

2014 University of Nevada Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

The University of Nevada's College of Cooperative Extension used federal funds in calendar year 2014 to address the National Institute for Food and Agriculture's (NIFA) major themes of Global Food Security and Hunger, Climate Change and Natural Resources, Childhood Obesity Health and Nutrition, Food Safety, Human and Family Development and Community and Economic Development. Nevada Extension did not focus on the NIFA theme of Renewable Energy. Nevada Extension used funding to partially support 13.8 of 27.85 full time equivalent positions. Those supported included 12 county-based educators, 12 subject matter specialists based in county offices and 4 subject matter specialists based on the University of Nevada campus. Nevada Extension and the College of Agriculture, Biotechnology and Natural Resources 2014 plan of work projected 33.5 FTE for the six program areas. Nevada Extension supported 13.8 positions with federal funds, including 5 of 9 projected FTE for Global Food Security and Hunger, 2 of 3 projected FTE for Climate Change and Natural Resources, 3 of 8 projected FTE for Childhood Obesity Health and Nutrition, 0.6 of 0.5 FTE projected for Food Safety, 2.5 of 8 projected for Human and Family Development and 0.7 of 5 projected for Community and Economic Development. Lack of state and federal support led to under participation in 5 of the 6 NIFA listed above, with the exception of Food Safety, which was a minor effort in calendar year 2014.

Nevada's federal personnel commitments emphasized Global Food Security and Hunger as a first priority, with Childhood Obesity Health and Nutrition, Human and Family Development, Climate Change and Natural Resources, Community Development and Food Safety as priorities 2--6, respectively.

In 2014, federal funds supported 7.8% of Nevada Extension's activities, general funds from the state of Nevada supported 19.7%, grants and contracts from a variety of sources supported 27.4% and funds provided by ad valorem shares of county taxes supported 45.1%.

Nevada Extension's faculty who were supported with federal funds produced 39 peer-reviewed journal articles, curricula and other materials, distributed among the six themes in approximately the same proportion as our reported effort. This included 13 in the category of Global Food Security and Hunger, 9 in the category of Climate Change and Natural Resources, 5 in the category of Childhood Obesity Health and Nutrition, none in Food Safety, 4 in the category of Human and Family Development and 8 in the category of Community and Economic Development. A comprehensive training program on Good Agricultural Practices currently in review will become the foundation for an effort focused on food safety in 2015.

Nevada Extension exceeded matching requirements with state, county and grant funding, matching \$746,065 in federal expenditures for activities in Global Food Security and Hunger with \$996,589 in state, county and other funding, \$183,361 in federal expenditures for activities in Climate Change and Natural Resources with \$244,932, \$252,029 in federal expenditures in Childhood Obesity Health and Nutrition with \$336,659, \$44,541 in Food Safety with \$59,458, \$178,907 in Human and Family Development with \$60,076, and \$48,995 in Community and Economic Development \$65,453.

Nevada Extension had 38,182 and 131,790 adult and youth contacts in 2014, again distributed approximately proportionately to expenditures of federal funds among the six themes. These included Global Food Security and Hunger (17082 adult contacts, 38014 youth contacts), Climate Change and Natural Resources (10608 adult contacts, 2832 youth contacts), Childhood Obesity Health and Nutrition (8785 adult contacts, 88780 youth contacts), Food Safety (167 adult contacts, 97 youth contacts), Human and Family Development (852 adult contacts, 2060 youth contacts), and

Community and Economic Development (688 adult contacts, 7 youth contacts). Evaluations of Nevada Extension's federally supported efforts indicate that audiences have increased knowledge following participation. Evaluations generally take the form of pre- and post-event questionnaires and are analyzed to determine statistically significant differences. In general, all Extension events produce statistically significant improvements in knowledge indicators, as seen in the reports provided under each theme.

Nevada Extension continues to face challenges with respect to having adequate personnel to address NIFA's themes. In part this is because state and federal budget reductions led to greater reliance on county and grant funds. This will continue to be an issue in calendar year 2015, especially because several Nevada counties are anticipating budget shortfalls, which will likely reduce funding for county Extension offices and because state and federal funds for Nevada Extension are likely to remain at levels provided in 2014.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	34.0	0.0	0.0	0.0
Actual	13.8	0.0	0.0	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External University Panel
- External Non-University Panel
- Combined External and Internal University Panel
- Combined External and Internal University External Non-University Panel
- Expert Peer Review

2. Brief Explanation

1. The Merit Review Process that was employed for this year included:

- an internal University Panel
- an external University Panel

- a combined External and Internal University Panel
- Expert Peer Review from outside the University of Nevada Extension system
- Academic reviewers for tenure and promotion application from outside the University of Nevada Extension system.

2. Brief Explanation

As outlined in the plan of work, UNCE's annual merit review process comprises multiple steps. In January of each year, UNCE faculty are required to prepare a Role Statement detailing their teaching, research, and service activities for the coming calendar year. Extension faculty review their individual Role Statements with their Area Director and/or Department Chair, who ensures that the quality and relevance of planned programming efforts effectively address formally identified program goals. Both the respective Area Director and the UNCE Dean/Director must review and approve the plan.

Annually, UNCE faculty evaluate their peers' teaching, research, and service activities to assess overall performance and program quality. Faculty consider the results of published needs assessments, programs developed in response thereto, and the substance of documented outcomes and impacts in numerically rating peer-performance and providing narrative feedback. Area Directors also conduct an annual review of faculty performance and provide numerical ratings and narrative feedback. Area Directors then meet individually with faculty to discuss the review findings. The UNCE Dean/Director also reviews and formally approves the evaluation documents.

Upon request, faculty representing land-grant institutions in other states provide formal reviews of UNCE faculty applications for promotion and tenure. These reviews are included in the application packet and considered by the promotion and tenure committees at the area, college, and university levels.

Programs' outcomes and impacts are reviewed by a Non-university, External Panel (State Extension Advisory Committee). This review provides an additional source of needs-assessment data from key representative community and industry stakeholders.

Extension publications undergo a blind, peer-review process involving internal and external university faculty in order to improve and ensure quality publications. Additionally, several UNCE faculty contribute specialized program content to eXtension Communities of Practice (CoP). Subsequently their program content is reviewed as part of the eXtension CoP selection process.

Finally, some Cooperative Extension efforts are a part of the Multi-state Review Committee (MRC) process and are documented, reviewed, and approved by the sponsoring regional association. MRCs are responsible for the review, evaluation, and recommendation of all aspects of western multistate programs which may involve research, academic programs, extension, and/or international programs.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-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 groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief explanation.

Use of local newspapers and radio, through public-service announcements, encourage stakeholders to participate in public meetings and listening sessions. In 2014, Nevada Extension also used paid advertisements in Edible Tahoe-Reno quarterly to specifically target the increasing number of small and urban farm operators, CSAs, and their clientele. Extension also had booths and representatives at the annual meetings of the Nevada Cattlemens' Association, the Nevada Association of Counties, the Nevada Small Farm Conference and the Governor's Conference on Agriculture. Extension organized an information/outreach tour of Northern Nevada in the Cattlemens' Update. Extension engaged the Latino Coalition in Clark County as members of a search committee to better understand and meet needs specific to the Las Vegas metropolitan area. Extension participated on the Nevada Governor's Council on Food Security, the Northern Nevada Food Bank and the Nevada Drought Emergency Task Force. Extension also participated as a member of the planning committee for the Nevada Water Resources Association annual conference, the Nevada Governor's Conference on Agriculture and the annual Small Farm Conference hosted by Western Nevada Community College.

Faculty target traditional and non-traditional stakeholders through email and postal mail invitations to participate in public meetings, focus groups, and individual interviews. Poster announcements are placed in public places frequented by traditional and non-traditional audiences.

Formal needs assessments serve as another means for contacting stakeholders. Faculty continually assess stakeholders' perceived program priorities in order to efficiently allocate resources and to identify and develop partnerships for program implementation and delivery.

Primary data-collection methods include postal mail and internet surveys, focus groups, and individual interviews. Results of Cooperative Extension community needs assessments are published and made available to other university faculty and the broader public via the Nevada Extension website (www.unce.unr.edu/publications/assessments).

Frequently, faculty develop partnerships with a variety of stakeholder groups as part of program planning, development, and implementation. These community and organizational partnerships provide an ongoing venue for receiving stakeholder input and feedback for the life of a program. A 12-member Nevada Extension Advisory Committee meets biannually to provide broad guidance on programs and policies. Committee members represent a diverse cross-section of stakeholders from both rural and urban communities, including minorities. Two Advisory Committee members

also serve as representatives on the Council of Agricultural Research, Extension, and Teaching (CARET) and regularly communicate with Nevada's Congressional delegation as well as USDA/NIFA administrators.

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2(A). 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

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

In January of each year, Nevada Extension faculty members prepare a Role Statement to plan teaching, research, and service activities for the coming calendar year. Extension faculty review their individual Role Statements with their Area Director and/or Department Chair, who ensures that the quality and relevance of planned programming efforts effectively address formally identified

program goals. Both the respective Area Director and the Nevada Extension Dean/Director review and approve individual role statements and proposals for work in the coming calendar year. Annually, Nevada Extension faculty evaluate their peers' teaching, research, and service activities to assess overall performance and program quality. Faculty consider the results of published needs assessments and programs designed, developed and delivered to meet local, regional and state needs. They also evaluate the documented outcomes and impacts in using numerically rating peer-performance evaluation instruments and narrative feedback. Area Directors conduct an annual review of faculty performance and provide numerical ratings with narrative feedback. Area Directors meet individually with faculty to discuss the review results of the annual evaluation. The Nevada Extension Dean/Director reviews and formally approves the evaluation documents.

