine science educational activities, programs, images and research results
- Number of divers, seafood handlers, and baitfish dealers who adopt practices that prevent accidental introduction of invasive species
- Number of K-12 teachers who adopt marine science concepts and contexts learned through Sea Grant /UNHCE programs that support teaching of core sciences and other content standards
- Number of K-12 students who improve performance in content areas as a result of teachers incorporating marine science into their lesson plans

**Issue (Who cares and Why)**

The recent reports of two national commissions on the status of the oceans emphasize the important role of education in the future of the oceans. Both commissions, the PEW Oceans Commission and the United States Commission on Ocean Policy, stress that successful management of our ocean resources is dependent upon the development of a citizenry literate in marine and aquatic science.

The heightened urgency to increase marine literacy identified by the Commissions joins the on going efforts in public schools throughout the country to significantly improve student performance in mathematics and science. This effort can benefit greatly from the utilization of marine and aquatic science as an engaging context for the teaching of core mathematics and science content. Programs like Sea Grant are well positioned to help provide the curriculum resources and teacher professional development necessary to succeed.

**What has been done**

- Trained twelve new UNH Marine Docents in basic marine science, and formal and informal education practices. These new Docents joined existing program teams to provide educational programming to schools or are volunteering at other informal marine education venues including the Seacoast Science Center, Sandy Point Discovery Center, the Great Bay Coast Watch, and the Gundalow Program.
- Conducted approximately 125 SeaTrek marine education programs for approximately 3,500 students in 65 schools.
- Trained 150 students from 7 schools in boat-based marine science activities through the Docent-led Floating Lab program. During this half-day program students learn about the Gulf of Maine marine environment by participating in hands-on activities in water quality measurement, plankton collection and observation, current measurement, benthic sampling, and navigation.
- Educated 100 students and 8 teachers about the Great Bay estuarine environment through the Great Bay Living Lab. The Great Bay Living Lab is a boat and shore based hands-on program targeted for middle school students in watershed and estuary science.
- Supported the 2006-2007 Nor'easter Bowl, the northern New England region component of the National Ocean Science Bowl (NOSB) by staffing two judging teams for the competition held at the University of New England. NOSB is an annual national academic quiz competition for high school teams in marine science.
- Conducted "Day of the Coast" programs in Danville, Dover, and East Kingston, New Hampshire which provided over seventy SeaTrek programs to more than 600 hundred students and teachers.
- Provided marine science awareness to hundreds of New Hampshire citizens at exhibits at "Discover Wild New Hampshire Day", the Tall Ships weekend in Portsmouth, the Rochester Fair, Rockingham County Cooperative Extension Day, and UNH "University Day."
- Conducted twelve monthly Docent meetings attended by over 80 Docents each meeting at which significant training for Docents was provided.
- Presented to over 100 New England-based marine educators at the inaugural New England Ocean Science Education Collaborative "Summit."

**Results:**

Extension programs increased the knowledge and awareness of more than 5,000 k-12 students about the Gulf of Maine, the Isles of Shoals, and the Shoals Marine Laboratory through Shoals Discovery Cruises to Appledore Island, Floating Lab trips, and Sea Trek programs. Through a variety of hands-on educational activities, these students learned marine science concepts through local, tangible experiences in the Gulf of Maine, an important natural resource for seacoast New Hampshire.

Both adults and youth involved in non-school-based educational programs such as Tall Ships Weekend and Discover Wild New Hampshire Day also gained a greater awareness and appreciation of the marine environment and the Gulf of Maine.

