

COLLEGE OF AGRICULTURE & LIFE SCIENCES

Cooperative Extension



Mohave County Report 2017



THE UNIVERSITY
OF ARIZONA

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The Forbes Building houses the University of Arizona College of Agriculture and Life Sciences. It was built in 1915 and sits between Old Main and Herring Hall near the center of the University of Arizona campus in Tucson.



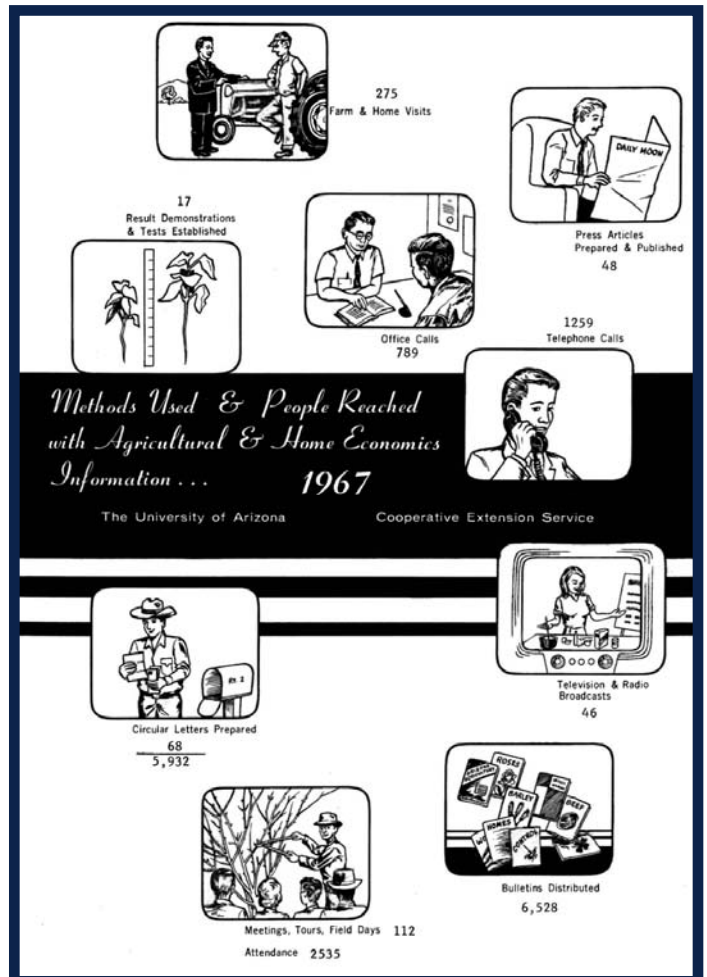
From the County Director

Cooperative Extension’s 2017 programs included 4-H youth development, animal science, agriculture, horticulture, natural resources, and family consumer health sciences. These programs provided grassroots education to 20,718 Mohave County residents. In addition, 187 citizens served as Cooperative Extension volunteers. These valuable volunteers enhanced Extension programming by helping Cooperative Extension educators deliver relevant educational programs and information to the citizens and communities of Mohave County. The contribution of these trained volunteers totaled 40,562 hours of service with an estimated value of \$1,001,476.

Cooperative Extension greatly appreciates the financial support, office space, and services provided by the Mohave County Board of Supervisors. Mohave County Cooperative Extension continues to leverage county contributions through collaborations with local partners and the acquisition of grant funding. With Mohave County’s continued support, Cooperative Extension is confident we can continue to offer high-quality educational programs making a brighter future for Mohave County residents.

Sincerely,

Jeff Schalauska
Interim County Extension Director
Mohave County Cooperative Extension



Of historical interest, a page from the 1967 University of Arizona Cooperative Extension Service, Mohave County Annual Report. J.N. McDougal was the Agriculture Agent in Charge and Audrey Davies was the Extension Home Economist (from: University of Arizona Library Archives).



Because of Mohave County Cooperative Extension, in 2017...