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MRCs are responsible for the review, evaluation, and recommendation of all aspects of western multistate programs which may involve research, academic programs, extension, and/or international programs.

2(B). 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

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief explanation.

Nevada Extension values the input of its past, current, and potential program stakeholders. Face-to-face meetings and surveys are effective methods for identifying program priorities and implementation strategies. For several years, Nevada's strategic plan has included listening sessions in each of its 17 counties, as well as needs-assessment meetings with various stakeholder groups, industries, businesses, and other organizations across the state. Meeting with both traditional and non-traditional stakeholders, in groups and individually, provides a vehicle for

collecting input while also strengthening relationships and program partnerships. Nevada Extension faculty use a variety of methods to identify individuals/groups of stakeholders and to collect their input, including collecting primary data through surveys and interviews and secondary data from sources such as the US Census and Bureau of Economic Analysis. Nevada Extension also utilizes a diverse collection of community advisory and stakeholder groups as an additional means of identifying stakeholders and to collect program input. Such groups include, for example, American Indian tribal governments and leaders, 4-H Leader Councils, 4-H Teen Ambassadors, 4-H Teen Councils, Boys and Girls Club of America Advisory Boards, Nevada Public School Districts, National Association of Counties-Nevada, Northern Nevada Business Connections, Specialty Crop Institute, Small Business Development Centers, Healthy Community Coalitions, Farm Bureau, Resource Conservation Districts, Irrigation Districts, Nevada Specialty Crop Institute, FFA Advisors, County Offices of Juvenile Probation, and United Way. Input is also sought from federal and state agency personnel, such as USDA Rural Development, Farm Service Agency, Natural Resource Conservation Service, Bureau of Land Management, Nevada Department of Agriculture, and Governor's Office for Economic Development. As the outreach unit of Nevada's land-grant university (UNR), Nevada Extension develops program partnerships with all Nevada System of Higher Education (NSHE) institutions and seeks programmatic input from NSHE faculty and students. Special-interest groups, such as Nevada Grown, Walker River Stewardship Council, and Great Basin Food Advisory Council, provide input as well.

3. A statement of how the input will be considered

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

Brief explanation.

Nevada Extension uses stakeholder input to identify emerging issues, to direct and redirect Extension programs, and establish needs priorities in the hiring process. This includes strategic planning, development of Extension Specialist positions, hiring, and periodic redirection of Extension teaching/research programs. Since teaching and research occur in communities, community stakeholder input is essential to the Nevada Extension mission and effective development, evaluation, and revision of action plans. Given that Nevada is a predominantly-urban population, broad stakeholder input is critical to satisfying the state's six legislatively mandated program areas, which redirects Nevada Extension from a primarily rural focus on agriculture and home economics to a statewide focus on a broad spectrum of urban and rural issues. Nevada Revised Statutes (NRS) 549.010, which is tied to state support from Nevada's general fund, acknowledges the needs of Nevada's predominantly urban population and identifies Nevada Extension's primary role as part of the land grant university (University of Nevada, Reno) as follows: "to provide for continued educational, research, outreach and service programs pertaining to agriculture, community development, health and nutrition, horticulture, personal and family development, and natural resources in the rural and urban communities." Nevada Extension serves the needs of, and develops partnerships with, all of the NSHE campus units. Nevada Extension faculty collaborated on Nevada Agriculture Experiment Station research projects, as determined by identified programming needs and available funding. Nevada Extension worked closely with two entities (Food Bank of Northern Nevada and the Governor's Council on Food Security) to determine needs, partnerships and best practices for nutrition and physical activity educational work. Nevada

Extension worked with state and federal agencies and industry groups (such as the Nevada Department of Natural Resources, the Nevada Division of Emergency Management and the Nevada Association of Counties) to clarify Extension's role as a link between the Land Grant University system and county-based constituents.

Brief Explanation of what you learned from your Stakeholders

1. University of Nevada Cooperative Extension has a large and growing Latino audience in Clark County. Their needs include guidance for effective small business development, health and nutrition and youth development.
2. Programming for nutrition education supported with the educational component of the Supplemental Nutrition Assistance Program (SNAP) should increase efforts to affect the political, social and economic environments in which SNAP-eligible clients live and work. This means balancing the direct education efforts with higher level educational and structural efforts.
3. Nevada lacked a single, comprehensive source for weather information related to drought, drought conditions and best practices for community and industry-sector response to drought.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1191864	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1453898	0	0	0
Actual Matching	1453898	0	0	0
Actual All Other	488216	0	0	0
Total Actual Expended	3396012	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	0	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger
2	Climate Change and Natural Resources
3	Sustainable Energy
4	Childhood Obesity, Health and Nutrition
5	Food Safety
6	Human and Family Development
7	Community and Economic Development

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

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
111	Conservation and Efficient Use of Water	15%			
121	Management of Range Resources	19%			
205	Plant Management Systems	19%			
211	Insects, Mites, and Other Arthropods Affecting Plants	3%			
216	Integrated Pest Management Systems	6%			
307	Animal Management Systems	3%			
601	Economics of Agricultural Production and Farm Management	5%			
602	Business Management, Finance, and Taxation	8%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%			
806	Youth Development	12%			
	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	9.0	0.0	0.0	0.0
Actual Paid	5.0	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
746065	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
746065	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
250524	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Greenhouse Project, an active partner in the Future Farmers of America program for high school students, includes a commercial-sized greenhouse (2,100 square feet), 65 raised beds, a 33-foot hoop house and a small orchard. The project has strong connections to the school agriculture/horticulture program. Special needs High School students have daily classes in the greenhouse and on the site during the school year. The southern Nevada Research Center and Orchard researches new varieties of fruit producing trees, vines and other plant materials in sustainable ways. It is also a place where hands-on training/teaching opportunities can be held for home owners and commercial clientele. The Agriculture and Natural Resource Heritage Program includes educational presentations about the historic and rapidly disappearing Basque sheepherders and their cultural impacts on the Great Basin. The program also offers demonstrations of the Native American use of indigenous natural resources (primarily trees and shrubs) for primitive tools. Collectively, these topics emphasize the historical importance of sustainable agricultural and use of natural resources. Producers and agency staff often lack knowledge about the concepts of plant growth, plant response to grazing, ecological site potential, the processes of vegetation change, disturbance ecology, and the role and effect of fire. The Alternative Crop Production in Nevada Walker Basin Program evaluates and demonstrates crops that use less water and offer increased income potential to Nevada agricultural producers. The Biofuel Production program evaluated various plants as potential biofuel crops in Nevada. Evaluation of promising crops are expanded as the potential for commercial production increases. The Alternative Crops and Disturbed land Reclamation Project evaluates low water use crops and discovers cultural practices necessary to reclaim farm lands where irrigation water has been removed. Alfalfa hay, alfalfa seed and small grains are the principle crops produced in much of the northern tier of Nevada. Alfalfa hay remains by far the most important crop in terms of both acres harvested and value of production. Despite an 80% reduction in alfalfa seed acreage over the last eight years, it remained in second place followed by "other hay" production. Small grains are grown as a rotational crop between the establishments of alfalfa crops. As a means to increase the profitability of local farmers, an educational program on growing soybeans as a high income rotational crop was developed. Grow Your Own, Nevada is a fee-based program that provides horticultural information to homeowners who desire to become successful backyard food producers in Northern Nevada's high-desert climate. The program consists of eight two-hour sessions and covers topics ranging from vegetable cultivar selection to composting and harvesting and preserving produce. The Master Gardener Program is an educational and volunteer-recruitment program. Avid gardeners from the community learn and promote science-based horticulture and environmentally sound gardening practices. Trained volunteers "give back" to the University by passing on their knowledge and training to the public. The Horticulture program in White Pine County seeks to build awareness and interest in horticultural crop production in the high desert. The Integrated Pest Management Program examines the need for potential pesticides necessary for producing

forages in Nevada and submits requests to the IR-4 program for federal testing and registration. Nevada Extension tested and demonstrated appropriate IPM methods applicable for weed management in Nevada and presented the results to agricultural producers and public land managers. The IPM program includes Urban IPM managers and consumers and conducts pesticide safety and education programs with the goal of increasing the number of trained, licensed, pesticide applicators in Nevada. The Herds and Harvests program developed educational courses, workshops, technical assistance, business advice and mentoring support network for Nevada agricultural producers who are beginning or diversify a farm or ranch operation. It also helped farmers and ranchers understand the fundamentals of business plans, enterprise budgets, and production and marketing strategies, under the general themes of 1) So you want to be a produce farmer; and 2) Artificial Insemination of Livestock. The People of the Land program grew as a national program. Nevada Extension piloted the new curriculum (People of the Land II for the Hopi tribe) and the Navajo Nation with more than 68 tribal producers. Workshops were held in Reno, Nevada and Spokane, Washington focusing on American Indian land tenure and the American Indian Probate Reform Act dealing with estate planning. We contracted with Indian Land Tenure Foundation to provide legal expertise and I taught the Indian land segment. Nevada Extension has also begun working on economic development activities such as business development, agriculture production, and marketing concepts with tribes across the western United States.

