V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Climate Change

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	2%		5%	
112	Watershed Protection and Management	6%		10%	
121	Management of Range Resources	3%		10%	
123	Management and Sustainability of Forest Resources	0%		10%	
132	Weather and Climate	0%		15%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
205	Plant Management Systems	87%		10%	
213	Weeds Affecting Plants	0%		10%	
307	Animal Management Systems	0%		10%	
605	Natural Resource and Environmental Economics	2%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	13.0	0.0	23.7	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**
199191	0	596821	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
199191	0	526821	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	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 the requirements of the EPA.
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 and 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.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA	{NO DATA	{NO DATA	{NO DATA
Actual	42102	564834	11433	153383

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

Patent Applications Submitted

Year: 2010

Plan:

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	0	80	80

V(F). State Defined Outputs

Output Target

<u>Output #1</u>

Output Measure

- Number of Graduate Students/Post Docs Trained

Year	Target	Actual

2010	{No Data Entered}	23

Output #2

Output Measure

- Contract/Grant Dollars Generated

Year	Target	Actual
2010	{No Data Entered}	2325000

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	Quantitative Target	Actual
2010	{No Data Entered}	92079

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Climate Change is a critical issue given the semi-arid state of the region. It is necessary to conduct research and disseminate that information to private and public entities so that they can be prepared and make whatever adjustments they can in the face of these changes.

What has been done
Science-based research must be undertaken to determine the exact nature of and timing of changes to our climate. This is too important of an issue to be left to uninformed debate and policy measures. That research then needs to be transferred to public and private entities so that needed ajustments can be made in businesses and with individuals potentially impacted by this issue.

Results
Individuals, businesses, and governments will adapt to the changes and challenges introduced by climate change.

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
213	Weeds Affecting Plants
307	Animal Management Systems
605	Natural Resource and Environmental Economics

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	Quantitative Target	Actual
2010	{No Data Entered}	54333

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
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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

There have been so many factors that have influenced our ability to follow through on the goals that were set. We have received a reduction in budget from state sources. County-level budgets have also been dramatically impacted. The southern portion of the state experienced a severe drought, a continuation of the past several years. Competing public priorities have further reduced budgets to CES and UAES. The composition of the state's population continues to change, with a higher immigration and in-migration of individuals outside the goal and program areas established in previous years. These and other factors have combined to reduce the effectiveness of goal attainment, though all goals were achieved to some extent.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of progra intensity.
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Key Items of Evaluation