- **Mohave County Cooperative Extension volunteers contributed 40,562 hours of service valued at \$1,001,476** (Independent Sector, using 2017 value of volunteer of \$24.69/hr.) serving as Master Gardeners, 4-H Leaders, and Extension Advisory Board members. **Mohave County Cooperative Extension faculty also acquired \$851,420 in grants to support educational programming efforts.**
- **4-H Agent, Gerald Olson**, provided leadership for 4-H Youth Development programs which were supported by 128 4-H Volunteer Leaders. This included recruiting and certifying 18 new Volunteer Leaders. Additionally, 22 teens took on volunteer leadership roles. **These 4-H volunteers contributed 33,280 hours of their time.**
- **Ninety-four 4-H market livestock projects** were successfully completed by 4-H members, as evidenced by their entry and sale in the Junior Livestock Sale at the 2017 Mohave County Fair. Profit earned by members supported future 4-H activities/camps and future college expenses.
- **One hundred and forty-nine 4-H members displayed 818 exhibits at the Mohave County Fair** in the 4-H/FFA Division, 76% were rated as Blue Ribbon or above for their project work, and skills demonstrated serving as a showcase for Mohave County 4-H Youth to exhibit what they had raised, made and learned.
- **Mohave County 4-H faculty and staff planned and hosted four weeklong camp programs.** Two of these were: MoYava 4-H Camp with 75 4-H members from Mohave and Yavapai Counties learning about stewardship of public lands and their natural resources; and **JOLT (Journey Opportunities for Leaders of Tomorrow) a week-long 4-H leadership camp that hosted 111 statewide 4-H youth**, where youth learned skills including: communication; teamwork; problem-solving; critical decision-making; sense of belonging; and tolerance.
- **Agriculture and Natural Resource (ANR) Agent, Andrew Brischke**, led and conducted Range/Livestock educational programming and supervised the Master Gardener and horticulture programs.
- **Range/Livestock programming** supported and educated agency professionals, ranchers, and other interested parties about rangeland monitoring and other topics in partnership with BLM offices in Mohave County (Kingman and the Arizona Strip).
- **BLM Cooperative Rangeland Monitoring was supported by \$714,381 in grant funding** which facilitated data collection from 117 key areas on 63 grazing allotments across Mohave County and included the Arizona Strip.
- **ANR Agent also coordinated and delivered six workshops which educated 566 producers and agency professionals** about range management/monitoring, livestock nutrition, and invasive species. These programs were evaluated and respondents indicated they increased their knowledge and will be adopting practices as a result of attending.
- **The 13 Session Mohave County Master Gardener Course was taught in Lake Havasu City to 24 participants.** 59 Master Gardener volunteers contributed 4,991 hours of volunteer service to their communities reaching 5,007 consumers with science-based gardening information at 142 public events.
- **Mohave County Cooperative Extension SNAP-Ed staff delivered direct education to 3,188 Mohave County residents at 121 sites.** Sites included community gardens and child care centers.
- **Elisabeth Alden, Hualapai Federally Recognized Tribal Extension Program (FRTEP), provided educational programs for Hualapai community members.** Tribal Extension has developed and maintains strong partnerships with Tribal Departments. 4H Youth development includes a 4-H Club program, natural resource summer camp and field trip excursions throughout the year. An AZ Hunters Safety course is held annually. Agriculture programs targeting Beginning Tribal Ranchers began in 2017. Gardening, rearing livestock, entomology and arts and crafts are regular activities Cooperative Extension brings to the community.
- **Child Care Health Consultant Programs delivered 18 health and safety trainings to 439 participants** on topics including: anaphylaxis, allergies, blood-borne pathogens, Celiac disease, handwashing, oral health, sanitation, and physical activity.

2017 Educational Programs & Participation



In 2017, our educational programs focused on:

| | |
|---|---|
| 4-H Youth Development | 4-H youth development programs, 4-H volunteer training/support, youth leadership, Natural Resources Education, Youth Development, and Science, Technology, Engineering, and Math (STEM) Education. |
| Family, Consumer and Health Sciences | The Supplemental Nutrition Assistance Program (SNAP-Ed) promoted healthy eating, gardening, and physical activity. Child Care Health Consultation is an educational program that promotes Health and Safety in early childhood educational settings for more optimal learning. |
| Horticulture | In 2017, Master Gardener training and volunteer support was provided in Lake Havasu City. Master Gardeners volunteer in their communities to educate residents about insect and disease management, landscape maintenance, irrigation conservation, community gardens, and backyard food production. |
| Livestock and Range | Sustainability of grazed rangelands for ranchers and agency personnel, rangeland monitoring education, and access to technical and educational resources. Cooperative rangeland monitoring is also occurring in Mohave County in a partnership between Cooperative Extension and the Bureau of Land Management. |
| Tribal Programs | Federally Recognized Tribal Extension Programs (FRTEP) were provided at the Hualapai Indian Reservation in the areas of natural resource management, horticulture, 4-H Youth Development, and range/livestock. |