**Associated Knowledge Areas**

903	Communication, Education, and Information Delivery
135	Aquatic and Terrestrial Wildlife
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

**Crosscutting Qualitative Outcome or Impact Statement**

- Based on data generated by the Great Bay Coastal Watch and the Lakes Lay Monitoring Program, number of pollution problem areas that are addressed by lake associations or regulatory agencies
- Percent of active NH Lakes Lay Monitoring Program monitors who report that program results were presented to their communities and/or associations through newsletter/newspaper articles, formal and informal presentations, data summaries and report distributions

**Issue (Who cares and Why)**

The fresh and coastal waters of New Hampshire represent a valuable water resource contributing to the state's economic base through recreation, tourism, and real estate revenues. In addition some lakes and rivers serve as current or potential water supplies. For most residents (as indicated by boating and fishing registrations) our waters help to insure a high quality of life. However, New Hampshire currently leads all of the New England states in the rate of new development and redevelopment. The long term consequences of the resulting pressure and demands on the state's precious water resources remain unknown. Of particular concern is the response of our waters to increasing non point source pollutant loading due to watershed development and land use activities. Local citizens, lake/watershed associations and local decision makers remain in dire need of additional information required for the intelligent management of our water resources. Limited financial resources do not allow for adequate monitoring of these waters by state or federal agencies, and the increased development and recreational use require a more accurate assessment of the water quality of our estuaries, lakes, ponds, rivers and streams

Many volunteer water quality monitoring programs in NH and in New England have mastered basic sampling techniques and are now at the stage where they require assistance to go the next step. With data being collected they require guidance in how to manage it, analyze it and use it to tell a story of local importance. In addition they are requesting guidance on how to expand their monitoring to tackle non point source pollution at the origins and how to better integrate their programs to address community concerns in the context of a watershed approach. There is a growing recognition that it's not just the water - it's the watershed - which must be understood in order to solve non point pollution problems.

**What has been done**

The New Hampshire Lakes Lay Monitoring (LLMP) is dedicated to preservation and sound management of lakes through citizen-based monitoring and research. Begun at the University of New Hampshire over two decades ago as one of the first citizen monitoring programs, the LLMP has been directly involved in the initiation and expansion of volunteer programs in 24 States and 11 countries. The first lake lay monitoring program in Germany was based on the NH LLMP. Through its integration of research, outreach and teaching, the LLMP provides valuable data on the lakes of New Hampshire, broad community service and a unique opportunity for hands-on learning and employment of students. The program continues to receive local and national recognition as one of the leading lake monitoring programs in the country. The LLMP is administered jointly through the Cooperative Extension and the Center for Freshwater Biology at the University of New Hampshire.

**Results:**

Over 500 youth and adult volunteers devoted 8,661 yours of volunteer time to their communities regarding natural resources protection which translates into \$162,567 (using the 2006 volunteer wage of \$18.77 per hour).

Other economic impacts of NH Lakes Lay Monitoring Program are:

\* More than \$162,567 generated by NH LLMP programs for use as match for federal and state grants for the UNH

Center for Freshwater Biology (CFB), the UNH Water Resources Research Center, NH Municipalities, and NH Department of Environmental Services.

\* The CFB/LLMP Analysis Laboratory provided over \$17,000 in discounted water analyses and field sampling to NH municipalities and communities; over \$11,050 in free laboratory analyses to NH municipalities and communities; and \$2,030 in free or discounted laboratory analyses for UNH faculty and students and by lending sampling and water quality analysis equipment

For the 2007 sampling season over 99% of the NH LLMP data collected by volunteer monitors passed the QA/QC requirements. NH DES accepted and will be posting all of this data on their Environmental management System Database and the data will be used for 303d and 305b reporting.

Students worked with local lake associations and towns and performed 5 lake and watershed GIS analyses, and completed the Comprehensive Lake Inventory for each lake. Local stakeholders learned the current state of the lake and watershed resources as well as agreed to present the inventory and management plans to a wider group in their respective communities. One hundred-eleven (inclusive of 22 trips on Newfound lake and 8 trips on Mendums Pond as part of special projects) deep lake site trips were performed by the UNH Center for Freshwater Biology field team used a new optical technology blue-green bacteria sensor for depth profiling. Along with UNH summer research, graduate students and fall semester Field Lake Biology students 6 of these lakes were examined extensively for blue green bacteria toxin levels.

