

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Natural Resources

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	10%			
123	Management and Sustainability of Forest Resources	50%			
124	Urban Forestry	10%			
131	Alternative Uses of Land	20%			
135	Aquatic and Terrestrial Wildlife	10%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	0.0	0.0
Actual Paid	16.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
421252	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
421252	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2014748	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

One-on-one education:

- Site visits to landowners, fishermen and natural resource professionals
- Phone, email, video chats and walk-in clients
- One-on-one assistance to develop management or business plans

Write and respond to news media

Development of Educational Information:

- Newsletters (including e-newsletters)
- Fact sheets
- Trade-magazines, journals, posters, displays
- Books

Workshops, Conferences

- Workshop series
- Statewide Speaker's Bureau
- State-wide and multistate (regional)
- Public forums
- Demonstrations
- Invited presentations

On-line/web based information

- Web page updates; blogs, social media (Facebook and Twitter)
- Electronic pest alerts
- Developing educational visuals/videos; podcasts

Technical Assistance to state agencies/organizations

- Tree Farm Program
- Quabbin to Cardigan
- Small & Beginner Farmers
- Women in the Woods
- Land trusts, town officials, municipalities, parks
- Connect professionals to partners, projects and information

Applied research, Field trials and publishing research reports

- Wildlife and habitat
- Fishing industry collaborative research
- Forest stewardship research

Volunteer Training, Management and Support

- Coverts
- Natural Resource Stewards
- Marine Docents

- Stewardship Network
- Lakes Lay Monitoring Program (LLMP)

2. 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.

Commercial fishermen and related industries; land owners and recreational users of New Hampshire's lakes, estuaries, rivers, and ocean beaches.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	26395	28634	2389	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- One-on-one education: Site visits, phone, email, other one-on-one assistance

Year	Actual
2014	1711

Output #2

Output Measure

- People reached through media: press releases, newsletters, radio, TV, web, direct mailing

Year	Actual
2014	28600

Output #3

Output Measure

- Number of people reached through conferences or workshops

Year	Actual
2014	11281

Output #4

Output Measure

- Volunteers trained and supported: Coverts, Community Tree Stewards, and other community volunteers such as conservation commissions, etc.

Year	Actual
2014	1171

Output #5

Output Measure

- Number of people reached through print educational information

Year	Actual
2014	6988

Output #6

Output Measure

- Number of people reached through on-line or web-based educational information
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of new landowners that report they will/have engage(d)with a licensed forester or and/or a certified logger
2	Number of communities that initiate or continue a change to their plans, policies, regulations practices and projects related to natural resources protection or climate adaptation/resiliency
3	Number of fishermen that adopt gear modifications to limit the environmental impact of their operations
4	Number of landowners that report they will/have implement(ed) at least one recommended stewardship or best practice
5	Number of landowners that report on the development of a written management plan
6	Number of volunteers that reported increased capacity (e.g. knowledge, skills, confidence, motivation, opportunity, funding, contacts, etc.) related to serving on community planning and zoning boards, conservation commissions and/or participation leading or establishing natural resource-related programs and projects
7	Number of professionals that reported increased capacity (e.g. knowledge, skills, confidence, motivation, opportunity, funding, contacts, etc.) for climate (adaptation and resiliency) and natural resources work
8	Number of acres affected by best management practices adopted by land owners, natural resources professionals and communities through land management and conservation efforts.

Outcome #1

1. Outcome Measures

Number of new landowners that report they will/have engage(d)with a licensed forester or and/or a certified logger

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	283

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

Outcome #2

1. Outcome Measures

Number of communities that initiate or continue a change to their plans, policies, regulations practices and projects related to natural resources protection or climate adaptation/resiliency

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land

Outcome #3

1. Outcome Measures

Number of fishermen that adopt gear modifications to limit the environmental impact of their operations

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of landowners that report they will/have implement(ed) at least one recommended stewardship or best practice

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	1042

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

New Hampshire is the second most forested state in the nation?84% forested and 80% is privately owned?2/3 of New Hampshire. Private lands and landowners provide important environmental and economic benefits and services. An estimated 120,000 people own at least an acre of forest. Though an estimated 27% of the private lands in New Hampshire is being managed with the benefit of a forest stewardship plan, the majority of the landowners haven't sought advice from a professional forester and are unaware of the range of benefits to be had from a carefully managed woodlot. Further, nearly half of New Hampshire woodlot owners own 10 acres or less. They represent a growing population and though they own less than 5% of the land, they are important to maintaining the acceptance in New Hampshire of forestry and the forest industry.

What has been done

UNH Cooperative Extension encourages long-term stewardship of family forests and community trees and forests by working one-on-one and in workshop settings with landowners, natural resource professionals, community decision-makers and volunteers.

Sustaining Forests: As a result of individual contacts and workshop-based activity, Extension foresters referred 313 landowners owning 16,752 acres to licensed foresters who wrote forest stewardship plans on over 22,000 acres. Further, Emerald ash borer was found in New Hampshire in March 2013. This find launched an integrated and collaborative response by the N.H. Division of Forests and Lands, the N.H. Dept. of Agriculture, UNH Cooperative Extension (UNHCE), USDA APHIS and the USDA Forest Service. Within days, www.nhbugs.org became the central distribution point for EAB information to the media, the public and landowners and has seen nearly 27,000 unique page views. The public has reported 250 suspect trees and insects to www.nhbugs.org, often uploading pictures to help with identification. County foresters and Division of Forests and Lands staff have access to reports and are deployed to make field visits.