Mohave County Citizens Served in 2017

| Program Area | Educational Outreach | Office Contacts | Totals |
|---|----------------------|-----------------|---------------|
| 4-H Youth Development | 5,589 | 2,706 | 8,295 |
| SNAP-Ed | 3,188 | 181 | 3,369 |
| Child Care Health Consultant (First Things First) | 439 | 76 | 515 |
| Range Livestock | 819 | 680 | 1,499 |
| Horticulture | 5,031 | 634 | 5,665 |
| Hualapai Programs | 450 | 925 | 1,375 |
| Totals | 15,516 | 5,202 | 20,718 |

4-H Youth Development - Projects & Clubs



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Gerald Olson, Extension Agent, 4-H Youth Development
Jamie Campbell, Program Assistant, 4-H Youth Development

Youth-Adult Partnerships

Youth-adult partnerships are the heart of the 4-H mission, and a guiding principle for how 4-H leaders, staff, and volunteers work with young people. All community members, including youth, have a role in fostering strong and healthy communities. Sustained positive relationships between young people and adults support the healthy development and well-being of youth, while also benefitting adults, organizations, and communities. Youth-adult partnerships occur when:

- Young people are seen as assets to their communities as much as adults.
- Adults create ongoing opportunities for young people to share leadership with them in community settings.
- Youth contribute what they uniquely bring to the group and to the community.
- Youth and adults engage as equals in planning, implementing, and evaluating programs that shape the development of youth, as well as their communities.

4-H offers many opportunities for youth to develop skills for a lifetime. Programs are developed which address the four essential elements 4-H which are abbreviated BIG-M:

Belonging creates inclusive, safe environments and positive relationship with a caring adult

Independence fosters opportunities to see oneself as an active participant in the future and for self-determination

Generosity teaches us to value and practice service for others

Mastery allows youth to fully engage in learning



Mohave County District 1, Supervisor, Gary Watson, presents the 4-H Leadership Award at the 2017 Annual 4-H Recognition program.



Mohave County 4-H members show Wildcat pride as they get ready to attend a Division I football game after they attended a carcass evaluation at the University of Arizona Meats Lab.

opportunities

4-H Personal Development

Objectives and priorities for the programs are established through adult and youth volunteer focus groups, advisory committees, program planning groups and collaborators. Research shows that youth who have participated in traditional 4-H clubs for more than one year have significantly higher developmental outcomes than non-4-H participants. Studies at Montana State University, The University of Idaho, and Colorado State University indicate the importance of 4-H to foster the positive development of young people. 4-H youth are more likely to receive better grades in school, be involved in leadership positions, and involved in community service. 4-H youth are also less likely to steal, use drugs, vandalize property, and skip school. The Mohave County 4-H Youth Development program has many programs available to develop these skills. Agent Gerald Olson is directly involved in the design and implementation of county and state level 4-H opportunities to provide positive experiences for young people.

One hundred forty-nine members displayed 818 exhibits at the Mohave County Fair in the 4-H/FFA Division, 76% were rated as Blue Ribbon or above for their project work, and skills demonstrated which served as a showcase for Mohave County 4-H Youth to exhibit what they had made and learned. Prior to entering their projects into the County Fair each youth completed a 4-H Record Book. The 4-H program has a long history of record keeping which reflects the importance of record keeping in our daily lives. In 4-H, young people track their activities, events, profits and losses, skills development, learning experiences, and much more using the 4-H Record Book.



Plants and Animals

Arizona students remain the lowest performing in the country in science, an area that many education and business leaders regard as critical to boosting the state's economic health. *The Nation's Report Card* showed that Arizona 8th graders improved only slightly from two years ago, and were higher than those in only five other states. 4-H plant and animal science projects enhance understanding and care of plants and animals.

Second through eighth grade teachers in the Mohave County Schools enhanced their science-based teaching programs in gardening and classroom botany projects to meet the Arizona Academic Standards for Science through the use of School Gardening and Plant Science programs. Twelve schools with 119 teachers' and 1,273 students participated in school enrichment programs in embryology, insects in the classroom, hissing cockroaches or school gardening programs. Four of five schools doing school gardening entered the Mohave County Fair for the first time. Between the schools they received a significant number of ribbons demonstrating their skills and achievements.

