2016 Program Highlights

The University at work in your community.

www.unce.unr.edu
<table>
<thead>
<tr>
<th>Office</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carson City/Storey County</td>
<td>2621 Northgate Lane, Suite 15</td>
<td>775-887-2252</td>
</tr>
<tr>
<td></td>
<td>Carson City, NV 89706-1619</td>
<td></td>
</tr>
<tr>
<td></td>
<td>775-887-2252</td>
<td></td>
</tr>
<tr>
<td>Churchill County</td>
<td>111 Sheckler Road</td>
<td>775-423-5121</td>
</tr>
<tr>
<td></td>
<td>Fallon, NV 89406-8951</td>
<td></td>
</tr>
<tr>
<td></td>
<td>775-423-5121</td>
<td></td>
</tr>
<tr>
<td>Clark County</td>
<td>8050 Paradise Road, Suite 100</td>
<td>702-222-3130</td>
</tr>
<tr>
<td></td>
<td>Las Vegas, NV 89123-1904</td>
<td></td>
</tr>
<tr>
<td></td>
<td>702-222-3130</td>
<td></td>
</tr>
<tr>
<td>Northeast Clark County</td>
<td>P.O. Box 126</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1897 N. Moapa Valley Blvd.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Logandale, NV 89021-0126</td>
<td></td>
</tr>
<tr>
<td></td>
<td>702-397-2604</td>
<td></td>
</tr>
<tr>
<td>Southern Clark County</td>
<td>55 Civic Way</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laughlin, NV 89029-1563</td>
<td>702-299-1333</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas County</td>
<td>P.O. Box 338</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minden, NV 89423-0338</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1325 Waterloo Lane</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gardnerville, NV 89410</td>
<td>775-782-9960</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elko County</td>
<td>701 Walnut St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elko, NV 89801-5032</td>
<td>775-738-7291</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eureka County</td>
<td>P.O. Box 613</td>
<td></td>
</tr>
<tr>
<td></td>
<td>701 S. Main St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eureka, NV 89316-0613</td>
<td>775-237-5326</td>
</tr>
<tr>
<td>Humboldt County</td>
<td>1085 Fairgrounds Road</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winnemucca, NV 89445-2927</td>
<td>775-623-6304</td>
</tr>
<tr>
<td>Lander County</td>
<td>815 N. Second St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Battle Mountain, NV 89820-2326</td>
<td>775-635-5565</td>
</tr>
<tr>
<td>Lincoln County</td>
<td>P.O. Box 728</td>
<td></td>
</tr>
<tr>
<td></td>
<td>360 Lincoln St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caliente, NV 89008-0728</td>
<td>775-726-3109</td>
</tr>
<tr>
<td>Lyon County</td>
<td>P.O. Box 811</td>
<td></td>
</tr>
<tr>
<td></td>
<td>504 S. Main St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yerington, NV 89447-0811</td>
<td>775-463-6541</td>
</tr>
<tr>
<td>Mineral County</td>
<td>P.O. Box 810</td>
<td></td>
</tr>
<tr>
<td></td>
<td>205 S. A St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hawthorne, NV 89415</td>
<td>775-945-3444</td>
</tr>
<tr>
<td>Nye County / Esmeralda County</td>
<td>1651 E. Calvada Blvd.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pahrump, NV 89048</td>
<td></td>
</tr>
<tr>
<td></td>
<td>775-727-5532</td>
<td></td>
</tr>
<tr>
<td>Pershing County</td>
<td>P.O. Box 239</td>
<td></td>
</tr>
<tr>
<td></td>
<td>810 Sixth St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lovelock, NV 89419-0239</td>
<td>775-273-2923</td>
</tr>
<tr>
<td>State Administrative Office</td>
<td>University of Nevada, Reno</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mail Stop 0404</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Judicial College, Room 118</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reno, NV 89557-0404</td>
<td>775-784-7070</td>
</tr>
<tr>
<td>Washoe County</td>
<td>4955 Energy Way</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reno, NV 89502-4105</td>
<td>775-784-4848</td>
</tr>
<tr>
<td>White Pine County</td>
<td>950 Campton St.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ely, NV 89301-0210</td>
<td>775-293-6599</td>
</tr>
</tbody>
</table>

Copyright © 2016, University of Nevada Cooperative Extension.

The University of Nevada, Reno is an Equal Employment Opportunity/Affirmative Action employer and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, sexual orientation, genetic information, gender identity, or gender expression in any program or activity it operates. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States.
Our faculty and staff spent the last year making the most of the investments from our community, state and federal partners. University of Nevada Cooperative Extension demonstrated continued commitment to our mission “to discover, develop, disseminate, preserve and use knowledge to strengthen the social, economic and environmental well-being of people,” as you will see in the brief descriptions of selected programs and activities included in this report. These include work in our focus areas: children, youth and families; horticulture; agriculture; natural resources; health and nutrition; and community and economic development.