2. Brief description of the target audience

Nevada Extension worked with backyard and small-scale fruit producers and traditional large commercial production facilities. This year the program was expanded to include students for whom English is a second language. Nevada Extension worked with land users and managers (including Native Americans) with an interest in cultural and historical land-use practices, as well as youth and others interested in Native American use of indigenous vegetation. Nevada Extension worked with resource users and natural resource professionals, especially public and private land managers. Nevada Extension worked with livestock producers, domestic and foreign agency resource management staff, policy developers, and individuals/organizations interested in rangeland resources. Nevada Extension worked with producers and land managers interested in reclaiming farmland from which water rights were removed. Nevada Extension worked with the commercial landscape horticulture industry, including nursery workers and owners, arborists, pesticide applicators, landscapers, irrigation specialists, and landscape designers and architects. Nevada Extension worked with experienced and new gardeners desiring information to become more self-sufficient and produce more of the food they consume locally. This program also appeals to gardeners wishing to commercial explore small-scale local food production. Nevada Extension worked with homeowners, property managers, land managers, government personnel, agency personnel, extension educators, master gardeners, green industry professionals. Nevada Extension worked with American Indian farmers and ranchers.

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	17082	0	38014	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	13	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
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 individuals who gain knowledge about improved human, plant, and animal management systems for sustainable agriculture.
2	Number of clientele who implement improved human, plant, and animal management systems for sustainable agriculture.

Outcome #1

1. Outcome Measures

Number of individuals who gain knowledge about improved human, plant, and animal management systems for sustainable agriculture.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A 2012 needs assessment found water conservation, education on pesticide alternatives, growing your own food, alternative food production methods and environmental issues to be important to consumers and the Green Industry. Alfalfa hay remains by far the most important crop in terms of both acres harvested and value of production. Small grains are grown as a rotational crop between the establishments of alfalfa crops. Noxious and invasive weeds are widespread throughout Nevada, and threaten the productivity of cropland, pasture and rangeland. Rural areas are susceptible to significant adverse economic damage. Most of the information about backyard and small-scale fruit growing comes from commercial, orchard production in non-desert environments. High quality backyard and small-scale fruit production must be planned and managed differently from traditional large commercial production. Information about fruit growing for small-scale production in desert environments is very limited to nonexistent. The establishment of various applied research and demonstration trials is critical to building the knowledge base regarding potential alternative crop production systems in Nevada. Many Nevada communities (29 out of 487 census tracts) Nevada are considered food deserts. A survey of Nevada Extension Educators indicated almost universal support for a statewide educational, non-volunteer alternative to the Master Gardener program. Public issues and needs identified within the state were consistent with those identified in the surrounding states and include home food production and edible landscaping (n=4), diagnosis and management of plant pests (insects, disease, weeds) (n=4), local food production and urban agriculture (n=3), sustainable landscaping practices (including native plant landscaping) (n=3) and landscape water conservation (n=2). The demand for hops grown locally for consumption by local micro-brewing companies and home brewers is increasing in concert with the increasing number of microbrew establishments. The increased demand results in substantially higher prices for locally produced hops than those available on the large commercial markets. Because hops are hardy, tolerant of alkaline soils and can be irrigated using water saving techniques such as drip irrigation they are a prime candidate for evaluation in Nevada. Producers and agency staff often lack knowledge about the concepts of

plant growth, plant response to grazing, ecological site potential, the processes of vegetation change, disturbance ecology, and the role and effect of fire. Teff is a small seeded grain crop used to make flat bread known as Injera which is a staple in the diet of Ethiopian people and used in every Ethiopian restaurant. It is also an important source of gluten free flour required by individuals who suffer from Celiac disease. The production of biofuels and other industrial oil crops is an increasing priority in Nevada and the nation due to the cost and availability of petroleum based products. Nevada has had no data regarding the production potential of these crops. American Indian farmers and ranchers provide an important economic base for rural reservations. USDA programs are designed to help make farms and ranches more profitable. Research with Indian producers and agriculture/natural resource professionals on the 12 of the largest Indian reservations in Arizona, Idaho, Nevada, Oregon, and Washington identified a significant knowledge gap for professionals about the social, political, and economic environments unique to Indian reservations. USDA programs that might benefit Indian reservation agricultural producers in the five-state region are, therefore, not widely implemented.

What has been done

For the Greenhouse Project (TGP), Nevada Extension coordinated activities and work assignments. Nevada Extension taught statewide Risk Management educational efforts and the Nevada Beginning Farmer and Rancher Project (Herds & Harvest) with statewide and regional partners. Nevada Extension held demonstration classes in Southern Nevada for small-scale fruit producers. Nevada Extension established three, large scale, replicated trials of 13 forage sorghum and sorghum/sudangrass varieties as well as two forage soybean varieties at the Newlands research station, on a private farm, and on the Agricultural Experiment Station's Main Station farm in partnership with two private firms (Advanta US, Stanislaus Farm Supply. The data were statistically analyzed and presented at Experimental Farm field days in Fallon and Reno. Nevada Extension completed trials with several spring canola varieties and continued a multi-year hop evaluation study. Nevada Extension provided input to the Western IR-4 region coordinator concerning the need for labeling of a Dow Chemical Company herbicide, GoldSky (florasulam, fluroxpyr, pyroxsulam) and Glyphosate for use on teff. Extension responded to a severe outbreak of armyworms on teff crop, identifying an insecticide (Bacillus thuringiensis Bt) to implement an emergency registration for a conventional insecticide.

Results

Students and volunteers produced and donated over 4,000 pounds of produce to food banks in Carson City. There were 802 student visits. Thirty-eight special needs students worked daily putting in over 375 hours. Six AmeriCorps interns volunteered 3,300 hours. Student hours, including classes, tours and juvenile probation work totaled approximately 3,011 hours. Non-student volunteers donated approximately 1,500 hours. This yielded an in-kind value of \$33,210 to The Greenhouse Project. The number of students doing their senior projects increased from 2013. Four agriculture/horticulture students are doing their supervised agriculture experience in the greenhouse with the greenhouse site manager as their mentor. The Artificial Insemination of Livestock workshop revealed increases in knowledge of 14 out of 21 indicators, with the top two indicators being what equipment is needed for artificial insemination to be successful, and how to properly care for a semen tank. A slaughter and processing certification classes revealed increases in knowledge in all 15 subject area indicators, with the top two indicators being identifying different cuts of meat, and the number of cuts of meat from different livestock carcasses. The So you want to be a producer farmer workshops revealed statistically significant increases in knowledge for all 17 indicators, with the top indicators being enterprise budget development and marketing agriculture products for sustainable farming. Specialty crop producers (30%) and livestock producers (30%) reported taking actions to change their

production practices after attending workshops related to risk management, water efficient and alternative crops. This is the 3rd year of the Hops Project, with new varieties being tested and given to three local breweries to evaluate. There are 70 vines and 8 varieties being tested. Harvest results are pending. Community gardeners donated approximately 420 pounds of vegetables to a senior living facility and to food banks. Latigo is the only herbicide currently legal for use on teff (approved by USEPA in 2012 with support from Nevada Extension) and provides growers the only practical method of controlling broadleaved weeds in this important crop. The EPA also established tolerances for the herbicide Glyphosate with the tolerances published by the Environmental Protection Agency in the Federal Register on May 1, 2013. As a result, virtually every acre of teff grain planted in Nevada in 2013 was treated with to manage broadleaved weeds. This action allows interested companies to add teff as a legal use to herbicides containing this active ingredient and will greatly increase herbicide availability to producers. People of the Land II was piloted with representatives of the Hopi tribe. Participants reported that they increased their knowledge in all program indicators based on workshop content.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
121	Management of Range Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #2

1. Outcome Measures

Number of clientele who implement improved human, plant, and animal management systems for sustainable agriculture.

Not Reporting on this Outcome Measure

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.)
- Other (Grant funding availability and diminished Smith-Lever allocations)

Brief Explanation

Nevada's slow economic recovery, in addition to the increasing demand for locally-produced foods, inspired a steady increase in small farm/ranch operations, CSAs, and community and school gardens. Traditional large-scale producers were challenged by severe drought conditions, the spread of invasive weeds, and the potential for sage grouse to be listed as a threatened or endangered species.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Nevada Extension faculty evaluate the outcomes and impacts of programs largely through participant/stakeholder self-evaluations. Evaluations of selected Global Food Security and Hunger programs in 2014 included horticulture classes focused on efficient residential and commercial landscape use, alternative crops, and small-scale urban food production. Evaluations included pre- and post-event comparative surveys with participants. With respect to knowledge gain, workshops held to discuss results of alternative crop field trials indicated a gain in knowledge by the participants of between 30 to 45 percent.

Key Items of Evaluation

As a result of IPM education, virtually every acre of teff grain planted in Nevada was treated with Latigo® to manage broadleaved weeds, ensuring that Nevada Extension's educational programs will have a significant impact on the profitability of teff farmers. Grow Your Own, Nevada participants reported an average of 29.4% to 80.6% knowledge gains in a variety of areas regarding growing and producing food for local consumption. Additionally, the program website was accessed nearly 18,000 times in 2013. Eagles and Agriculture enhances participant knowledge in wildlife habitat and local agriculture. Approximately 400 people attended the 2013 event, and respondents (n=69) gained a better understanding of Carson Valley agriculture (4.14), have a greater appreciation for the role agriculture plays in providing wildlife habitat (4.00), and have greater understanding for the benefits agriculture provides our society (3.86) (5 point Likert-type scale, 1=strongly disagree and 5=strongly agree).