Mt. Tipton Elementary School grew an excess of zucchini and eggplant, which they shared with the community and provided written instructions on how to prepare these items. Many of the students ate new vegetables for the first time. Most of them enjoyed the vegetables so much they ask for seconds. Many students were able to share with and teach their parents how to grow plants at home.



Teamwork and cooperation are key to 4-H's success. Here, MoYava 4-H youth camp counselors are in training and learning to work as a team.

4-H Members enrolled in 262 large and small livestock projects. Youth assessed their feeding and animal care program through the evaluation of quality and yield grades of beef, lamb and swine exhibited by Mohave County 4-H, at The University of Arizona Meat Science Department. Fifty one livestock project animals were evaluated. By viewing their own livestock carcass, members, leaders and breeders have been able to fine-tune their feeding and breeding programs and improve the quality of the meat product they are learning to produce. Members earned merit awards in each division at the 4-H Carcass contest; 100% in the Goat-of-Merit, 7 animals; 53% Sheep-of-Merit, 17 animals. 79% in the Swine-of-Merit division, 19 animals. 58% Steer-of-Merit division category, 7 animals. 94 market livestock projects have been successfully completed by youth exhibitors, as evidenced by their entry and sale in the Junior Livestock Sale at the 2017 Mohave County Fair, completing their entrepreneurial program of operating a small business. In addition, four Youth Livestock Quality Assurance (YLQA) training sessions were taught, training 65 youth and 20 leaders in the eight Good Production practices of Youth Livestock programs. 4-H youth possess important life skills will make better decisions as consumers of food and fiber.

Leadership Development

Members experientially learn and practice leadership & life skills. Research has found that positive youth development is enhanced by the opportunities 4-H offers for teens and young adults to develop mastery, leadership, service and attachment to a group. 4-H youth to develop valuable skills that last a lifetime.



Mohave County 4-H member demonstrates skills with his dog at the Mohave County Fair dog show.

4-H Youth Development - Continued



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Agent Jerry Olson mentored & advised eleven youth staff elected by peers to implement the Journey: Opportunities for Leaders of Tomorrow (JOLT) Leadership Camp. The JOLT Teen Leadership Conference was attended by 111 participants from all over AZ. 2017 was the 30th year JOLT was offered and 4-H youth had an increased responsibility in planning and delivering this residential leadership program. The evaluative and qualitative data demonstrated participants increased awareness, knowledge, leadership, trust, communication skills, and are better prepared to make wise decision concerning their futures. JOLT attendees completed a Likert 10 point scale (1=low,10=high) retrospective survey showing significant increases in Knowledge, Aspirations, Skills and Attitude. Some of these evaluation results included: a 76% increase in being a good group leader; a 71% increase in placing group goals above personal goals; a 67% increase in getting to know new people and helping the group to be successful; a 66% increase in innovative problem solving; and a 66% in reflecting on different ways to handle complex problems.

Environmental Education and Earth Sciences

Through participation in 4-H camp programs, youth are better able to: accomplish tasks on their own and in a team; make new friends; try new things; appreciate the outdoors and natural resources. According to the American Camping Association (ACA), camping programs provide the forum for children to discover and explore their interests, values, and talents.

84 youth learned about the environment and natural resources by participating in the five-day residential Mo-Yava 4-H Camp. Sixteen youth and adults worked together in a youth/adult partnership to design and implement this summer camp. Youth attended an average of 9 hours of programming each day with a total of 32 hours of programming. Increases were seen in subject matter



Mohave County 4-H youth displaying their awards following the State Skill-a-thon in Tucson.

knowledge by participants at the 2017 Mo-Yava 4-H Camp. Specifically, these were: 60% in forest health; 24% in shooting education; 30% in archery; 66% in boating safety and skills; 56% in natural resources; 50% in Leave No Trace; 100% in exploring states of matter; 67% in first aid and chest compression only CPR; and 89% in bones and skulls. Lastly, over 67% of campers agreed that they know how to wisely use the natural resources in their environment after attending 4-H Camp.

A Water Festival was delivered to 474 students in the Lake Havasu City school district. Results of pre and post evaluations showed increases in knowledge in the following areas: 20% for water conservation; 5% for the water cycle; 14% for ground water knowledge; and 26% in watershed management.