You will see reports of Extension’s continued commitment to Nevada’s communities through youth and family programs for military families in Nevada, and Extension’s county 4-H clubs. Extension also served the state with work aimed at maintaining a healthy population of plant pollinators, creating wildfire awareness and taking preventive actions to enhance safety, and encouraging healthy eating and physical activity among our youth. Extension’s county-based educators and specialists continued valuable research, such as projects focusing on identifying alternative low-water-use agricultural crops and strategies for coping with Nevada’s periodic droughts. Extension also helped to lead teams that crafted locally relevant approaches to resolving nationally prominent issues, including managing and preserving endangered species and their habitats, and making the best use of Nevada’s valuable water resources and river systems.

Nevada’s citizens can expect continued hard work and dedication focused on our mission and vision for the state and the communities in which we work and serve. Each year brings challenges and opportunities for Extension and our partners. We look forward to continuing to help Nevada’s land-grant institution connect with and serve people across our state and beyond, as University of Nevada Cooperative Extension has done over the past century.

Mark Walker,
University of Nevada Cooperative Extension Interim Director and Associate Dean for Engagement
mwalker@unr.edu
775-784-7070

2016 PROGRAM HIGHLIGHTS
Interim Director and Associate Dean for Engagement: Mark Walker
Editor: Claudene Wharton
Graphic Design: TheWriteType Creative Design

Writers
Claudene Wharton
Marilyn Ming
Tiffany Kozsan

Area Directors
Northern: Frank Flavin
Southern: Eric Killian
CONTENTS

Accomplishments 1

Health & Nutrition 2

Children, Youth & Families 4

Community Development 8

Horticulture 10

Natural Resources 12

Agriculture 14
2015 ACCOMPLISHMENTS

21,925,786
Hits to the www.unce.unr.edu website

$4,993,499
Funding procured by faculty and staff in grants

University of Nevada Cooperative Extension Funding
FY 2015 (7/1/2014 — 6/30/2015)

University of Nevada Cooperative Extension’s research and educational programs are reaching an international audience:

At least 18% of the visitors to www.unce.unr.edu were from countries other than the United States
A few examples of the many health and nutrition programs being provided by Cooperative Extension are:

- Education on food handling and food safety
- Education and programming to reduce the risk of lung cancer by monitoring and mitigating homes for the presence of radon gas
- Education on how to eat healthy on a restricted budget
- Education and hands-on programs on healthy cooking for youth and others
- Education, curriculum and hands-on programs for youth and families to increase intake of vegetables, fruits and healthy foods, and to increase physical activity in order to promote good health, including reducing obesity and preventing chronic disease
- Education, research and hands-on programs to increase accessibility of nutritious foods

Many Cooperative Extension programs address multiple issues. For example, horticulture and agriculture programs that teach Nevadans how to efficiently and sustainably grow local fruits, vegetables and crops also help improve the health and nutrition of Nevadans. Many Cooperative Extension health and nutrition programs are aimed at youth and/or underserved populations, including youth in schools where many qualify for free or reduced lunches.

**Healthy & Nutrition**

A festival educates and provides health and physical activity resources to young children and their families.

Each September during childhood obesity awareness month, Cooperative Extension’s All 4 Kids Program in Clark County hosts the Healthy Kids Festival in a county park. The festival, led by Cooperative Extension Exercise Physiologist Anne Lindsay, educates and encourages families to make healthy lifestyle choices. With the support of Clark County and community partners, the festival includes educational vendors for nutrition education, physical activity, growing fruits and vegetables, healthy food demonstrations, music and dance instruction, Body Mass Index and health assessments, city and county recreation, and sports and outdoor venues. Unlike typical health fairs, vendors are required to provide interactive, hands-on experiences for children who visit their activity stations. In 2015, the fourth annual event held at Paradise Park brought over 780 community members and 201 volunteers together.

**Program Partners:** Junior League of Las Vegas, Clark County Parks & Recreation, Southern Nevada Health District, Green Chefs Farmers Market, Three Square Food Bank, La Bonita Grocery, Weight Watchers

**According to an online evaluation administered 10 weeks after the 2015 event, there was a:**

- **57%** Increase in the number and kinds of fruits eaten daily by children who participated in the event
- **76%** Increase in physical activity by children who participated in the event
- **81%** Increase of children who decreased their consumption of sugar-sweetened beverages after participating in the event

---

**Festival educates and provides health and physical activity resources to young children and their families.**

Along with physical activities, participants enjoy trying new fresh fruits and vegetables at the Healthy Kids Festival at Paradise Park in Las Vegas.