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change and 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
102	Soil, Plant, Water, Nutrient Relationships	6%			
112	Watershed Protection and Management	18%			
122	Management and Control of Forest and Range Fires	44%			
131	Alternative Uses of Land	8%			
133	Pollution Prevention and Mitigation	2%			
213	Weeds Affecting Plants	8%			
605	Natural Resource and Environmental Economics	14%			
	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	3.0	0.0	0.0	0.0
Actual Paid	2.0	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
183361	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
183361	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
61571	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The purpose of the Commercial Horticulture program is to provide basic training and continuing education to increase the skill level and professionalism within the commercial landscape horticulture industry. The Basic Principles of Landscape Management in Southern Nevada program utilizes the successful Correctional Horticultural program as a model for development. Implementation of the curriculum meets the needs of people already working in the industry. As a test for the permanent educational program, impact is measured for certification purposes to ensure quality and demonstrative knowledge. A four-agency coalition (Nevada Tahoe Conservation District, the Tahoe Regional Planning Agency (TRPA), the Natural Resources Conservation Service and University of Nevada Extension) has been working with Lake Tahoe homeowners and contractors to implement best management practices (BMPs) to protect water quality. The Native Plants and Sustainable Landscaping program addresses issues of sustainability in home and commercial landscaping by researching and promoting use of native plants for landscape water conservation and sustainable plant production methods. Based on a petition sent to the US Fish and Wildlife Service (USFWS) in 1989, the Columbia spotted frog was categorized as a "candidate" species because of apparent small population size, habitat deterioration, and imminent threats. Extension has taken a leadership and educational role as team leader for implementation of the Columbia Spotted Frog (Northeast Nevada Subpopulation) Conservation Agreement since 2003. With occasional assistance from the National Riparian Service Team, the Nevada Riparian Cadre teaches classes and provides expert assistance with riparian assessment and collaborative management. Riparian Proper Function Condition Assessment is used as the minimum riparian assessment by the BLM and is recommended for watershed-wide assessments. It is an excellent format for increasing landowner and land manager interaction and cooperation under the themes of Cooperative Riparian Restoration and the national Program "Creeks and Communities." Nevada Extension leads the Northern Nevada Flood Awareness Week and Media Campaign, an interagency effort to increase public awareness of and preparedness for flood events in Northern Nevada. The IPM in Urban/Consumer Environments program increases awareness and adoption of Integrated Pest Management (IPM) strategies by the public and the green industry to manage pests efficiently while protecting human health and the environment. Living With Fire is a comprehensive, multi-agency project that is aimed at teaching people how to live more safely in high fire hazard environments. The 8th Annual Nevada Wildland Fire Awareness Week (NWF AW) and the Lake Tahoe Wildfire Awareness Week (LTWAW) and Summit recruited and coordinated a variety of resources to increase awareness and promote action concerning Nevada's wildfire issues. The Nevada Fire Adapted Communities (FAC) Project focused on fire-vulnerable communities statewide. The Nevada Youth Range Camp provides high school students with a foundation in the physical and biological sciences about natural resources and natural resources management. The Carson River Coalition (CRC) brings stakeholders together to promote integrated watershed management. The Sustainable Living- Renewable

Energy Roundup (SLRER) promotes sustainable practices, renewable energy use, and environmental responsibility through the annual Green Living Festival.

2. Brief description of the target audience

The target audience is private property owners and building and landscape contractors in the Lake Tahoe Basin, including both the Nevada and California shores. Nevada Extension reaches the gardening public, Master Gardeners, commercial landscapers, production and retail nurseries and other professionals related to the horticulture industry. Nevada Extension's audiences include kindergarten through seniors in high school. This year, Nevada Extension worked closely with green industry professionals, Master Gardeners and homeowners from fire prone communities. As part of wildfire damage prevention efforts, Nevada Extension worked with and local, state, federal, and private organizations with an interest in reducing the wildfire threat to Nevada communities, including in Lake Tahoe Basin communities and homeowners living in high fire hazard areas and builders, roofers, landscapers, planners. Nevada Extension worked closely with property owners in the floodplain of the Carson River and also the general public in the watershed.

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	10608	0	2832	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	9	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
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 individuals who gain knowledge about improved human, plant, and animal management systems that relate to climate change and/or natural resource use.
2	Number of individuals applying or using new knowledge to improve human, plant, and animal management systems as related to climate change and/or natural resource use.

Outcome #1

1. Outcome Measures

Number of individuals 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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension focuses on reducing water usage for home and commercial horticulture, sustainability in landscapes and use of native plants for water conservation. Northern Nevada has experienced major destructive floods approximately every 10 years throughout history. The Carson River Watershed Regional Floodplain Management Plan (RFMP) recommended flood outreach education for the general public, including an annual Flood Awareness Week. As noted in the National Roadmap for IPM, environmental concerns, public opinion and consumer demands drive pest management practices. In the absence of IPM education, urban residential uses of pesticides result in contamination of surface and ground water bodies. IPM programs specifically targeting weeds are both necessary and desired by agricultural producers, landscapers, residents, pesticide applicators and public land managers of Nevada. Wildfire was one of the nine high priority issues identified by a needs assessment in Nevada. The Nevada Youth Range Camp is organized, implemented, and sponsored by many government and private organizations who recognize a need to provide high school students with a foundation in the physical and biological sciences that inform natural resources management strategies. Walker Lake issues involve disagreements of water allocations among the Paiute tribe, agriculture, recreation, and environmental uses in the Walker River Basin. Fuel prices are rising, climate is changing, urbanization is sprawling, and citizens are yearning for control. Green industry, low impact development, alternative energy choices and many other environmentally responsible approaches are creeping into the minds and behaviors of local citizens.

What has been done

Nevada Extension participates in the WERA 1013 Intermountain Regional Evaluation and Introduction of Native Plants is a USDA-NIFA multistate collaborative project that focuses on introduction of new native plant species to the horticulture industry and education of the public about the use of native plants for landscape water conservation. Extension also participates in the Great Basin Native Plant Selection and Increase Project, which provides ongoing grant support

for research and outreach related to horticultural use of native plants. Nevada Extension is also propagating native plants. Nevada Extension formed a 30-member Flood Awareness Advisory Committee (FAAC) with floodplain and emergency managers from throughout Northern Nevada. A subcommittee held Flood Awareness Week (FAW) in November, 2014. The urban IPM team completed three surveys of green industry personnel (landscapers, and one for Master Gardeners (MG). Nevada Extension conducted five 3-hour training sessions for the Green Industry that focused on IPM topics, and four 1-hour trainings as part of the Green Industry Continuing Education series. Master Gardener (MG) IPM trainings included five 3-hour classes as part of the basic training course. Four separate 2.5-hour advanced MG trainings discussed IPM. A series of 7 trainings and classes about weed identification and management. Additional IPM trainings for the public included eight 2-hour Grow Your Own classes. Nevada Extension rewrote the section on IPM for the Nevada Pesticide Applicator's Certification Workbook, which was reviewed by Nevada Dept. of Agriculture (NDOA). This became a 1-hour scripted PowerPoint presentation on the basics of IPM that can be used to provide continuing education credits as well as initial trainings. Nevada Extension piloted the presentation. Extension developed and aired a series of 4 radio PSAs and 2 TV PSAs. Nevada Extension held Lake Tahoe Wildfire Awareness Week (LTWAW) and Nevada Wildfire Awareness Week (NVAW), which involved 1) generating interagency support for the summit, 2) conducting media interviews, 3) preparing news releases and other written materials, 4) participating in planning meetings, 5) directing a program assistant's efforts, and 6) acquiring grant funds to support NVAW. Nevada Extension organized meetings, contacted target audiences, partnered with organizations, organized and held the events. Nevada Extension held the weeklong Nevada Youth Range camp and provided leadership, counseling, and education for camp participants. Nevada Extension formed a technical committee of County Floodplain Managers and NGO representatives to give input on the design and compilation of a Floodplain Progress Map for the general public audience. Nevada Extension organized and held the educational portion of the Green Living Festival, which included the contact and coordination of speakers on the topics of well and septic maintenance, hoop house design, bee keeping, geothermal heat pumps, wine making, and improving home energy efficiency.

Results

Master Gardener participants took part in pre- and post-testing as a means of identifying gain in knowledge from training sessions. Post-test scores were significantly higher than pre-test scores, with a knowledge gain of 46.4% to 113.9%, depending on the class. Master Gardener retention rates for a single class held in Reno class showed that 47.5% of those beginning the class were certified within 6 months of training. In Carson City, 50% certified within 6 months of training and in Douglas County, 30% certified within 6 months of training. Community gardeners donated approximately 420 pounds of vegetables to a senior living facility and to food banks. Seventy-eight percent of Master Gardeners donated home grown fruits and vegetables to food banks. As a direct result of the activities of this the multistate project WERA 1013, the Intermountain Native Plant Growers Association (INPGA) has broadened their scope of activities and range of western growers, and developed a strategy for stabilizing and expanding the market by establishing the INPGA Intermountain Choice program. 46.7% of participants in Green Industry Professional Training reported that the greatest barrier to using IPM was client preferences followed by cost (16.7%) and the lag time between using these practices and seeing results (16.7%). Evaluation data from the basic training on IPM for Master Gardener students indicated that 97% of participants were confident about making good decisions about pest control, 99% planned to use IPM principles in landscape management, and 100% felt that the training was an excellent use of their time. The Living with Fire reached audiences in all of Nevada's 17 counties, with 124 events or activities were held statewide (2700 attendees). All 17 county commissions issued proclamations. Respondents to an evaluation survey of the Green Living Festival reported that the educational presentations were the best event features.