Newfound Lake Region Association, Mendum's Pond and Bow Lake Camp-owner's Association initiated or continued in extensive monitoring of their watersheds for developing lake management plans.

#### **Associated Knowledge Areas**

903	Communication, Education, and Information Delivery
135	Aquatic and Terrestrial Wildlife
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
131	Alternative Uses of Land

#### **Crosscutting Qualitative Outcome or Impact Statement**

- Number of fishermen who gain knowledge about the economic benefits of fish handling strategies aimed at enhancing product freshness and shelf-life
- Number of fishermen who choose non-mandatory conservation-minded gear over traditional equipment
- Number of cooperative research proposals submitted involving scientists and fishermen that focus on reducing benthic impacts of mobile fishing gear are submitted to appropriate programs/agencies
- Number of fishermen who choose soft-bottom fishing gear over traditional equipment
- Number of fishermen who successfully complete cooperative research projects

#### **Issue (Who cares and Why)**

In 2005, the Northeast had landings of 683 million pounds of fish, worth nearly \$97 million. The two most economically important species for the region are the American Lobster and Sea Scallop, with landings of 87.6 million pounds valued at \$414 million and \$433 million respectively. The mixed groundfish and flounder fisheries were valued at \$120 million.

The commercial fishing industry in New Hampshire is composed of nearly 140 commercial vessels, consisting of 100 lobster and 40 groundfish boats. In 2005, New Hampshire had landings of 21.2 million pounds of fish, worth just over \$22 million. The single most economically important species for New Hampshire continues to be the American lobster, with landings of 2.5 million pounds valued at \$14.3 million. Atlantic cod, at \$ 1.9 million, ranked second in value, followed by goosefish at just over \$1.5 million and Atlantic herring at \$ 1.3 million, The groundfish boats are divided almost equally between gillnetters and dragners. With the exception of one large company targeting offshore lobster, most New Hampshire fishermen represent small, family-owned operations that fish inshore.

By-catch and regulatory discards continue to be a significant challenge facing the industry. These issues have been addressed through regulations and conservation engineering. Conservation engineering, or the science of designing innovative fishing gear to reduce by-catch and improve species selectivity, has raised hope for sustainable fishing practices by developing gear that has separated cod from the multi-species groundfishery, and significantly reduced by-catch in the northern shrimp fishery. Commercial fishing in the Gulf of Maine continues to face the complicated challenge of mitigating interactions between gear and threatened/endangered species, particularly marine mammals.

In addition to overfishing, commercial fisheries are under a "microscope" that has focused on understanding the impact

of mobile and fixed gear on the benthic ecosystem. Scientists do not have a clear or thorough understanding of the short or long-term impacts of fishing on benthic communities. Over the coming years it will continue to be important for fisheries scientist and industry to work collaboratively to evaluate these impacts and develop strategies that will promote a healthy and economically viable fishery.

#### **What has been done**

A dedicated symposium evaluating the Western Gulf of Maine Closure Area, WGOMCA, and the impacts of fishing gear on the seafloor was offered. Over ninety (90) participants from New England participated in the conference, which included fishermen, scientists, conservationist and regulators.

To assist with the proactive management of the haddock resource a regional haddock gear workshop was held to discuss bycatch reduction and separation technologies in the haddock fishery, and use this discussion to make recommendations on potential conservation gear for inclusion into the fishery. Also, an International Symposium on haddock biology, management and gear technologies was offered with more than ninety (90) participants from US, Sweden, Scotland, Norway, Denmark, England and Canadian provinces attending.

The fishermen-led fishing gear workshop for non-fishermen which originated in 2005 was continued in 2007 with funding from the UNH Cooperative Extension program. Twenty-one (22) participants representing fisheries state and federal government agencies (NMFS, MEDMR, MADMF, NEFMC) as well as academic groups (UNH Marine Docents, UNH Cooperative Extension) and a representative from US Representative Carol Shea-Porter's office attended the workshop.