“I thought it was a great event and especially liked the culinary students serving food. It was cool to try cactus, and my kids enjoyed it also.”

~ 2015 Healthy Kids Festival participant
Grow Yourself Healthy promotes healthful eating habits and physical activity

Elementary schoolchildren plant school gardens, sample produce and learn about healthy eating

The Grow Yourself Healthy Program provides nutrition education enhanced by the creation and innovative use of school-based gardens. The program’s goals are to foster healthful eating habits and increase physical activity, instilling lifelong behaviors for reducing obesity and preventing chronic disease. An integrated nutrition-horticulture curriculum is taught with content linked to education standards. The program is directed by Washoe County 4-H Program Manager Sarah Chvilecek and conducted with kindergarten through fifth-grade students at Libby Booth Elementary School and Mariposa Academy in Washoe County. Both schools have a high percentage of students eligible for free or reduced-price meals, with their socioeconomic status putting them at increased risk of obesity and chronic disease.

“In a school curriculum made up of language arts and mathematics, Grow Yourself Healthy makes room for kids to get excited about vegetables and understand healthy eating patterns. This program taught me that once you make your presence known in the schools, you can start to make a real difference in a child’s education and the community surrounding them. Not only are the kids excited, but the teachers are excited too, because they are getting an opportunity to enrich an education with food and gardens.”

~ Katarina Rogers, Truckee Meadows Community College student intern

Students at Mariposa Academy in Reno plant in their “stir-fry garden” during the gardening portion of Grow Yourself Healthy last spring.

In 2016

48 Lessons were taught to students
11 Parent or family nutrition events were held
1,477 Direct/in-person contacts were made with participants
20+ Fruits and vegetables were tasted in class by students
98.5% Of students could identify at least three health benefits of consuming fruits and vegetables after completing the program
90.4% Of students reported two types of physical activity that they enjoyed after completing the program
58.3% Of students reported an increased willingness to taste previously untasted fruits and vegetables
A few examples of the many children, youth and family issues being addressed by Cooperative Extension are:

- Literacy and school readiness: including early literacy development, literacy enhancement for bilingual families, and literacy development combined with health and nutrition education
- Domestic violence: including recognizing and reporting child abuse, response training for law enforcement, recovery for victims, and family enrichment and parenting
- College and career readiness: especially targeting teens and youth who face socioeconomic challenges, are in military families or are in Latino families
- Health and nutrition: including programs for children, families, seniors and those with limited resources (See more on health and nutrition programs on Pages 2–3.)
- Youth leadership development, civic engagement and life skills

Perhaps most well-recognized is the 4-H Youth Leadership Development Program, where youth across Nevada “learn by doing” in a variety of clubs and activities. Not only do they learn specific skills pertaining to their individual interests, such as photography, raising animals or rocketry, but they also learn leadership, citizenship and life skills. Besides traditional 4-H clubs, there are afterschool programs, programs for military youth, summer camps, science camps and more. S.T.E.M. education (science, technology, engineering and math) is incorporated into Nevada’s 4-H programs, following the national 4-H initiative.

4-H members give back
4-H youth assist their communities through volunteerism, fundraising and donations

As part of the Nevada 4-H Youth Leadership Development Program, 4-H members often participate in service-learning projects: volunteering, fundraising for charitable organizations and collecting items for those in need. In fact, youth in 4-H are more than three times as likely to actively contribute to their communities than their peers.

In Nevada, some examples include Washoe County’s Leg of Lamb, Slab of Bacon and Side of Beef 4-H Club members, who washed cars for the Ethan McKinney Award of Excellence Scholarship Fund. Formerly called the Nevada Junior Livestock Award of Excellence, the award was renamed in honor of Douglas County 4-H Club member Ethan McKinney, who passed away from cancer earlier this year. In addition, youth from northern Nevada attending this summer’s 4-H Camp collected new books to donate to Ethan’s Little Library at the University of California San Francisco Benioff Children’s Hospital. McKinney created the library during his time in the hospital to collect books for his fellow patients.

“One of the many things so special about Ethan as a 4-H member is that he was one of those young people who genuinely cared about others and would go out of his way to be sure others were included,” said Douglas County 4-H Youth Development Coordinator Shannon Montana.

Other 4-H youth chose to contribute in other ways, such as Washoe County’s High Sierra 4-H K9 Club members, who collected blankets, towels, food, dog toys and leashes for the Society for the Prevention of Cruelty to Animals of Northern Nevada. Mound Valley 4-H Club members in Jiggs...
Mound Valley 4-H Club member Zeke, 17, works with a local veteran to place flags at other veterans’ graves in the Elko Cemetery.