Volunteers Extending Our Reach: Over 400 Coverts and Natural Resource Stewards are actively involved in conservation in their communities. Volunteers contributed over 41,000 hours, working to minimize the effect of fragmentation and sprawl through open space initiatives, participating in local land trusts, town boards and other community-based initiatives. Volunteers actively manage over 140,000 acres and reached out to over 25,000 people with a message of sound forest stewardship and wildlife conservation.

Results

The 22,000 acres of forested land that now have forest stewardship plans represents approximately \$440,000 of direct economic activity as well as improved management and timber harvesting in NH.

Emerald Ash Borer infestation has been carefully monitored and appropriate quarantines put in place for movement of wood and wood products. New Hampshire-specific recommendations are now available by management zones for forest and urban lands and while there is no way to eradicate the pest, Extension programming has helped to slow the spread.

An estimated 48,937 acres of forest and field have been permanently protected with assistance from UNH Cooperative Extension during this fiscal year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
135	Aquatic and Terrestrial Wildlife

Outcome #5

1. Outcome Measures

Number of landowners that report on the development of a written management plan

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	117

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources

Outcome #6

1. Outcome Measures

Number of volunteers that reported increased capacity (e.g. knowledge, skills, confidence, motivation, opportunity, funding, contacts, etc.) related to serving on community planning and zoning boards, conservation commissions and/or participation leading or establishing natural resource-related programs and projects

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	2763

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers contribute significantly to, and in many cases provide the backbone for many Extension programs, including those in natural resources. Directly engaging citizens in UNH Cooperative Extension's work - including outreach, education, research, and stewardship - helps increase awareness of local issues and threats. As local citizens become more aware of problems that threaten New Hampshire, they are increasingly motivated to see that these problems are solved. Extension's volunteer programs provide the training necessary to convert awareness and enthusiasm into action and impacts.

What has been done

UNHCE's natural resource volunteers contributed over 50,000 hours of time in their communities working on stewardship and monitoring projects. The NH Coverts volunteer on behalf of forest stewardship and wildlife habitat issues; Marine Docents conduct marine education programs for

youth; Lakes Lay Monitoring volunteers collect water samples from NH lakes and tributaries for analysis; Coastal Research volunteers collect data for scientific projects on oyster restoration, glass eel monitoring, storm water monitoring, horseshoe crab research, phenology monitoring, eelgrass restoration, and blue mussel monitoring for toxic contaminants in NH's coastal communities; and Natural Resource Stewards work in land conservation and management, invasive species control and NH Parks assistance.

Results

Through UNH Cooperative Extension's volunteer programs, citizens are inspired and empowered to take an active role in making NH's individuals and communities more successful, and helping enhance and protect NH's natural environment. Their work greatly enhances UNHCE's programs and the value of the work (as estimated by the Independent Sector) last year was over \$1.1 million.

In a statewide survey of Extension's volunteers conducted in 2014, 89% of the 600 respondents reported having made a positive impact in their community this year. In the same survey, over 90% of volunteers reported learning a new skill or knowledge and were able to apply that skill or knowledge in their community.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
124	Urban Forestry
131	Alternative Uses of Land

Outcome #7

1. Outcome Measures

Number of professionals that reported increased capacity (e.g. knowledge, skills, confidence, motivation, opportunity, funding, contacts, etc.) for climate (adaptation and resiliency) and natural resources work

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	118

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The continued development and human use of New Hampshire's (NH) natural resources results in significant ecosystem impacts, including habitat loss, water quality impairment, and colonization of invasive species, among others. Professionals working in environmental fields have both a tremendous opportunity and responsibility to use the best practices to protect natural resources while planning and conducting their activities. It is the goal of the UNHCE Communities and Natural Resources professional training programs to inform natural resource professionals on the latest information in their field and provide them with tools and approaches to sustain abundant clean water, diverse natural areas and connected wildlife habitats in New Hampshire.

What has been done

The programs within the Communities and Natural Resources Area of Expertise of UNH Cooperative Extension provide knowledge and real-world skills to natural resource professionals, allowing them to use the latest technologies and science-based information in their work. Activities from the past year include:

20 professionals were trained in wetland evaluation in FY14 through the NH Method Wetland Evaluation training program.

75 professionals were trained in 20 workshops on mapping held in FY14. Topics ranged from basic GIS and GPS, to applied GIS to online mapping.

23 participants attended the 5-Day Community Training in Ecological Design Workshop for Community Leaders in FY14.

Results

Through the Geospatial Technologies Training Center, Land and Water Conservation, and Tree Stewards programs, natural resource professionals are equipped and prepared to use appropriate and effective practices when managing natural resource based projects. Results of the previous year's efforts include:

18 professionals reported an increase in capacity for natural resource protection at the NH Method Wetland Evaluation trainings.

70 professionals increase in capacity for mapping in GIS and GPS workshops for use in natural resource management.

21 participants reported an increase in capacity for natural resource protection at the Community Training in Ecological Design Workshop for Community Leaders in FY14.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
131	Alternative Uses of Land

Outcome #8

1. Outcome Measures

Number of acres affected by best management practices adopted by land owners, natural resources professionals and communities through land management and conservation efforts.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	148486

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Follow up surveys with volunteers and program participants
Monitoring for invasive species

Key Items of Evaluation