4. Associated Knowledge Areas

KA Code	Knowledge Area
122	Management and Control of Forest and Range Fires
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
213	Weeds Affecting Plants
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Number of individuals applying or using new knowledge to improve human, plant, and animal management systems as related to climate change and/or natural resource use.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
122	Management and Control of Forest and Range Fires
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
213	Weeds Affecting Plants

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

Funding to support programs and personnel continued to be an important factor in program design and delivery. Drought raised significant awareness of climate change, with an associated interest among a diversity of audiences but without resources to meet potential demand for this information. A lack of wildfires, especially close to urban centers, did not significantly affect interest in fire preparedness programs.

V(I). Planned Program (Evaluation Studies)**Evaluation Results**

46.7% of participants in Green Industry Professional Training reported that the greatest barrier to using IPM was client preferences followed by cost (16.7%) and the lag time between using these practices and seeing results (16.7%). Evaluation data from the basic training on IPM for Master Gardener students indicated that 97% of participants were confident about making good decisions about pest control, 99% planned to use IPM principles in landscape management, and 100% felt that the training was an excellent use of their time. The Living with Fire reached audiences in all of Nevada's 17 counties, with 124 events or activities were held statewide (2700 attendees). All 17 county commissions issued proclamations. At Lake Tahoe, 18 events and activities were held during LTBWAW, with 20 collaborating agencies and four LTWAW resolutions issued by local governments. As an example of the impact, the Co-President, North Topanga Canyon Fire Safe Council, Topanga, CA, noted that "...because (residents of a newly formed FAC) had cleared brush according to the Fire Adapted Communities project ...their house and livestock were saved from the lightning strike fire that occurred last night. Thank you for educating the community." Results of the Nevada Youth Range Camp evaluation indicated that students gained the most knowledge in the Stream Investigation/Proper Function and Condition of Riparian Areas class with a 34.7% increase between the pre-test and post-test results. An increase in knowledge was documented in all of the educational areas taught. The Douglas County Commission supported the Douglas County Lands Bill during public discussion for possible action by the US Congress in 2014. Douglas County submitted testimony in support of the bill, noting that its "primary goal is to permanently protect its essential floodplains, open space, natural resources, rural character, and cultural heritage through the acquisition of conservation easements on Douglas County's historic

agricultural operations," which is the principle recommendation of the Carson River Regional Floodplain Management Plan.

Key Items of Evaluation

Participants in Green Industry Professional Training reported that the greatest barrier to using IPM was client preferences followed by cost (16.7%) and the lag time between using these practices and seeing results (16.7%).

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

Reporting on this Program

Reason for not reporting

University of Nevada Cooperative Extension does not have programs in this area.

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	0.5	0.0	0.0	0.0
Actual Paid	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Volunteer	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct applied research on alternative crops as potential bio-fuels and methods of production that are well-suited for Nevada.
- Report on and adapt research to educate producers outlining benefits and costs.

- Educate the public about sustainable practices, renewable energy use, and environmentally responsible lifestyles.

2. Brief description of the target audience

Target audiences include agricultural producers, the general public, citizen and special interest groups, related industries, and federal, state, and local government agencies.

3. How was eXtension used?

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2014

Actual: {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	2	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of individuals who gain knowledge about sustainable energy and environmentally responsible lifestyles.
2	Number of individuals who implement sustainable energy practices and environmentally responsible lifestyles.

Outcome #1

1. Outcome Measures

Number of individuals who gain knowledge about sustainable energy and environmentally responsible lifestyles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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
{No Data}	null

Outcome #2

1. Outcome Measures

Number of individuals who implement sustainable energy practices and environmentally responsible lifestyles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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

{No Data} null

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.)
- Other (Grant funding availability)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity, Health and Nutrition

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
702	Requirements and Function of Nutrients and Other Food Components	10%			
703	Nutrition Education and Behavior	66%			
805	Community Institutions and Social Services	24%			
	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	8.0	0.0	0.0	0.0
Actual Paid	3.0	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
252029	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
252029	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
84630	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Nevada Extension has programs focused on infant, youth, adult and senior nutrition, and family and community health. Three programs (Breastfeeding Basics for Health Professionals and Community Members, Mom's Special Gift (MSG) and Nurturing Partners) support a breastfeeding-friendly environment in Southern Nevada, by increasing knowledge within the community and changing attitudes and practices of health professionals, Food Stamp Program eligible women who are enrolled in Medicaid or WIC, high school-aged students and vulnerable teens in community agency programs. Nevada Extension has three programs focused on youth nutrition, including the Calcium, It's Not Just Milk program (a train-the-trainer program preparing middle school health teachers to teach a week-long curriculum to health classes). Additional youth nutrition programs include Chefs for Kids (for primary-grade children in "high needs" elementary schools) and the Expanded Food and Nutrition Education Program (EFNEP) (designed to assist limited resource families in acquiring the knowledge, skills, attitudes and behavioral changes necessary for nutritionally sound diets). Two programs focus on seniors, the Eat Smart Live Strong and Gatekeepers programs (which provide nutrition and horticulture education to seniors receiving commodity food packages and build an informal assistance network with community workers (postal workers; meter-readers; pharmacists, emergency responders, etc.) who regularly come in contact with seniors. Health and nutrition programs focused on families include Food for Health and Soul and Cocinando Delicioso Y Saludable (which addresses chronic disease incidence in the African American and Latino/Hispanic communities), and Healthy Eating on a Budget (which provides direct nutrition and food resource management education to recipients of Nevada Department of Welfare and Social Services (DWSS) benefits at DWSS locations). The Making a Group and Individual Commitment (MAGIC) program focuses on promoting a healthy lifestyle for first-time juvenile offenders to help them avoid incarceration and become productive citizens. Whole community programs include Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys (which audits and maps community features that support and/or hinder healthful eating and physical activity among community members program (HEAL MAPPS).

2. Brief description of the target audience

Nevada Extension's Child Obesity, Health and Nutrition programs reach first and second grade students in high-needs schools (defined as those where 50% of student are eligible to receive free or reduced-priced school lunches), middle-school children (particularly females) ages 11-14, health professionals (e.g. doctors, nurses, dietitians, medical students, nursing students, and other community members), low-income pregnant and lactating women who wish to nurse their infants, adolescents (females and males) attending non-college track high schools and community organization programs, juvenile offenders and their parents, local government employees, Nevada's aging population, adults and youth from limited income and socially disadvantaged families, African American and Hispanic adults, low-income seniors receiving USDA commodity foods, adult participants in the Temporary Assistance to Needy Families (TANF) Job Readiness Workshops, and county and community leaders.

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	8785	0	88780	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	5	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
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 individuals who gain knowledge about nutrition and health.
2	Number of individuals (adults & youth) who adopt one or more healthy lifestyle practices or food choices (behavior).

Outcome #1

1. Outcome Measures

Number of individuals who gain knowledge about nutrition and health.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The longer a woman breastfeeds her baby, the lower the risks of infant infections. Teens at risk of becoming parents often attend non-college bound programs where there is more flexibility in programming or are found in non-school environments. Nevada consistently ranks among those states with the poorest self-reported eating and activity practices. Childhood and adolescence are critical periods for developing good health practices. Positive health habits lead to decreased likelihood of adult obesity and its associated chronic diseases. Individuals (including children) from lower socio-economic status are more likely to be obese or overweight than those of higher socio-economic status. As a group, Mexican American boys tend to have a higher incidence of overweight than non-Hispanic white or non-Hispanic black boys; and non-Hispanic black girls tend to have a higher prevalence of overweight than Mexican American or non-Hispanic white girls. Rural residency tends to increase the risk of overweight and obesity for children and adults. To date, most evidence-based strategies to combat the childhood obesity epidemic have been developed and tested in non-rural settings and target either individuals or environments. The Nevada Nutrition Network identified children, ages 11-14 years, as the target audience with the need to increase consumption of low-fat calcium-rich foods. Nevada Extension developed and conducted a survey of the commodity foods distribution sites in Nevada that indicated a need for learning gardening skills among seniors. EFNEP targeted limited resource families with children and limited resource families primarily through schools and zip code locations. Nevada has the fastest growing senior population in the country, and among seniors over the age of 60, Nevada has the highest suicide rate in the nation, over double the national average for the same age group. Cardiovascular disease (CVD), primarily heart disease and stroke, causes more deaths across gender, race, and ethnicity than any other disease. Heart disease is the leading cause of death in Nevada, and accounted for 27 percent of all deaths in 2007. Minorities have disproportionately high rates of death and disability from CVD. In 2007, African Americans had the highest age-adjusted rate of heart disease mortality in Nevada at 298.9 deaths per 100,000. A statewide food distribution site survey at commodity food distribution sites indicated an interest

among seniors in learning to grow herbs and small vegetables in window pots, and how to use them in recipes with commodity foods, safety tips for storing commodity foods, nutrition and physical activity tips, recipes for using commodity foods, samples of recipes made with commodity foods, nutrition information related to chronic disease (such as heart disease, diabetes, and hypertension) and recipe demonstrations, food product dating on commodity food packages, how to accommodate dietary restrictions related to chronic diseases when using commodity foods and food tastings. Violence and crime among youth continues to be an enormous problem for families and communities nationwide.