In 2016

961 Flags were placed at veterans’ graves in the Elko Cemetery by 4-H youth.

In southern Nevada, a few examples of 4-H youth giving back to their communities include the Roadrunners 4-H Club members in Northwest Las Vegas, who collected food at the Ronald McDonald House’s food drive; the Boulder City 4-H Club members, who used soil they made with recycled materials to grow food for local food banks; and the Diaz Eagle Artists 4-H Club members, who worked with teachers to make scarves and pillows for the homeless.

Program Partners: Nevada Department of Agriculture, Nevada Farm Bureau, Future Farmers of America, Society for the Prevention of Cruelty to Animals of Northern Nevada, Ethan’s Little Library, Nevada State Parks, Washoe County Regional Parks and Open Space, Newmont Mining Corporation/Newmont Legacy Fund, Barrick Gold Corporation/Barrick Gives, Great Basin College, Veterans of Foreign Wars Post 2350, school districts throughout the state, community organizations, local businesses.

In 2016

$1,300 Was raised by 4-H youth for the Ethan McKinney Award of Excellence Scholarship Fund.

40,000 Pounds of food were collected by 4-H youth during the Ronald McDonald House food drive.
4-H Military Partnership Program provides stability and connections for military youth

Military youth face unique challenges

Youth in military families are regularly uprooted when their parents are reassigned to new locations. They are susceptible to feeling isolated or alone when these moves occur, and often find it difficult to engage with youth and activities at their new schools and communities. This can have lasting effects and lead to poor decision-making and engaging in risky behaviors.

The 4-H Military Partnership Program is one stabilizing factor for youth in military families across the country. Once military youth have participated in the 4-H Program in one location, it provides a way for them to feel an instant, positive connection to youth at other locations, through the 4-H Program at those locations. In Nevada, the 4-H Military Partnership Program is conducted in Clark, Washoe and Churchill Counties. Through 4-H clubs, projects and camps, these military youth develop friendships, connect with caring adults and learn leadership and life skills. They participate in fun activities, camps and conferences.

Program Partners: Nellis Air Force Base, Fallon Naval Air Station, Kansas State 4-H Partnership Grant, Nevada Air Guard, Nevada Army Guard

“*The most important thing I learned was attitude adjustment and ways to control it and make it better for others.*”

— July Teen Camper

In 2015

400+
Youth participated in the program in Clark, Washoe and Churchill Counties

44
Youth participated in the 4-H military summer camps

After participating in the 4-H Military Partnership Program, youth showed significant improvement in:

- Decision-making
- Problem-solving
- Achieving goals
- Confidence and social skills
- Engaging in community service and helping others
Former 4-H member Pete Olsen establishes himself as community and industry leader

As a Nevada 4-H member, Olsen helped change the 4-H Pledge at the National 4-H Conference

Former 4-H member and now lifetime 4-H supporter Pete Olsen has an impressive list of leadership posts and accomplishments. Besides operating a 2,200-cow dairy and 1,700-acre farm in Fallon with his brothers, Olsen is a Churchill County Commissioner, Chair of the Churchill Economic Development Authority and a member of the Dairy Farmers of America Board of Directors.

“I led local dairymen in a lawsuit against the state of California over milk pricing. I led the fight all the way to the U.S. Supreme Court, and we won,” he said. “The foundation for all of my leadership accomplishment is rooted in my experiences as a 4-H’er.”

Olsen held offices in the clubs he was involved in, and ultimately, he was elected the state 4-H President. In 1973, he was selected to be one of four Nevada 4-H Teen Ambassadors to travel to Washington, D.C. to the National 4-H Center for the National 4-H Conference. It was there that Olsen had the opportunity to have some influence on altering the 4-H Pledge.

“It was a great time, meeting so many others from all over the country,” he said. “I was a finalist for some special recognition. We worked in groups to discuss the 4-H Pledge. I was directly involved in adding ‘in my world’ to the Pledge through this process.”

After graduating from Churchill County High School in 1975, Olsen attended the University of Nevada, Reno, before returning to the farm in Fallon, where he continues his leadership role in the community and the dairy industry. Olsen is proud of his Nevada roots.

“My family stretches back to 1860 in Nevada, starting in Genoa,” he said. “My great grandfather started our dairy in Sparks in 1915. My family has continuously produced milk for Northern Nevadans for over 100 years.”

Olsen now has quite a family of his own. He and his wife Tami have 10 children and 12 grandchildren. They continue to support 4-H financially and by hosting groups who want to tour and learn about the dairy.

“I have many wonderful memories. Dick Cameron taught Entomology. We made our own nets, and Dick made display boxes for us. I was always looking for new insects to collect. Jeff Knight, who is now the Nevada State Entomologist, was in my group as a member. It was great fun and I have knowledge from that time I retain today,” Olsen recalls.