Five (5) articles were published in the Commercial Fisheries News (CFN), of which (4) highlighted cooperative research and (1) focused on promoting the International Haddock Symposium. The CFN readership is estimated at more than 10,000 individuals. Four (4) Sea Grant publications were published in 2007, topics included selecting safe seafood, shrimp selectivity, haddock trawl separation technology, and the WGOMCA.

#### **Results:**

Fishing industry awareness of cooperative research and the benefits of partnering with the science community were increased. Awareness was increased using industry publications, websites, and Sea Grant publications.

Interest and participation in cooperative research was increased through extension contacts with fishermen and researchers region wide (MA, NH and ME). In 2007, a total of (10) fisheries related cooperative research proposals were submitted to the Northeast Consortium, NMFS, CRPP, and NOAA. Four projects were funded and six are currently in review. A total of twenty (20) fishermen and four (4) scientists partnered in the development of these proposals.

During the 2007 Northern shrimp fishery three (3) commercial fishermen used size selectivity gear developed through cooperative research, instead of the traditional Nordmore grate. A total of five (5) industry adopters are expected for 2008. This fishing gear has a reduced impact on the seafloor and reduced bycatch of non-target species.

#### **Associated Knowledge Areas**

903	Communication, Education, and Information Delivery
135	Aquatic and Terrestrial Wildlife
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

#### **Crosscutting Qualitative Outcome or Impact Statement**

- Number of coastal community members who report an increase in knowledge about growth and its effects on habitat, water quality, and water quantity
- Based on data generated by the Great Bay Coastal Watch and the Lakes Lay Monitoring Program, number of pollution problem areas that are addressed by lake associations or regulatory agencies

#### **Issue (Who cares and Why)**

Coastal ecosystems are ecologically and economically valuable environments that are subject to multi-use demands ranging from food production and the purification of societies' wastes, to flood control, transportation and recreation. These systems provide essential habitat for fish and shellfish that constitute 75% of commercial landings in the United States and provide essential 'ecosystem services' valued in the trillions of dollars annually on a global scale. At the same time, these systems have become increasingly threatened by human-induced perturbations. These include non-point source pollution, invasive species, coastal development and habitat alteration. Although New Hampshire is not a particularly populous state (1.3 million residents) and has a relatively short coastline, it in many ways mirrors other coastal states in the pressures of continued population growth and the demographics of that growth. Nearly 75% of New

Hampshire residents live within 50 miles of the coast, and the rate of growth in the 'seacoast' region has grown at a rate of 10% over the past decade, a rate nearly double that of the rest of the state. Coastal communities, deeply rooted in the resources of the estuaries and ocean coasts that they inhabit, are struggling with how to manage growth and its associated waste streams. The Great Bay estuary is displaying indicators of nutrient over-enrichment, bacterial contamination and habitat loss, while coastal fishermen are dealing with harmful algal bloom related fisheries closures and the unknown effects of proposed offshore sewage outfalls.

**What has been done**

Conduct workshops for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection - workshops included a presentation and when possible, a practical assessment of the property where the workshop was held.

Provide activity-based Great Bay Discovery Cruises to citizens with the opportunity to learn about the estuary aboard the University's research vessel

Expose motorists passing by the Great Bay estuary to a low power radio station (Great Bay Area Radio) dedicated to informing them with recorded messages on natural history, research, educational opportunities and CICEET

Develop, enhance and deliver presentations (including GIS-based) about land use/water quality to local decision makers

Facilitate community meetings to develop action plans for implementing water and natural resource based planning

Deliver workshops as educational follow-up related to community action plans

**Results:**

About twelve UNH Marine Docents attended Great Bay cruise training prior to the start of the season. More than 75 adults participated in Discover Cruises and 42 participants completed surveys about their experience through a post-session questionnaire. The vast majority of them report increased knowledge, particularly about estuarine research as well as tools and technologies for learning about estuaries. They also report greater interest and willingness to learn more and do more for estuarine protection as a result of cruises. Satisfaction ratings typically range from very good to excellent.

