V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Climate Change: Forest Management

☑ 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
123	Management and Sustainability of Forest Resources	50%		20%	
132	Weather and Climate	15%		20%	
213	Weeds Affecting Plants	15%		20%	
215	Biological Control of Pests Affecting Plants	10%		20%	
216	Integrated Pest Management Systems	10%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	2.4	0.0	1.5	0.0
Actual Paid Professional	2.6	0.0	2.2	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**
263703	0	121654	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
263703	0	121654	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
4081	0	1322321	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Climate Change and Sustainable Energy

A major effort for the Forest Management Team has been participation in a regional NARA Biofuels project (led by Washington State University).

Loggers:

Conducted a needs assessment for 11-12 panhandle extension programming for loggers was from interaction with individual loggers, the Idaho Statewide Logger Education Committee, the Idaho Sustainable Forestry Initiative (SFI) State Implementation Committee, program evaluations from the previous year's LEAP programs, the Associated Logging Contractors of Idaho, and individual and group consultations with cooperating agencies and institutions such as the Idaho Department of Lands, and other UI faculty.

In 11-12 we held one session of Logger Education to Advance Professionalism ("LEAP") and three sessions of LEAP Update, an annual 2-day program in which LEAP graduates build on their professional development with in-depth training on a variety of forestry topics identified each year by loggers.

UI Extension collaborated with most Idaho forest products companies that participate in the "Sustainable Forestry Initiative" (SFI), a national effort of the American Forest and Paper Association. Partially stimulated by SFI, a statewide logger education committee recently developed the Idaho "Pro-Logger" program, administered through the Associated Logging Contractors of Idaho (ALC). Among other standards, the Pro-Logger credential requires participation in LEAP and 16 credits of continuing education annually. With the increased emphasis on providing educational opportunities for loggers, Extension has worked to integrate logger education needs into other education programs as well.

Family Forest Owners:

Conducted a needs assessment for 11-12 family forest owner Extension program using interaction with Idaho Master Forest Stewards, program evaluations from the previous year, six family forest owner focus groups held in 2009-2010, and individual and group consultations with cooperating agencies and institutions, the Idaho Forest Owners Association, the Idaho Forest Stewardship Advisory Committee, and others.

As part of the Idaho Forest Stewardship program, UI Extension provided a series of workshops, field days and other educational activities titled "Strengthening Forest Stewardship Skills" designed to strengthen forest owners' ability to improve forest health and growth.

Panhandle forest owners can choose from over 140 forestry Extension publications available through local UI Extension offices. Extension videos on water quality, "selective" logging, and forest tax management, and can access archived Woodland Notes articles, a database of consulting foresters, links to relevant websites, and a variety of other useful information on the UI Extension Forestry Web site, maintained by Extension forestry staff on the UI Moscow campus.

Professionals:

Conducted a needs assessment for 11-12 panhandle Extension programs for natural resource professionals through interactions with professionals, program evaluations from the previous year, and individual and group consultations with cooperating agencies and institutions.

2. Brief description of the target audience

The primary audiences for this topic team are family forest owners, loggers and natural resource professionals. They have been discussed in detail in earlier sections of this document.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4987	7700	3627	0

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

Patent Applications Submitted

Year:	2012
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	0	14	14

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of workshops, field days, etc.

Year	Actual
2012	30

Output #2

Output Measure

- Number of participants in workshops, field days, etc.

Year	Actual

2012	1299

Output #3

Output Measure

- Number of articles in popular and trade press.

Year	Actual
2012	3

Output #4

Output Measure

- Number of web site "hits".
  Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Continuing Education hours for foresters, loggers, & other natural resource Professionals.

Year	Actual
2012	1109

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Family forest owners manage resources to achieve healthy, sustainable forests.I: Numbers of family forest owners indicating they will adopt recommended practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.).
2	O: Family forest owners' understand issues and practices related to forest ecology, silviculture, and forest management.I: Number of family forest owners participating in educational programs who report an increase in awareness and knowledge of specific forest ecology, silviculture, and forest management issues.
3	O: Loggers operate using recommended forest management practices (e.g., monitor for insect, disease, or animal damage).I: Numbers of LEAP Update participants indicating they will adopt specific improved forest management practices.
4	O: Loggers possess credentials required by forest industry to conduct business.I: Number of loggers who complete continuing education requirements.
5	O: Foresters and other natural resource professionals have knowledge consistent with current scientific understanding and emerging technologies.I: Number of natural resource professionals demonstrating increase in knowledge related to specific forest science and technology topics.
6	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
7	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
8	Biological Control in Pest Management Systems of Plants

Outcome #1

1. Outcome Measures

O: Family forest owners manage resources to achieve healthy, sustainable forests.I: Numbers of family forest owners indicating they will adopt recommended practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.).

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

O: Family forest owners' understand issues and practices related to forest ecology, silviculture, and forest management.I: Number of family forest owners participating in educational programs who report an increase in awareness and knowledge of specific forest ecology, silviculture, and forest management issues.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	49

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Family foresters and forest land managers are concerned about weed invasions following logging events.

What has been done
biological control technology transfer workshops and field days were held to instruct attendees on the identification and management of weeds on their property.

Results
Participants inquired about additional information, outreach products and sources to obtain insect releases to implement biocontrol as a management practice. Post evaluations measured an average 68% gain in knowledge of the subject matter.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
132	Weather and Climate
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

O: Loggers operate using recommended forest management practices (e.g., monitor for insect, disease, or animal damage).I: Numbers of LEAP Update participants indicating they will adopt specific improved forest management practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	164

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
216	Integrated Pest Management Systems

Outcome #4

1. Outcome Measures

O: Loggers possess credentials required by forest industry to conduct business.I: Number of loggers who complete continuing education requirements.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	111

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
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

O: Foresters and other natural resource professionals have knowledge consistent with current scientific understanding and emerging technologies.I: Number of natural resource professionals demonstrating increase in knowledge related to specific forest science and technology topics.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
216	Integrated Pest Management Systems

Outcome #7

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	3

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
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #8

1. Outcome Measures

Biological Control in Pest Management Systems of Plants

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Biological control continues to be proven one of the most effective, environmentally sound, and cost-effective pest management approaches used to controlling arthropod pests and weeds. Despite many advances in recent years, our practical and conceptual understanding of success and failure in applied biological control fall short of meeting certain current and future requirements.

What has been done

Research was conducted on a new candidate biological control agent for houndstongue in the U.S., the seed-feeding weevil Moguones borraginis (F.) under quarantine conditions in the Northwestern Biological Control Insectary and Quarantine (NWBIQ) with closely related native North American congeners of houndstongue. The University of Idaho continued to lead or co-lead international efforts to develop biocontrol agents for Lepidium draba (hoary cress), Lepidium latifolium (perennial pepperweed) and Isatis tinctoria (dyers woad) noxious weeds. Research on the differences of specialist insect herbivory pressure on hoary cress between its native Eurasian and introduced North American range were summarized. Data were summarized and published on competitive interactions between hoary cress and grass species to guide re-vegetation measures following the control of the plant.

Results

Research methodologies were developed that will be adopted by colleagues in future weed biological programs. Research on invasion mechanisms, and plant competition contributed to the growing body of literature on factors that allows exotic invasive plants to successfully compete with native vegetation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Competing Programmatic Challenges

Brief Explanation

The Forest Management faculty continues to make a significant investment into a regional, integrated Extension-Research project that is in the early stages of development.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}