Still a gun enthusiast. I enjoy photography. I still love working on hot rods. Insect knowledge is used in the farming I do. Dairy has been my profession my entire adult life.”
A few examples of the many community and economic development programs being provided by Cooperative Extension are:

- Research and education to help agriculture and livestock producers run sustainable, profitable businesses
- Research and education to help struggling communities find new, feasible economic development opportunities
- Education and programs to help communities promote events and tourism
- Career development programs
- Education and programs to promote school readiness, helping to provide an educated workforce that will attract new business and industry to communities and the state

Helping communities to be healthy and stable is at the heart of Cooperative Extension’s work and mission. Cooperative Extension conducts needs assessments and collaborates with many partners – local, state, federal, public and private – to promote community and economic development across Nevada.

**Forums encourage volunteerism**

Nevada Volunteers and Cooperative Extension host forums to discuss volunteerism in Nevada

Volunteers are important to a community’s well-being. Unfortunately, Nevada ranks 49 out of 50 states in levels of volunteerism. To evaluate and encourage volunteerism, Cooperative Extension partnered with Nevada Volunteers to host free forums across the state. Led by Community Development Specialist Marlene Rebori and Nevada Volunteers Strategic Initiatives Manager Janet Wright, residents in rural and urban communities discussed what makes volunteerism work and what can be done to increase impact. Attendees included representatives from businesses, faith-based groups, municipal agencies, schools, colleges, nonprofits and civic organizations.

“When we sat down at the [Tonopah] forum and discussed all the organizations and volunteers involved, we were surprised and impressed because we didn’t know how many opportunities were available. Now we want to add a tab on our website to encourage volunteers by showing what’s available.”

~ Kat Galli, deputy town clerk for Tonopah

**In 2016**

106 Participants attended the forums

6 Nevada communities held forums

Nevada Volunteers Co-Director Diedre Ledford, a former AmeriCorps volunteer, sorts bags for Project Mana, a food bank in Incline/Kings Beach.
Participants considered what opportunities were available in their communities; how volunteer groups connected and worked together; and what could be done to encourage volunteerism, add new connections and strengthen existing networks. The forums identified the need to increase awareness about the importance of volunteerism and the need to effectively use existing online volunteer services, as well as local connections, to better link people who want to volunteer with organizations that need them.

**Program Partners:** Mesquite Regional Opportunity Fund, United Way of Southern Nevada, local businesses, nonprofits, community organizations, government organizations, faith-based organizations

---

**Laughlin Career and Jobs Preparedness Program blends instruction and hands-on training**

High school students learn job readiness skills in pilot program

Laughlin is a tourism-based economy that at times has difficulty finding prepared and qualified employees. The Laughlin Career and Jobs Preparedness Program, created by Southern Clark County Extension Educator Buddy Borden and piloted in 2015, prepares high school youth with critical skills for securing employment in local industries. It blends classroom instruction and hands-on interactions to help students gain a better understanding of what is required to compete in today’s job market, and to help them learn the skill sets required.

The program is delivered in three phases: a career day for all juniors and seniors at Laughlin High School, workforce-readiness training and job-shadowing experiences. Job shadowing was completed in a variety of sectors, including government, law enforcement, health care, education, real estate, retail sales and hospitality/casino operations. The program has now been integrated into the normal class offerings as an elective class for seniors, with 21 students registered. The course is offered throughout the school year, enabling the program team to spend more time on specific topics.

**Program Partners:** Laughlin Chamber of Commerce; Laughlin High School’s college and career specialist, business management teachers and culinary arts teachers; Laughlin High School; community businesses

---

“**What an eye-opening experience: all the things that happen daily ‘behind the scenes,’ such as paperwork, class preparation, reviewing school policies and other endeavors.”**

— Student who completed her job-shadowing experience at a local elementary school

---

**In 2015**

11
Students completed all three sections of the program, including job-shadowing experiences

70
Juniors and seniors at Laughlin High School participated in a three-hour Career Day assembly

28
Students completed the regimen on how to write a resume and dress for an interview
A few examples of the many horticulture programs being provided by Cooperative Extension are:

- Gardening workshops to help Nevadans grow local, sustainable, healthy food and enjoy good nutrition
- Assistance with community gardens and gardens at schools, senior housing facilities and hospitals to provide education and encourage healthy activity and good nutrition
- Demonstration gardens to show effective gardening methods and plants for Nevada
- Training for the green industry – landscapers, contractors, nursery workers and grounds maintenance staff – in sustainable horticulture practices to manage plants, landscapes and grounds efficiently and safely (some trainings offered in Spanish, as well as in English)
- Research on creating and marketing bioplastic, biodegradable plant pots
- Research on milkweed varieties for Nevada to help attract pollinators, and other efforts to increase the number of pollinators in Nevada
- Research-based horticulture information

After receiving 50 to 80 hours of intensive training, Cooperative Extension’s 389 Master Gardener volunteers answer horticulture-related questions at community events and at Cooperative Extension offices, and assist with many of the projects listed. They each volunteer at least 50 hours per year, and in 2015, Nevada’s Master Gardeners provided 40,303 hours of service.