What has been done

In 2014, Nevada Extension taught current BF research and practice to 683 health care professionals and community members, coordinated the NV Star BF Rating System and produced a BF Rap DVD. MSG's staff educated 488 women and followed them on a monthly basis until breastfeeding stopped or up to six months. MSG staff conducted a total of 16 in-person individual sessions. In addition to telephone and in-person educational sessions, MSG's two lactation educators (2 bilingual) conducted breastfeeding classes at two local WIC sites - 108 classes comprised of 721 women. MSG staff conducted an additional 4 community classes and 11 school classes. Nevada Extension delivered the Nurturing Partners program at 11 middle schools, reaching 2,531 students with the 5-day curriculum, at schools providing credit retrieval programs for those who need to complete additional classes in order to graduate and working in community settings to reach target audiences. The Veggies for Kids program provided 8 weeks of in-school lessons, a summer institute, and taught youth to produce specialty crops. First and second grade programs in the Washoe and Clark County School Districts reached more than 4000 students in 20 schools with six nutrition and activity lessons. The Gatekeeper program built an integrated system for sharing resource information in place and a member of Nevada Extension attended 40 hours of training to become a certified leader in Stanford University's Chronic Disease and Diabetes Self-Management Curriculum. Nevada Extension conducted a five-week Eat Smart Live Strong program that incorporated herb growing and plant maintenance with nutrition and the use of herbs in flavoring of recipes using commodity foods. Nevada Extension taught a series of classes to county government employees, each of which was an hour long and offered three times for a total of 45 sessions. The EFNEP program reached 3,409 family members. A six-session hands-on curriculum was taught at 33 community locations including churches, libraries, public housing complexes, childcare centers, and recreation and community centers, reaching 300 participants. Nevada Extension recruited and trained adult volunteers to use GPS cameras to map their rural community environment as either obesity preventing or promoting. Nevada Extension taught and supported MAGIC instructors who engaged 180 juvenile offenders and their parents in the 20-hour program. To document the impact of MAGIC, Nevada Extension refined the cumulative database of MAGIC graduates, which now contains data from over 4,000 families and provides the evidence to support applications for national recognition of MAGIC as an effective program for juvenile offenders and their parents as certified through the National Registry of Evidence-based Programs and Practices.

Results

Breast-feeding programs led to significant changes in understanding of breastfeeding benefits, frequent nursing and increased confidence to breastfeed. Survey results indicated that continued efforts are needed to decrease the number of women using both breast and bottle when in the hospital. The most frequently chosen lessons by community partners in Clark County were: Basic Nutrition; Fast Food Anyone? My Pyramid; Stress Management; Planning for the Future; Ready for the Hospital; Postpartum Nutrition, and Smoking, Alcohol and Drugs; Breastfeeding (Mom's Special Gift); Postpartum Nutrition; Postpartum Blues and Bubble Basics. Significant increases in nutrition knowledge were noted at 3 schools and 1 community sites. Pre- and post-test evaluation

showed there was a significant improvement in school children understanding from pre- to post-tests related to: (a) their knowledge and understanding of calcium and growth, bone health, distribution of calcium in the body, importance of physical activity, and disease prevention; b) their knowledge of the calcium intake recommendation for their age group; c) their ability to identify calcium-rich foods; and d) their ability to interpret food labels to identify calcium-rich foods. The Chefs for Kids program improved understanding of sanitary habits, food categorization, and snack food choices among 3347 first second grade students. Classes offered by Veggies for Kids improved students abilities to recognize the My Plate Picture, correctly name five food groups, correctly name six different vegetables, sample selected vegetables, and state preference for selected vegetables. The after school activities involving physical activity also increased. The Eat Smart Live Strong program led to improvements in the number of people who reported that they were less likely to discard foods from the commodity foods package because they thought the foods were out-of-date or unsafe. Participants reported that they used less salt when preparing foods. Participants also showed a statistically significant improvement in their self-reported happiness (a recognized indicator of overall well-being). Nevada's EFNEP program reached 791 participants with 3,409 family members affected indirectly by the programming efforts. Results of the pre- and post-test evaluations showed (n=574), participants improved their diets, nutrition practices, their food buying power, food-handling practices, and physical activity rates. Data were collected at the six MAGIC community sites with participants referred by Juvenile Probation. A total of 117 youth (17% female) completed evaluation data. Youth reported a significant increase in setting goals (p < .001), making plans for the future (p < .001), understanding the values they live by (p < .001), realizing that self-discipline (p < .001) and responsibility (p < .001) are important to success, confidence in themselves (p < .001), thinking before acting (p < .001), and believing that they can stay out of trouble with the law (p < .001). Attitudes regarding harmfulness of drinking (p < .001), smoking cigarettes (p < .001), chewing tobacco (p < .05), using inhalants (p < .001), and becoming involved with gangs (p < .01) also increased among participants during the course of the program. Participants also reported significant increases in school grades (p < .001), the importance of what they are learning in school for their lives in the future (p < .001), and the importance and meaningfulness of their assigned schoolwork (p < .001).

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
805	Community Institutions and Social Services

Outcome #2

1. Outcome Measures

Number of individuals (adults & youth) who adopt one or more healthy lifestyle practices or food choices (behavior).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
805	Community Institutions and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Grant funding availability and staff reductions.)

Brief Explanation

Staff reductions due to changes in state and federal support levels led to consolidation in program areas and discontinuation of some programs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluations are largely based on pre- and post-intervention observation of targeted participant behaviors. In some cases, where appropriate, parent and teacher self-evaluations were used to document perceived knowledge gains and behavioral changes. Evaluations indicate changes in audience member understanding of key aspects of the programs.

Key Items of Evaluation

These results confirm issues raised by the hospital needs assessment regarding lack of support of breastfeeding during the hospital stay. With regards to adult and youth nutrition education, the most frequently chosen lessons by our community partners were: Basic Nutrition; Fast Food Anyone? My Pyramid; Stress Management; Planning for the Future; Ready for the Hospital; Postpartum Nutrition, and Smoking, Alcohol and Drugs; Breastfeeding (Mom's Special Gift); Postpartum Nutrition; Postpartum Blues and Bubble Basics.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

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
315	Animal Welfare/Well-Being and Protection	50%			
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	50%			
	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	0.5	0.0	0.0	0.0
Actual Paid	0.6	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
44541	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
44541	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
14957	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Nevada Extension attended several food safety and agricultural trainings to better assist producers in Nevada. This led to development of expertise that Nevada Extension now offers as a state program to fruit and vegetable producers. This program seeks to mitigate risk and expand market access through agricultural practices that promote food safety.

2. Brief description of the target audience

The target audience is mainly producers of fresh fruit and vegetables in the state of Nevada. It also has drawn other agricultural professionals and public health professionals.

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	167	0	97	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	2	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
 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 individuals who gain knowledge about food-borne illness, farm/ranch food safety, and quality assurance.
2	Number of individuals who implement practices to prevent food-borne illness, which include farm/ranch food safety plans and quality assurance practices.

Outcome #1

1. Outcome Measures

Number of individuals who gain knowledge about food-borne illness, farm/ranch food safety, and quality assurance.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The number of farms in some agricultural counties has decreased by as much as 25% in the past two decades. There is interest in strengthening agriculture in the county and state. Increased market access and risk reduction is a goal of this program. Fruit and vegetable producers are entering an uncertain climate with the Food Safety Modernization Act being implemented. In addition, many are seeking to be GAP certified due to buyer demands. A survey conducted as part of the Governor's Office of Economic Development Agriculture Report identified laws and regulations as the biggest impediment to growth of agriculture (26% of respondents), 20% of producers identifying food safety laws as an impediment and 56.4% of producers indicated that they were willing to grow other crops if sufficient demand existed.

What has been done

Nevada Extension held two Good Agricultural Practice (GAP) trainings in Nevada's major population centers (Las Vegas and Reno). Nevada Extension also completed three publications related to GAP and food safety and conducted workshops one GAP as part of an Urban Farming course and at Nevada's annual Small Farm Conference.

Results

Participant post-then-pre evaluation indicated a statistically significant improvement in knowledge of all topics taught at the Reno training. The overall quality of the training had a mean ranking of 6.46/7. The vast majority of participants indicated that they would use the technical skills learned during the training in their line of work. Participant post-then-pre evaluation indicated a statistically significant improvement in knowledge of topics presented at the workshop. The overall quality of the training had a mean ranking of 6.33/7. The majority of participants indicated that they would use the technical skills learned during the training in their line of work. This training brought in expertise from the Southern Nevada Health District, who presented a public health agency's perspective on farmers markets, farm-to-fork events and the cottage food industry in Nevada.