4-H Educational Programs and Contests/Events

Several educational and recognition programs were offered to improve the self-esteem of youth in 2017. These programs included: 4-H Interstate Exchange Program, 4-H Awards Program, County Challenge Days, County Recognition Night, Demonstration Day, Family Fun Day, and MC Fair. Agent Gerald Olson worked with group of eleven teen and adult leaders to plan and coordinate 4-H Interstate Exchange program. Mohave County 4-H members traveled to Michigan to stay with 4-H families and learn about their day-to-day lives. 4-H Interstate Exchange participants also toured local agricultural and historical sites in the area. At the Mohave County 4-H Challenge Days, 94 members competed representing nine clubs entered in fifteen contest areas. Sixty-four members received a score of 80% or higher indicating an advanced level of competency.



4-H Youth participate in a hand washing experiment exploring “buggy hands” at the MoYava Camp at the James 4-H Camp at Mingus Springs.

Family Consumer Health Sciences

Bree Daugherty, Program Coordinator, SNAP-Ed
Margine Bawden, Regional Program Coordinator, SNAP-Ed
Maggie Wilcox, Child Care Health Consultant (CCHC)

Family Consumer Health Sciences (FCHS)

Cooperative Extension works to strengthen families, promote healthy lifestyles, encourage wise financial management, and develop community leaders by taking our programs to community centers, child care centers, schools, churches and other venues to reach diverse audiences. These programs are conducted by the University of Arizona College of Agriculture and Life Sciences (CALs) county-based extension agents and campus-based extension specialists from the Norton School of Family and Consumer Sciences (FCHS) and the Department of Nutritional Sciences. In Mohave County, FCHS programming in 2017 focused on improving the health and safety at early childcare centers and encouraging healthier eating, more active lifestyles, and promoting the accessibility of fresh fruits and vegetables. FCHS Agent, Trish Zilliox, left her position in the summer of 2017. Interim County Director, Jeff Schalaus, is also assisting with FCHS programs.

First Things First

Maggie Wilcox, is the Child Care Health Consultant (CCHC) for La Paz and Mohave Counties and the Colorado River Indian Tribe. Maggie is funded through First Things First (FTF); Arizona's only public funding source dedicated exclusively to early childhood. Ms. Wilcox is responsible for providing education and training around health and safety to improve the learning environment of childcare facilities in La Paz/ Mohave and CRIT communities. She works with childcare teachers, directors, in addition to working with academic coaches. Some significant impacts at these sites included:



Maggie Wilcox, Cooperative Extension Health Educator, teaches very young students about oral care at Tiny T-Birds Child Care Center in Bullhead City.



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Coordinated Approach to Child Health (CATCH) teaches structured physical activity and nutrition to SNAP-Ed clients. The training in the photo above was conducted at Mohave County Cooperative Extension in Kingman.

- 31 health and safety trainings with 678 participants (566 children, 106 teachers and 6 parents) covering the following topics: Anaphylaxis, Allergic Reactions, Blood Borne Pathogens, Celiac Disease, Diapering, ECERS Review (Early Childhood Environmental Rating Scale), Family Style Dining, Handwashing, Oral Health, Sanitation, Shaken Baby Syndrome, and Structured Physical Activity.
- Four Health and Safety Assessments. These are performed to assess the key observable health and safety standards, such as space, equipment and function in early childhood environment's and provide information needed to develop a quality improvement plan for that particular center. 17 of the 19 sites in Mohave La Paz / CRIT region are now "Quality Centers", meaning they are 3 or 4 Star centers under the QF rating scale.
- CCHC had total of 90 site visits.
- Two more centers have added gardening to their programs
- Three centers added family style dining at their centers.
- Three centers added a daily tooth brushing program at their center.

First Things First collaborations included:

Delta Dental Foundation
Mohave La Paz Oral Health Foundation
Mohave Snap-Ed
ADHS- Empower Program
The University of Texas MD Anderson Cancer Centers
Mohave La Paz Directors





SNAP-Ed

The University of Arizona Cooperative Extension–Mohave County is a partner in the Arizona Health Zone (AZHZ) that works to provide nutrition and obesity prevention education and activities to persons eligible to receive Supplemental Nutrition Assistance Program (SNAP). The goal of the program is to improve the likelihood that under-served children and adults will make healthy food choices within a limited budget and choose physically active lifestyles consistent with the Dietary Guidelines for Americans.