**Master Gardeners go the extra mile**

Master Gardeners connect and contribute to their communities

Besides providing horticulture education, Master Gardeners strive to be a part of and give back to their Nevada communities. For example, Master Gardeners in northern Nevada raise plants to sell at their plant sale fundraiser each year. However, they always raise extra plants to donate to various organizations. In 2016, plants were donated to Mount Rose Elementary and Mountain View Montessori Schools in Reno for their school gardens, as well as to the Douglas County 4-H Program and The Greenhouse Project in Carson City, which operates a community-based greenhouse to provide educational opportunities to students. Plants were also donated to the University of Nevada, Reno Desert Farming Initiative; and the nonprofit organization Urban Roots in Reno.

In southern Nevada, Master Gardeners maintain the Demonstration and Test Gardens at Cooperative Extension’s Lifelong Learning Center in Las Vegas. When they harvest vegetables from the Gardens, they donate much of the produce to

“We always make donating to schools and community organizations part of our annual plant sale. It’s important to our Master Gardeners to always make giving back to our communities part of their activities.”

~ Wendy Hanson Mazet, Washoe County Master Gardener Volunteer Program coordinator

**In 2016**

**About 4,000** Pounds of food were donated from Cooperative Extension’s Demonstration and Test Garden to Prestige Senior Living at Mira Loma

**1,000+** Plants were donated by Master Gardeners to schools and community organizations in northern Nevada

Prestige Senior Living at Mira Loma in Henderson. These are just two examples of the many ways Nevada’s Master Gardeners connect with and give back to their communities each year.

**Program Partners:** The Master Gardener Program in Nevada has hundreds of partners, including schools, nurseries, nonprofit organizations, faith groups, governmental agencies, green industry businesses and professionals, other local businesses and community groups

Cooperative Extension Community-Based Instructor Elaine Fagin (left) and Master Gardener Kristy McCumby-Hyland deliver produce to Dining Service Manager and Chef Peter Hereld at Prestige Senior Living at Mira Loma in Henderson.
Cooperative Extension addressing decline in pollinators across Nevada

As the number of beneficial pollinators continues to decline, Cooperative Extension specialists and volunteers are conducting research to find out why and ways to encourage pollinator retention. In southern Nevada, Cooperative Extension Master Gardener Ann Marie Lardeau is working with faculty doing research on local, regional and international varieties of milkweed to determine which milkweed varieties grow best in Nevada, attract the most butterflies, and are the least invasive. Extension specialists are also monitoring beehives at Cooperative Extension’s Research Center and Demonstration Orchard in southern Nevada.

“Having qualified Extension Educators such as Joy [Newton] available for bringing in specimens has had a major impact on our community. Cooperative Extension is a place for us to go, and we get the answers to our questions about bees and other pollinators.”
— Judy Helwinkle, organizer of the Mason Valley Beekeepers Beginning Beekeeping workshop

In addition to research, Cooperative Extension is informing Nevada residents about pollinators, and how to attract and protect them. Extension educators and Master Gardeners meet with beekeepers, teach workshops and present in classrooms. Lyon County Extension Educator Joy Newton, an entomologist, takes a lead in much of this work, teaching beekeepers how to identify pests and safely apply pesticides at Integrated Pest Management workshops, and presenting about pollinators in schools and communities.

Kenneth, a second-grader at Yerington Elementary School, wears a beekeeper suit and holds a bee smoker during a classroom presentation on honey bees taught by Lyon County Extension Educator Joy Newton.

3,500+
People were educated about pollinators at events and classes 2014-2016, including farmers, ranchers, range managers, pesticide applicators and youth

250
Beekeepers attended presentations on Integrated Pest Management for honey bees 2014-2016

25
Milkweed varieties are being studied at Cooperative Extension in southern Nevada

Program Partners: U.S. Department of Agriculture, Mason Valley Beekeepers, Northern Nevada Beekeepers, Moapa Valley Beekeepers, Ag in the Classroom
A few examples of the many natural resources issues being addressed by Cooperative Extension are:

- Rangeland management and sustainability
- Controlling invasive weeds
- Adapting to drought and climate conditions
- Reducing the threat of wildfire
- Watershed protection and management of water resources
- Restoration and enhancement of wildlife habitat, such as sage-grouse habitat

Many of these issues are inter-related, and all require collaboration among diverse groups in order to be successful. Besides conducting research and providing educational programs, Cooperative Extension also brings together various stakeholders – homeowners, public agency personnel, special interest groups, ranchers and agricultural producers, and Native American communities – to help develop and implement plans that will be most effective.