Other speakers discussed food safety in school gardens, GAP audits and resources at the Nevada Department of Agriculture. Most importantly, both trainings showed statistically significant improvement in understanding of GAPs, GHPs, food safety regulatory aspects as it relates to produce, risk management and the relationship between produce quality and food safety; and most participants indicated that they were likely to use their improved skill sets in their line of work. Long term impacts to participants would include risk reduction and mitigation, improved market access and understanding of aspects of food safety regulations at the federal level.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

Outcome #2

1. Outcome Measures

Number of individuals who implement practices to prevent food-borne illness, which include farm/ranch food safety plans and quality assurance practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

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.)
- Other (Grant funding availability)

Brief Explanation

County regulations about small-scale agriculture and locally produced foods vary significantly, especially with respect to food safety. There is a major local need for guidance about navigating local and state codes related to small-scale agricultural enterprises that use direct sales for distribution. As real estate values and new home starts increase, vacant urban land is withdrawn from community gardens and small-scale urban farms.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Participant post-then-pre evaluation indicated a statistically significant improvement ($p < 0.05$) in knowledge of all topics taught at the Reno training. The overall quality of the training had a mean ranking of 6.46/7. The vast majority of participants indicated that they would use the technical skills learned during the training in their line of work. Participant post-then-pre evaluation indicated a statistically significant improvement ($p < 0.05$) in knowledge of topics presented at the workshop. The overall quality of the training had a mean ranking of 6.33/7. The majority of participants indicated that they would use the technical skills learned during the training in their line of work. This training brought in expertise from the Southern Nevada Health District, who presented a public health agency's perspective on farmers' markets, farm-to-fork events and the cottage food industry in Nevada. Other speakers discussed food safety in school gardens, GAP audits and resources at the Nevada Department of Agriculture. Most importantly, both trainings showed statistically significant improvement in understanding of GAPs, GHPs, food safety regulatory aspects as it relates to produce, risk management and the relationship between produce quality and food safety; and most participants indicated that they were likely to use their improved skill sets in their line of work. Long term impacts to participants would include risk reduction and mitigation, improved market access and understanding of aspects of food safety regulations at the federal level.

Key Items of Evaluation

Nevada is experiencing a surge of first-time urban farmers interested in specialty crop production, for supplemental or primary income. Much of the information and materials

and supplies available to support technical aspects of these start-ups is generally available through seed companies, lawn and garden shops, hardware stores and the internet. However, many of the critical business decisions made by beginning small urban farmers are missing key factors needed to succeed. These include local zoning and business regulations, health codes, soil conditions, costs of inputs, availability of markets and food safety. While producers have tremendous enthusiasm for beginning these agricultural enterprises, local market and regulatory constraints can present overwhelming challenges.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Human and Family Development

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
802	Human Development and Family Well-Being	100%			
	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	8.0	0.0	0.0	0.0
Actual Paid	2.5	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
178907	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
178907	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
60076	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Nevada Extension's 4-H Program provides youth development opportunities in leadership, citizenship, and science, technology, engineering, and mathematics. The Bootstraps Program is a life-skills, work-

responsibility instructional program that combines formal classroom work with real world work experience. Nevada Extension delivers youth development programs to teach youth positive life skills and provide positive adult interaction. 4-H is a nationally proven youth development program that teaches positive life skills to reduce risk-taking behaviors. The focus of the GEAR-up/STEM program is to create a college-going culture at schools that are both labeled as "in needs of improvement" and have 50% or more of students receiving free and reduced lunch. Nevada Extension's activities in Human and Family Development focused on preventing child abuse, coping with domestic violence, improved child care and improving literacy. The Keeping Kids Safe: Recognizing, Reporting and Responding to Child Maltreatment educated adults about the recognizing, reporting suspicions and responding to the disclosure of child maltreatment. The Heart & Shield Rural Domestic Violence Prevention Program trains law enforcement, community leaders, advocates, victims and families to prevent family violence. The program builds youth capacity as the next important step in addressing domestic violence in Nevada's communities. Latino outreach focuses on engaging parents and students to improve their children's achievement in school.

The eXtension Alliance for Better Child Care is an eXtension Community of Practice. The purpose of Better Kid Care America is to provide a coordinated array of web-based resources to ensure that all young children receive high-quality, developmentally appropriate early care and education experiences to provide a foundation for success in school, work, and social relationships. Given that many children spend a majority of their days in child care, there is a need to provide high quality environments in child care programs. Family Storyteller is a family literacy program for parents and their preschool-aged children and beginning readers. The program includes English, Spanish, English Language Learner, and Native American versions. Cuentos en familia increases the amount and quality of time parents and young children spend together in Spanish-language literacy activities. The Fun To Play program targets families in which, due to the young age, inexperience, or limited resources of parents, young children are placed at risk for developmental delays and later school difficulties. Fun To Play is a series of weekly infant/child sessions aimed at improving the parenting skills of young parents by increasing the amount of learning activities and interaction they provide their children with the goal of increasing the amount and quality of time parents and young children spend together in literacy enriching activities. Striving Readers is a collaborative literacy program with Nevada school districts to develop a comprehensive effort to improve literacy outcomes for children 0-18. Nevada Extension's part of the collaborative is to develop and implement early language and literacy programming for families with children 0-5 years old and not yet in the school system. Policy Education and Civic Engagement (PEACE) is a social studies curriculum designed, researched, and written for middle to high school students.

2. Brief description of the target audience

Nevada Extension's targeted audiences included child caregivers, youth workers and volunteers working with children and youth, members of law enforcement, advocates, community leaders, victims and family members, Latino youth, families, parents of at-risk youth, organizations that work with Latinos, parents with preschoolers or beginning readers, adolescent parents, young at-risk parents especially those with children 0-5 years old and families who have children in at-risk schools or live in neighborhoods surrounding those schools. Nevada Extension reaches reaches at risk youth who are not working and not in school, ages 18 to 24. Nevada Extension reaches youth in schools labeled as "in need of improvement" and have 50% or more of students receiving free and reduced lunch, with programs that target youth and families who have below-average school performance, poor social skills, and/or weak family bonds.

3. How was eXtension used?

Nevada Extension contributed to communities of practice.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	852	0	2060	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	4	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
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 youth, families, and professionals who gain knowledge about positive human and family development.
2	Number of youth, families, and professionals who implement positive human and family development behaviors.

Outcome #1

1. Outcome Measures

Number of youth, families, and professionals who gain knowledge about positive human and family development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Child caregivers, youth workers and volunteers working with children and youth are mandated reporters of suspected child maltreatment and have regular contact with children and youth in their care. Very few resources are available to child caregivers and youth workers to help them understand reporting requirements and role in preventing child abuse and neglect. Long term problems associated with domestic violence on children include higher levels of adult depression and trauma symptoms and increased tolerance for and use of violence in adult relationships. A needs assessment indicated that families with English as a second language need parenting education and capacity building. A Spanish language survey identified family programs, healthy fun out of school, parenting, preventing disease, avoiding gangs and respect for all cultures as primary youth and family high priority concerns. Given that the percentage of Spanish-speaking immigrants is expected to continue to increase in Nevada over the next 25 years, ever-larger numbers of children will enter school as non-English speakers and at risk for low achievement. Research has shown that early exposure to books in Spanish greater enhance English literacy. Research has shown that one of the best ways parents can help their children be ready to enter school is to share books with them. Parents with young children are in need of research-based information on parenting and child development. Research has found that poor literacy skills in the early years have severe consequences later on for children, such as school failure and dropout, and unemployment and underemployment as adults.

What has been done

Nevada Extension held workshops for child care providers, youth workers and 4-H volunteers. Nevada Extension published a UNCE Special Publication field guide for law enforcement to use when responding to domestic violence (DV) calls, as a collaborative effort between six agencies. Nevada Extension produced two additional fact sheets to support community education on DV. Nevada faculty led the effort of gathering Extension classroom teaching materials to include in

eXtension. This included serving as a primary content reviewer and reviewer for new articles, teaching resources, and FAQs, adding 24 new songs and fingerplays to the searchable database, and serving as the evaluation contact for the CoP. The eXtension Alliance for Better Child Care joined with four other family and child oriented eXtension CoPs to form a loose association around a Child and Family Well-Being Learning Network. As part of the eXtension evaluation committee, Nevada Extension participated in regular web meetings to develop and refine evaluation procedures for the project. Teaching efforts involved Family Storyteller for Infants and Toddlers, including development of a Family Storyteller version for families with infants and toddlers, and Home Visitation, which engaged high-risk families in targeted neighborhoods. The program recruited at-risk families, worked with target elementary schools to enroll participants, and provided up to three home visits with the families. Nevada Extension enrolled 161 participants in the Spanish Just In Time Parenting newsletter and 96 for the English newsletter version. Nevada Extension also developed Literacy Development Tip Sheets to enhance parent-child literacy for students in kindergarten and first grade. These materials consist of four-page tip sheets and short videos for parents demonstrating focused literacy activities for them to do with their children at home. Each tip sheet focuses on one specific literacy skill and includes 4-6 specific activities that parents can do at home to strengthen those skills in their children. The tip sheets and videos are distributed by the targeted elementary schools.

Results

Nevada Extension has been asked to develop training for tribal officers and advocates on optimal response in DV cases. Following the Fallon Paiute-Shoshone Tribe law enforcement/advocate training, a survey of participants showed statistically significant increases in participant knowledge, attitude and behavior change.