In 2017, Mohave County Cooperative Extension Supplemental Nutrition Assistance Program-Education (SNAP-ED) consisted of one program coordinator, one instructional specialist, and one student extern (from June through August 2017). The program utilized engaging evidence-based curriculum enhanced with interactive components such as fun physical activities, food preparation and cooking classes, and gardening technical assistance to promote a healthy lifestyle to SNAP eligible audiences.

Over the past year, the team has worked to increase healthy food retail; encourage participation in community, home and school gardens; encourage the use of farmer's markets; and support family-friendly physical activity opportunities throughout the communities. Programming was delivered to various sites throughout Mohave County including schools, afterschool programs, senior living centers, food banks, shelters, farmer's markets and Tribal Nations. 121 site visits were conducted reaching over 3,100 individuals in Mohave County.

Other program highlights from 2017 include, the completion of a sustainability project focused on increasing SNAP-ED efforts in food systems by providing support to the Kingman Farmers Market to increase awareness of the market as well as the market's produce vendor base. In addition, the program was instrumental in establishing the Lake Havasu City Hunger Awareness walk as a reoccurring family-friendly physical activity event in the Lake Havasu community.



Second Annual Lake Havasu City Hunger Awareness Walk, 2018, Lake Havasu City.

AZ Cooperative Range Monitoring

Andrew Brischke, Area Assistant Agent, ANR
Del Despain, PhD, Research Scientist
Rokelle Reeve, Research Specialist, ACRMP
Kade Willardson, Research Specialist, ACRMP
Liz Delcamp, Research Specialist, ACRMP
Ariana Gloria, Research Specialist, ACRMP
Alyson Head, Research Technician, ACRMP



ACRMP Team during Yuma Monitoring Week.

Arizona Cooperative Range Monitoring Program

Rangeland management requires knowledge of ecological processes across large landscapes, ranches, and in individual pastures. Monitoring is the process of observing, measuring, and documenting interactions, conditions, and changes on rangelands so that sound management decisions can be made to sustain our natural resources.

The Arizona Cooperative Range Monitoring Program (ACRMP) began as a collaboration between the University of Arizona Cooperative Extension and the Bureau of Land Management (BLM) on the Arizona Strip and Cochise County in 2000, with a state-wide expansion in 2012.

During 2017, 100 key areas (sites) on 38 Allotments on BLM Arizona Strip lands were monitored with 18% rancher participation and 30% agency participation. 74 key areas on 25 Allotments on BLM Kingman lands were monitored with 53% rancher participation and 72% agency participation. Due to the promotion of Chaz Perry from the Yuma Field Office to the VGS program on the Arizona Strip, the ACRMP took a new approach to monitoring the key areas in Yuma. The ACRMP came together for "Monitoring Week," where the team assembled in Quartzsite, AZ and monitored 43 key areas on eight Allotments. Data was compiled and stored in BLM Monitoring Files at each respective Field Office. In addition to monitoring and providing one-on-one education, team members assisted at Mohave County Cooperative Extension workshops and presented two posters at the Society for Rangeland Management Annual Meeting.

An important aspect of the ACRMP is to provide support and training for the VGS program. VGS is a software program developed by Dr. Del Despain to collect monitoring data electronically. Since the development of the program in 2008, adoption of the VGS program has spread throughout the Western US. VGS training courses are often held out-of-state and the ACRMP team often provides support for those courses.

Agriculture and Natural Resources (ANR)

Andrew Brischke, Area Assistant Agent, ANR



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Range and Livestock Programs

Rangelands are extremely important to society for the goods and services they produce and for the ecological services they provide. With over 8.6 million acres, almost 80% of the land in Mohave County is owned by Tribal Trust Land, Arizona State Land, or Federal Agencies; most of which is rangeland. Mohave County is a large producer of beef cows in the state of Arizona and there is a need to balance livestock grazing with natural resources, particularly on public lands administered by government agencies. Mohave County Cooperative Extension (MCCE) educates land managers and livestock producers on working landscapes in order to optimize rangeland resource sustainability while maximizing livestock production profits.

