

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change and Natural Resource Use

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
102	Soil, Plant, Water, Nutrient Relationships	15%		10%	
112	Watershed Protection and Management	22%		10%	
121	Management of Range Resources	9%		5%	
123	Management and Sustainability of Forest Resources	5%		3%	
132	Weather and Climate	0%		20%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		15%	
205	Plant Management Systems	26%		15%	
213	Weeds Affecting Plants	1%		5%	
307	Animal Management Systems	0%		10%	
605	Natural Resource and Environmental Economics	22%		7%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.0	24.0	0.0
Actual Paid	11.7	0.0	16.0	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
240877	0	565084	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
240877	0	566444	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	3879845	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

1. Continued to facilitate and assist the establishment and success of local Conservation Resource Management (CRM) groups, for more local control of decisions on natural resources.
2. Educated the public with respect to the principle causes of air pollution and their role in prevention.
3. Partnered with others to enable agriculture producers to meet EPA requirements.
4. Established herbicide demonstration/research plots to evaluate the efficacy of these products under local conditions.
5. Conducted projects consultations, and workshops focusing on the role of outdoor recreation and natural resource-based tourism in relation to community development.
6. Partnered with others in education and use of resources to rehabilitate the sagebrush steppe environment.
7. Educated and partner to enable the recovery of the sage grouse, pygmy rabbit and others to avoid listing as endangered species.
8. Determined management options that slow or stop the cycle of cheatgrass and fire on previously burned areas through range rehabilitation, seeding programs and nontraditional approaches to grazing management.
9. Educated producers and agency personnel on the need for continued range evaluation, monitoring, and management improvements and the role of grazing management in sustainable resource management.
10. Educated the public on responsible use and the value of multiple uses on rangelands.
11. Illustrated the need for management and control of pinion-juniper forests to restore watershed, wildlife habitat and forage values on rangelands.
12. Educated the public regarding various options with respect to adapting to global climate change.
13. Provided information to landowners and users on grazing management of grazeable lands.
14. Partnered with and educate the general public, livestock producers and agency personnel on the identification and methods of control of the specific noxious and invasive species.
15. Conducted experiments and develop theories that can be used to enhance water, soil, wildlife, and for various agronomic and urban areas.
16. Published studies relating to this program area.
17. Provided educational training, problem solving, and in-depth applied information to: facilitate rehabilitation of degraded watersheds, protect and manage watersheds, conserving, managing and enhancing efficient water use, derive efficient irrigation strategies and technologies, implement water-wise landscaping practices, evaluate and promote plants that require less water and are drought tolerant, preserve and enhance water quality, enhance quality, capture, and use of storm-water and gray-water,

identify areas of current or potential soil loss or reduced soil fertility and partner with other agencies to reduce and control these problems, educate producers on the important interactions of soil and irrigation, provide information on soil nutrient deficiencies and cost effective soil quality and fertility improvements, continue demonstration projects - salinity, soil types, non-traditional soil fertility amendments, fertilizer formulation efficacy, organic matter use and management.

2. Brief description of the target audience

The target audience includes the general public, users of various environments (agricultural producers, extractive industry representatives, environmentalists, green industry professionals, etc.), small acreage owners, private forest owners, extension agriculture and horticulture agents, federal and state water and soil management agencies, and other academics and resource managers.

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	649	102073	0	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	38	38

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Patent Applications Submitted
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Peer Reviewed Publications
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 clientele who gain knowledge about improved human, plant, and animal management systems that relate to climate change and/or natural resource use.
2	Number of clientele who implement improved human, plant, and animal management systems as related to climate change and/or natural resource use.

Outcome #1

1. Outcome Measures

Number of clientele who gain knowledge about improved human, plant, and animal management systems that relate to climate change and/or natural resource use.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	6218

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Much of the high quality wildlife-related recreation is associated with privately-owned lands. In the U.S., 2.1 million farmers and ranchers control more than 60 percent of the land base. As such, public wildlife inhabits, and is dependent upon, the habitat resources found on private land. Public and private wildlife management agencies and organizations have implemented programs to encourage landowners and other stakeholders to manage for wildlife and/or allow public hunting or recreational access. Lack of coordination between management agencies and stakeholder concerns about damage caused by wildlife and wildlife users have reduced the overall effectiveness of wildlife management.

What has been done

To address these issues in Utah USU facilitated the establishment of the Cooperative Wildlife Management Program Unit (CWMU) and a business association to address the needs of participants. The Association consists of landowners encompassing over 2.5 million acres of private rangeland in Utah. Currently about 70% of all registered CWMU's in Utah are a member of the Association. It provided members with information, education, technical support, and policy guidance to enhance wildlife management, recreational opportunities, and alternate income potentials on private land.

Results

In 2014, the Cooperative Wildlife Management Unit program generated over \$40 million in new revenue for Utah landowners and provided free access to over 6,000 Utah hunters annually to

high quality big game hunting opportunities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
121	Management of Range Resources
123	Management and Sustainability of Forest Resources
132	Weather and Climate
201	Plant Genome, Genetics, and Genetic Mechanisms
205	Plant Management Systems
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Outcome #2

1. Outcome Measures

Number of clientele who implement improved human, plant, and animal management systems as related to climate change and/or natural resource use.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	5024

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

At home Utahans use nearly two-thirds of their water irrigating lawns and landscapes. Water officials know that at least 30% of that water is being wasted.

What has been done

The Utah State University Extension Water Check Program is a Wasatch-Front based effort to assist homeowners, commercial property managers, and institutions with efficient landscape irrigation management. The program focus on the application efficiency of landscape irrigation systems and components by identifying and measuring irrigation flaws and inefficiencies.

Results

On average, Utahns participating in the Water Check Program save 25,750 gallons of water annually, reducing the amount of water applied to landscapes by 8 percent.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
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V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}