**Extension specialists help protect Nevada’s water resources and environments**

Programs recognized for their work and innovative approaches to educating homeowners and ranchers

Two Cooperative Extension specialists recently received national recognition for their contributions to protecting Nevada’s water resources and environments. The Nevada Creeks and Communities Team received the Soil and Water Conservation Society’s 2016 Merit Award. The program is led by Cooperative Extension Riparian Specialist Sherman Swanson, also an associate professor in the University’s College of Agriculture, Biotechnology and Natural Resources. The award recognized the Team’s work in educating Nevada communities about assessing and maintaining riparian areas (green zones near water) with classes on how plants, soil/landform and water should work together in riparian areas; how to identify what is not working; and how to fix it. Some classes focus on how to manage livestock grazing for riparian functions and recovery. Cooperative Extension Natural Resources Specialist Kent McAdoo and Water Resources Specialist John Cobourn taught with the interagency Team.

- **19** Years Nevada Creeks and Communities has taught about the health of riparian areas
- **85** Classes have been taught by Sherman Swanson and the Nevada Creeks and Communities Team

The Nevada Creeks and Communities Team teaches community members in Elko County about keeping the land around a stream healthy.

“Because of a Creeks and Communities presentation at the National Cowboy Poetry Gathering in Elko, we had a rancher who wanted to change his approach and have both a healthy grazing practice and a healthy riparian area.”

~ John McCann, forest hydrologist for the Humboldt-Toiyabe National Forest
in programs addressing flash floods, Lake Tahoe's water quality and other watershed management issues in northern Nevada. This national award is granted to Cooperative Extension individuals or teams who address emerging or existing issues in novel ways that get results, and that others want to emulate. Cobourn created interagency partnerships, wrote educational materials, and trained homeowners and contractors.

Program Partners: U.S. Forest Service; U.S. Environmental Protection Agency; Bureau of Land Management; Natural Resources Conservation Service; Nevada Department of Wildlife; Nevada Divisions of Forestry, Environmental Protection, Water Resources and Emergency Management; Carson Water Subconservancy District; University of Nevada, Reno College of Agriculture, Biotechnology and Natural Resources; KOLO TV; Tahoe Regional Planning Agency; University of California, Davis; Conservation Districts in northern Nevada; community organizations; local businesses

20,000
Property owners have learned about lake-friendly landscape practices because of the Home Landscaping Guide for Lake Tahoe and Vicinity, co-authored by John Cobourn, with Extension’s Bill Carlos, Sue Donaldson, Wayne Johnson, Richard Post, JoAnne Skelly and Ed Smith; and Nevada Division of Forestry’s John Christopherson

Nevada Wildfire Awareness Month educates homeowners and raises funds

Living With Fire and partners host events to help homeowners reduce wildfire threat and give back to firefighters

Nevada Wildfire Awareness Month began as a week in 2005 and became a month-long event in May 2014. It is a collaborative effort of University of Nevada Cooperative Extension’s Living With Fire Program; local, state and federal firefighting agencies; and many others. Activities occur statewide to encourage homeowners to reduce the wildfire threat, including “Junk the Junipers,” where residents bring flammable, woody vegetation from their yards to be turned into mulch or safely burned. Living With Fire’s Ember House, an activity that educates children on the dangers of flying embers during a wildfire, is on hand at many of the month’s activities as well.

The Living With Fire Program also hosted The Nevada Wildland Fire Awareness Half Marathon and 5K Runs, held in northern and southern Nevada, as part of the awareness month. The events raised funds for the Wildland Firefighter Foundation, a nonprofit organization that provides assistance to fallen firefighters’ families and to firefighters injured while on duty.

Program Partners: Bureau of Land Management; U.S. Forest Service; Nevada Division of Forestry; Nevada State Fire Marshal Division; local, state and federal firefighting agencies; public safety agencies; community organizations; local businesses

In 2016

275
Racers completed races in the Nevada Wildland Fire Awareness Half Marathon and 5K Runs

$10,054
Was raised for the Wildland Firefighter Foundation by the runs

109
Households participated in Junk the Junipers

50+
Estimated tons of junipers and other flammable materials were collected at the Junk the Junipers events

13,167
Living With Fire educational materials were distributed during Nevada Wildfire Awareness Month

“Nevada Wildfire Awareness Month is a terrific example of what an effective group of collaborators can really accomplish. Although Cooperative Extension’s Living With Fire Program may lead the charge each year, it is the hard work and dedication of our statewide partners who run with it, getting important information to the residents of Nevada’s fire-prone communities.”