2017 Range and Livestock Program Highlights

Workshops are held that teach a variety of subjects relating to rangeland management, monitoring, livestock production, and other identified needs requested by clientele. MCCE collaborated with Utah State University Extension (USUE) to host the AZ/UT Range & Livestock Workshop to reach over 300 participants during the three-day workshop and tour. Additionally, the collaboration produced two other workshops, the Cowman's Reproduction Workshop, and the AZ/UT Invasive Weeds Workshop. Other workshops hosted by MCCE in lower Mohave County included a two-day Rangeland Management Workshop and Tour on the Hualapai Reservation. A Domestic Well Owner Workshop, Livestock Nutrition Workshop, and the annual Mohave County Rangeland and Livestock Workshop/Bureau of Land Management (BLM) Forum were well attended by producers from lower Mohave County.

Conservation Collaborations

In addition to workshops, Mohave County Cooperative Extension is an active member or advisor of many conservation groups throughout the county. Some of the major partnerships include advising the Big Sandy Natural



Youth learning about riparian areas and how to use invertebrate sampling to assess a stream's water quality and habitat suitability at the Natural Resources Conservation Workshop for Arizona Youth (NRCWAY).

Resource Conservation District (NRCD), the Mohave Livestock Association/Farm Bureau (MLA/FB), and the Arizona Department of Water Resources (ADWR). A collaboration between producers and MCCE has been developed to inform the national authors of the US Drought Monitor. Bi-weekly or monthly (depending on growing seasons) reports are sent out to producers to collect on the ground conditions to inform and make recommendations to the authors of the Drought Monitor map.

Mohave County Cooperative Extension partnered with the MLA/FB, Natural Resource Conservation Service, and Big Sandy Natural NRCD to provide an educational activity including "Herewood," a wooden steer that shows many goods we purchase in every-day life that are derived from the by-products of livestock at the Mohave County Fair.

Youth Programming

The Natural Resource Conservation Workshop for Arizona Youth (NRCWAY) is a statewide annual camp. NRCWAY is a five-day residential camp open to youth in grades 8 -12 at the James 4-H Camp located on Mingus Mountain in Yavapai County. NRCWAY is sponsored by the Arizona Section, Society for Range Management and taught participants about different natural resource topics. In 2017, 33 youth campers participated in NRCWAY. Overall evaluation showed that seventy-five percent of youth increased their knowledge and understanding of natural resources by 20% as measured by retrospective survey. Students were asked to list one new thing that they learned. While specific answers varied, 23% were botany related, 16% soils related, and 23% were related to topography maps. In addition, Mr. Brischke provided education to youth at CRUHSD Academy (a non-traditional High School in the Colorado River Union High School District), Fox Creek Middle School, and Bullhead Jr. High School.



Livestock producers at the 2017 Mohave County Range & Livestock Workshop/BLM Forum.

Master Gardeners/Horticulture

Andrew Brischke, Area Assistant Agent, Agriculture and Natural Resources



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Mohave County Master Gardener Program

Master Gardener programs encourage healthier communities, healthier environments, healthier plants and an improved quality of life through science-based, environmentally sound horticulture practices. The Mohave County Master Gardener Program was established in 1990. Today, it remains a vibrant group providing timely horticultural information to citizens throughout Mohave County. The Mohave County Master Gardener Program is divided into three areas, Lake Havasu City, Bullhead City, and Kingman. Each area Master Gardener group provides home gardening education and expertise to the public through workshops, event booths, Q&A forums, hotlines, and emails.

Master Gardeners are trained through a 13-week Urban Home Horticulture Course (UHHC) with three and a half hours of instruction provided by Specialists from the University of Arizona, County Extension personnel, local experts, and veteran Master Gardeners. This year, the course was offered in Lake Havasu City. Upon completing the course, enrolled students become Associate Master Gardeners. After volunteering 50 hours, participants become Certified Master Gardeners. Each subsequent year, Master Gardeners must provide a minimum of 35 hours of volunteer service and 12 hours of continuing education to maintain their certification.



Mohave County Master Gardeners assessing the Kingman office landscaping for a possible revitalization.

2017 Master Gardener Impacts

In 2017, 24 students attended the UHHC. 13 of these students successfully completed their volunteer service requirement and were promoted from Associate Master Gardener to Certified Master Gardener. 59 active Mohave County Master Gardeners contributed over 4,991 hours of volunteer service and 708 hours of continuing education. 142 Master Gardener events were held throughout Mohave County and reached over 5,007 citizens. Volunteers directly contacted over 225 community members regarding gardening questions through the Master Gardener hotline, email, and Home and Garden Days; which are Q&A forums open to the public each month in Kingman, Bullhead City, and Lake Havasu City.