At least 15 Better Backyard, Better Bay workshop participants reported an increase in knowledge and 16 members of the Strafford Garden Club learned about water-friendly yard care.

During this year, Wakefield community volunteers worked on the creation of an implementation plan for the newly created Water Resources chapter of their master plan (a major outcome from their NROC efforts). Rollinsford initiated its water quality monitoring program through partnerships with Cocheco River Watershed Coalition and NH DES Volunteer River Assessment Program. They are monitoring a total of 6 sites on rivers and streams in town with 4 principle monitors and additional back-up volunteers.

At least 70 participants in Milton NROC reported an increase in knowledge after attending the Planning for Growth in Milton presentation and Rollinsford NROC Water Resources Action Group participated in training for the water quality monitoring they initiated on their streams. The trainings were conducted by DES VRAP in conjunction with Cocheco River Watershed Alliance. (Also see Land and Water planned programs outcome measure narratives for more information).

**Associated Knowledge Areas**

903	Communication, Education, and Information Delivery
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
131	Alternative Uses of Land

**Crosscutting Qualitative Outcome or Impact Statement**

- Number of individuals who attend training sessions designed to transfer blue mussel aquaculture technology for the research phase and indicate an increased understanding of the concepts
- Number of new aquaculture businesses started growing blue mussels on long lines in the open ocean
- Dollars generated the blue mussel aquaculture industry
- Number of bank loans made to individuals seeking to enter the aquaculture industry

**Issue (Who cares and Why)**

The United States aquaculture industry, at about 1 billion dollars, currently ranks eleventh globally with 1% of production by weight annually. Farmed crops include mollusks, crustaceans, finfish and seaweeds. Much of the country's aquaculture production is for food, but there are also facilities producing bait, ornamentals, and species for commercial and recreational stock enhancement.

There are currently about 10 aquaculture facilities in New Hampshire with a total annual farm gate value of \$1.5 million. Until 2005, all but one of these operations was freshwater-based. Major species include trout, baitfish, bullhead, summer flounder and cod. The newest NH aquaculture operation, blue-mussel long line culture, is sited in offshore waters and should begin harvesting in 2006.

**What has been done**

Educational workshops and training sessions were held on the following topics:

- Blue mussel aquaculture technology from the research phase to commercial phase
- Open Ocean Aquaculture

Extension educators/specialists assisted individuals and companies in obtaining aquaculture permits in NH waters and federal waters, with developing business plans for starting and expanding mussel farms and supported mussel growers in creating sustainable and profitable businesses.

**Results:**

In 2007 NOAA was zero funded in NOAA's budget after receiving \$3,000,000 since 1999. Late in 2007 the program did receive \$800,000, however future funding is not likely and it is unclear that this project will continue.

Extension continues to work with the fisherman who is growing blue mussels. In 2007 another long time Portsmouth fisherman joined him in this enterprise, along with a 50ft boat that is dedicated totally to the mussel business. In the spring of 2007 they started harvesting and selling mussels to Seaport Fish in Rye, NH. They tried to bring in a 1000 lbs a week. The mussels have been well received by Seaport's customers.

The fishermen are presently doing all the cleaning, grading, and debyssing at sea. They are looking at doing that in a land based processing plant in Rye. If this can be done they could spend all their time at sea harvesting which would greatly increase the mussel landings.

**Associated Knowledge Areas**

135	Aquatic and Terrestrial Wildlife
131	Alternative Uses of Land

**Planned Program (External Factors)**

**External factors which affected outcomes**

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

**Planned Program (Evaluation Studies and Data Collection)**

- After Only (post program)
- During (during program)
- Before-After (before and after program)
- Time series (multiple points before and after program)