~ Sonya Sistare, Living With Fire co-director

Runners in the annual Northern Nevada Wildfire Awareness Half Marathon begin their race in May to bring awareness to fire danger and raise funds for the Wildland Firefighter Foundation.
Agriculture Innovation Forum Series provides practical information

Discussions benefit small-acreage owners and producers

The number of small-acreage landowners and agricultural producers in Nevada is growing. However, many are challenged to stay up on the latest research and information to help them manage their properties sustainably and productively. Douglas County Extension Educator Steve Lewis recognized this opportunity and created the Agriculture Innovation Forum Series in 2011 to provide information tailored to these landowners’ needs.

The Series consists of four or five forums annually, held monthly during the first half of the year. Each of the two-hour forums, drawing as many as 70 landowners, are held in the evening with a featured topic and speaker, and ample time for discussion. Some recent topics have included agricultural options for small-acreage landowners during drought, getting the most out of a hoop house, managing weeds with crested wheatgrass, using natural design in the landscape, and designing gardens to withstand tough environmental conditions. Those attending the forums have overwhelmingly reported the forums were informative and useful. Participants also provide suggestions for future forum topics.

Program Partners (2015 and 2016): Nevada Division of Forestry, Natural Resources Conservation Service, Full Circle Compost, Hungry Mother Organics, Jefferson Hub Savory Institute, Native Landscapes Design

In 2015

77%

Of attendees completing assessments said they learned something through the program that would likely (23%) or absolutely (54%) change what they would do in the future.
Researchers seek to expand use of prickly pear cactus in the West

Low-water-use prickly pear can be used for food, forage and biomass

More low-water-use crops are needed in the western U.S. due to increasingly warmer, drier conditions. Prickly pear cactus (Opuntia) reportedly requires only 20 percent of the water that traditional crops require. Both its pads, or “nopals” (green, oval leaf-like parts of the plant), and the fruit, or “tuna” (2-3 inches long, cylindrical and varying in color), are used in many semi-arid areas around the world for food, forage or biomass/biofuel.

“As a food crop, there’s an incredible amount of potential to expand beyond the traditional Hispanic use into the mainstream market in the U.S.”

~ Carol Bishop, Northeast Clark County Extension educator

Cooperative Extension, in partnership with the University’s College of Agriculture, Biotechnology and Natural Resources, and under the direction of Extension Educator Carol Bishop and Molecular Biologist John Cushman, undertook a five-year study in 2014 of prickly pear’s potential as a food/biofuel crop in the West. The goal is to expand its use to enhance economic diversification and develop new revenue streams.

Researchers planted three species under three irrigation regimes at the Southern Nevada Field Laboratory in Logandale. So far, *O. ficus-indica* has had the highest pad counts and weights, while *O. cochenillifera* has significantly outperformed both *O. ficus-indica* and *O. streptacantha* for fruit numbers and fruit biomass. Local high school culinary programs and local agricultural and cottage food producers are developing recipes to showcase successful culinary uses of the plant that would be accepted by market customers.

**Program Partners:** University of Nevada, Reno College of Agriculture, Biotechnology and Natural Resources; U.S. Department of Agriculture

The prickly pear cactus shown here is being grown under a low-irrigation regime as part of the research project at the Southern Nevada Field Laboratory.

---

266

Prickly pear cacti were planted in Logandale, showing great potential to reclaim semi-arid agricultural lands in the West for food and biomass/biofuel use

8

Students from Moapa Valley High School have been employed and trained in modern field research and biomass processing, conducting field growth trials and maintaining fields as part of the project
University of Nevada Cooperative Extension Mission:
To discover, develop, disseminate, preserve and use knowledge to strengthen the social, economic and environmental well-being of people.

A partnership of Nevada counties; University of Nevada, Reno; and U.S. Department of Agriculture

The University at work in your community.

www.unce.unr.edu

Photos (clockwise from top left):
Families engage in the Family Storyteller Program to enhance literacy success at Anderson Elementary School in Reno. Photo by Lizeth Barroeta.
Young children at the Healthy Kids Festival in Las Vegas learn climbing as a way to stay healthy and active. Photo by Cindi Kay Morehead.
Even during adverse June weather, high school youth learn about natural resource management at the Nevada Youth Range Camp south of Austin, Nev., in the Toiyabe Mountains. Photo by Kent McAdoo.
Ranchers and land managers engage in collaborative resource stewardship in Elko County. Photo by Kent McAdoo.