The Mohave County Fair in September is always a big annual event for Master Gardeners. They are a popular feature with their information booth and vegetable display/judging booth. Another annual event where you can find the Master Gardeners is Winterfest, held in February in Lake Havasu City. They also participate in the Home & Garden Shows held in Bullhead City, Lake Havasu City, and Kingman each spring.

Mohave County Master Gardeners provided education and expertise to five Kingman area elementary and middle schools. Bullhead City Area Master Gardeners partnered with Fox Creek Middle School to start their school garden program. Lake Havasu City Area Master Gardeners partnered with New Horizons (a non-profit organization that provides services to people of all ages with developmental disabilities) to help start another community garden. The Master Gardeners also produce a quarterly newsletter, *Wind & Weeds*.



Mohave County Master Gardener demonstrating rose pruning.

Hualapai Tribal Extension Programs

Elisabeth Alden, Assistant Agent, Hualapai Federally Recognized Tribal Extension Program (FRTEP)

Overview

FRTEP funding is secured through the USDA National Institute of Food and Agriculture (NIFA). Funding is used to support Extension Agents who establish extension education programs on the Indian Reservations and Tribal jurisdictions of Federally-Recognized Tribes.

4-H Programs

Construction of the 4-H Agriculture Facility is scheduled for completion in August, 2018. The Hualapai Cooperative Extension office will also be housed in the building, along with people with agriculture and natural resource programming. The building has a meeting space room and a kitchen. The kitchen will be used for the 4-H Clubs fund raising catering business, along with being an area for cooking, baking and other youth education. The Buck-N-Doe Hualapai 4-H Club celebrated its 25 year anniversary in 2017, and will have a recognition event when the building is completed. The new building will greatly enhance Hualapai 4-H programs and will provide a designated location for educational activities. This should also result in greater community involvement and increase 4-H visibility in the Peach Springs community. The Buck-N-Doe 4-H Club also participated in the Mohave County Fair, sponsored



Hualapai Tribal youth gardeners irrigating new plantings during a horticulture program.



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Hualapai Tribal youth on a field trip to Diamond Creek where they conducted invertebrate sampling.

numerous events in the community, and members entered into the U of A Carcass Contest at the University of Arizona Meats Laboratory in Tucson.

Gardening/Summer Camp/Natural Resources

Gardening programs for Hualapai Tribal youth and community members are ongoing. Pruning, planting and raised bed creation were some of the activities offered. A summer camp program was held with three nights in the ponderosa pine forest, and one night on the Colorado River, including two days in a river raft. An Arizona Hunters Safety class was held on the reservation and youth participated. Natural Resource field trips are taken regularly throughout the year, thanks to the partnerships developed with various tribal departments who provide transportation, staff, food, and beverages. Cooperative Extension and the Hualapai Tribe often work together for the benefit of community youth.

Beginning Tribal Ranching Program

The Hualapai Department of Natural Resources has secured funding to develop an education program that will work with beginning ranchers to help improve their understanding of the cattle business. Monthly meetings will be held during 2018 and the extension program will be an essential partner in helping coordinate the events, as we are in working with the educational component with the annual Hualapai Ranchers Livestock meeting.

2017 Visiting University of Arizona Faculty



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES
Cooperative Extension
Mohave County

Paul Brown, Biometeorologist, AZMET, Statewide
Margine Bawden, SNAP-Ed Regional Coordinator
Hattie Braun, Horticulture, Coconino County
Mike Crimmins, Climate Specialist, Statewide
Peder Cuneo, Specialist, Animal Science
Del Despain, Research Specialist Sr., St. George, UT
Dan Faulkner, Beef Specialist, Statewide
Betsy Greene, 4-H Horse Specialist
Robin Grumbles, ANR Agent Emeritus

Mike Hauser, 4-H Agent, Apache County
Gerry Lopez, 4-H STEM Specialist
Mike Matheron, Extension Plant Pathologist
Patty Merk, Area Agent, FCHS/Family & Youth
Trent Teegerstrom, Specialist, Agric. and Resource Economics
Barry Tickes, Area Agent, Agriculture, La Paz County
Mike Wierda, Pesticide Trainer, Statewide
Glenn Wright, Extension Fruit Specialist, Yuma County

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