A phone survey of ALITAS participants gathered data from 60 participants (26 percent response rate). Fifty percent of respondents had graduated from high school, 50 percent were still in high school and none had dropped out. Twenty-nine percent enrolled in higher education and 42 percent were planning to go to college. Participants in the ALITAS program reported that the program led to improvements in their academic performance, personal image, willingness to persevere and interest in post-secondary educational opportunities.

Nevada Extension relied on Google Analytics to evaluate the performance of the Community of Practice. These indicated an average of 13,710 page views per month in 2014, with the most visited aspects being information on child development, creative art and child self help skills, as well as our searchable databases of classroom activities, story stretcher ideas, songs and fingerplays. With respect to locally delivered programs, parents rated the newsletters as being more useful than other parenting websites, books or magazines, doctors or other health professionals, parenting classes, TV or videos, and family and friends.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

Number of youth, families, and professionals who implement positive human and family development behaviors.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Grant availability)

Brief Explanation

During budget reductions in 2012 from state of Nevada sources, Nevada Extension lost significant expertise with staff layoffs. Remaining staff are working to reorganize and refocus efforts.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Participants reported a high degree of satisfaction and knowledge gain from Nevada Extension's programs. Nevada Extension tracks participants to evaluate long-term outcomes of the increase in knowledge of the four types of child maltreatment, how to recognize child maltreatment, how, when, where and what to report when one suspects child maltreatment, how to respond when a child discloses abuse, program policies to protect children and staff, caregivers' responsibilities and rights related to child maltreatment. Nevada Extension uses a multi-method approach to track participation and graduation rates and successful transitions to higher education among participants. Nevada Extension tracks usage of eXtension materials using Google Analytics. Nevada Extension is also working with school districts to establish evaluation procedures, measures, and outcomes.

Key Items of Evaluation

Nothing to report.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Community and Economic Development

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
608	Community Resource Planning and Development	100%			
	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	5.0	0.0	0.0	0.0
Actual Paid	0.7	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
48995	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
48995	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
16458	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Northeastern Nevada Regional Development Authority initiated a regional planning and community engagement process to explore future scenarios for Elko and Lander Counties based on local, regional,

national and global trends and conditions. Currently, this process is gathering community input in Battle Mountain, Elko, Wells and West Wendover. Steering It Forward is a regional economic development planning process using scenario planning and community engagement to guide local decision making on future economic growth and development. The University Center for Economic Development used the Area Sector Analysis Process with the White Pine County Economic Development Authority to identify industries for location in White Pine County, NV. Agricultural producers in Nevada have a great opportunity to move into diversified, profitable farming operations through servicing the high demand market for locally grown, quality food products in the urban centers in Nevada. There are identified market demand for fresh produce with chefs and local farmer's markets. It is essential to provide a more stable income for producers and create a local food production and consumption system. Nevada Extension investigated the feasibility of producing niche products in Lincoln and Clark counties, and distribution systems and markets (consumer preferences and needs) statewide. The markets of focus included gourmet restaurants, specialty stores, and farmer's markets. The Lincoln County Action Engaged Leadership Team guided participants to take the lead and ownership of the groups' activities to change attitudes, produce leaders, create a county-wide identity and work to keep the valued attributes of the rural county lifestyle. The Lander County Comprehensive Economic Development Strategy (CEDS) supported Lander County to apply and be eligible for different federal economic development non-entitlement grants. Nevada Extension hosted two community workshops in Lander County to develop the CEDS. The team completed a Lander County CEDS, which was submitted to Lander County for final review. The Community Involvement Revitalization Project (CIRP) expands, increases and strengthen dialogue between the Washoe County Board of Commissioners and the citizens of the community.

2. Brief description of the target audience

Nevada Extension's target audiences for community and economic development activities include stakeholders in Nevada counties, including participants from business, government and educational sectors, growers interested in specialty crop and niche livestock in deserts targeting urban market and county, community and business leaders.

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	688	0	7	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	8	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Not reporting on this.
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 individuals who gain knowledge about community and economic development.
2	Number of individuals who implement knowledge-based community and economic development.

Outcome #1

1. Outcome Measures

Number of individuals who gain knowledge about community and economic development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Based on results of a recent survey, skilled workforce, access to doctors and healthcare, partnerships to develop regional systems for economic development were dominant concerns for northern Nevada Counties. Elected and appointed government officials, state and federal agency heads, business owners and managers, and community leaders understand the need for long-term community planning to address primary cyclical economic activities, such as mining, which must be replaced with other economic drivers to sustain the community. Many northern Nevada economies are heavily dependent on mining and government services. They are also challenged by a narrow economic base, excessive distances to major markets, lack of amenities (social/cultural) and out-migrations of youth, all of which limit the potential to diversify. Paradoxically, many residents are also opposed to growth. Residents also want to retain youth and increase the number of non-service related jobs available. The major concerns regarding economic growth are related to retaining the rural character and preserving the natural beauty of the area. Many northern and central Nevada farms are small and medium-sized alfalfa hay and cow-calf operations with low average incomes. Agricultural producers in Nevada have a great opportunity to move into diversified, profitable farming operations through servicing the high demand market for locally grown, specialty products. There are identified market demands for fresh produce with chefs and local consumers. There is no community plan or program to get the residents of some counties working together to maintain the attributes of the community. The residents of these communities highly rate keeping their quiet rural lifestyle with abundant nature and safety for their children.

What has been done

Nevada Extension convened a project steering committee to enhance the participation of non-profit and government human service agencies, healthcare and education sectors and held scenario planning workshops in two northern Nevada communities. Nevada Extension convened

steering committee and community engagement meetings for the agriculture, federal and state government agencies that oversee natural resources, local government and education, utilities, healthcare and non-profit organizations and government agencies that address human services sectors. Participants identified 20 local and regional drivers that they considered most likely to shape the future of the region and ranked the top ten attributes that would create long-term economic development and the region's ability to be agile in changing environments. Nevada Extension provided education on the feasibility of growing niche products in the desert areas and delivering them directly to local markets. Nevada Extension designed an Agriculture Diversification program to provide the foundation of knowledge needed to move a community of growers from producing hay and calves to specialty niche markets for high end restaurants in Las Vegas. The program focuses largely on educating early adopters who will lead others by their actions. Nevada Extension met one-on-one with individual producers to discuss diversification opportunities and how to take advantage of them and held producer meetings on marketing opportunities together by forming a cooperative. Nevada Extension provided education on value adding local food products, presenting the lessons learned from the value-added grant activities at the Nevada Small Farm Conference. Nevada Extension participated in the Nevada Department of Agriculture conference in conjunction with the Farm Bureau Annual conference, assisted in establishment and operation of farmers markets where local goods were sold. Nevada Extension provided information on production techniques including crop choices, irrigation systems, hoop houses and organized and managed the How to create a successful produce business workshop as part of Nevada Beginning Farmer Rancher Program. Finally, Nevada Extension developed and ran the farmer discussion forum, Great Ideas from Growers, in which farmers from across the state met via video conference and telephone to learn from each other on the successes and failures in farming practices. Nevada Extension formed teams in Lincoln County. The teams completed projects composting for waste reduction and soil improvement for small scale agriculture and launching a Tourism Website for Lincoln County that links to other sites and activities in the area. Nevada Extension also organized, convened and hosted a very successful workshop on the Nevada Open Meeting Law.

Results

Nevada Extension successfully recruited participants for community engagement meetings for the agricultural sectors. This included federal and state government agencies that oversee natural resources, local government and education, utilities, and healthcare and non-profit organizations and government agencies that address human services sectors. A final report of the scenario planning was published and provided to the public. Six action planning teams were formed to address current conditions and opportunities: broadband infrastructure, industrial infrastructure, housing development, federal land policy, workforce development, Northeastern Nevada networks to develop regional systems for economic development. Nevada Extension shared economic planning results with citizen groups attending the industry sector meetings. The attendees at the small farm conference reported that they intend to use the information and gained knowledge. Post-event surveys of participants in the How to create a successful produce business workshop indicated that the participants found the educational information useful and highly valuable. The Community Value-Added Processing workshop in Lincoln County, NV project led to a collaborative relationship with faculty from Utah State University that will help small processors get review of new proposed new products. Nevada Extension facilitated review of a wide range of proposed commodities, including zucchini relish, strawberry rhubarb jam, chutney, harissa, barbeque sauce, frozen vegetable, refrigerated kimchee/sauerkraut, refrigerated salsa, cracker, cut and packaged vegetable, and dehydrated vegetables. Lincoln County's engaged leadership project teams completed their projects and rated the program as being very effective. Participants demonstrated significant gains from before the program to after program in the following areas: Knowledge of Community Leadership, Skill and Attitude in developing project goals/plans and Skill in Running Meetings.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #2

1. Outcome Measures

Number of individuals who implement knowledge-based community and economic development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	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
608	Community Resource Planning and Development

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.)
- Other (Grant funding availability)

Brief Explanation

Nevada's county health departments have varied requirements, some of which can prove difficult for small producers to meet. Strong metals prices support short term planning in counties with heavy reliance on a mineral extraction base. Decreased county revenues lead to decreased county support for Extension.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Nothing to report for this program sector.

Key Items of Evaluation

Nothing to report for this program sector.

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
0	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
0	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
0	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.