

2012 Annual Report

Delivering Science-Based Education to Yavapai County Citizens

Contents

Program Overview	2-3
4-H Youth Development	4
Animal Science	5
Community Resource Development	6
Family, Consumer and Health Sciences	7-8
Turfgrass/ Water Demand	8
Horticulture	9
Natural Resources	10-12
Personnel/Advisory Board/Visiting Faculty	13

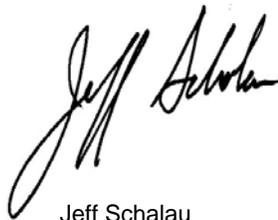
The faculty and staff of the University of Arizona Cooperative Extension respectfully submit this report of program accomplishments to the Board of Supervisors and citizens of Yavapai County. This report highlights the impacts of Cooperative Extension programming in Yavapai County from January 1 to December 31, 2012.

The University of Arizona Cooperative Extension transfers science-based knowledge from the University of Arizona campus to communities statewide and provides leadership in the application of that information to address local issues and needs. In Yavapai County, major program areas are 4-H Youth Development, Agriculture, Community Resource Development, Natural Resources, Animal Science, and Family and Consumer Health Science.

Our success is based on valuable partnerships between individuals, other educational institutions, county departments, citizen's groups, cities and towns, and state and federal agencies. The University of Arizona College of Agriculture and Life Sciences provides education, leadership, and expertise. Each day, Cooperative Extension Agents, Specialists, and staff work together to deliver quality educational programs to Yavapai County residents.

In 2012, Cooperative Extension served 31,663 Yavapai County residents through our programs and services. In addition, 383 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 Yavapai County. The contribution of these trained volunteers totaled 19,575 hours of service for an estimated value of \$426,539.

Finally, we would like to acknowledge and thank the Yavapai County Cooperative Extension Advisory Board for their support and assistance in identifying and addressing high priority issues in Yavapai County.



Jeff Schalaus
County Extension Director

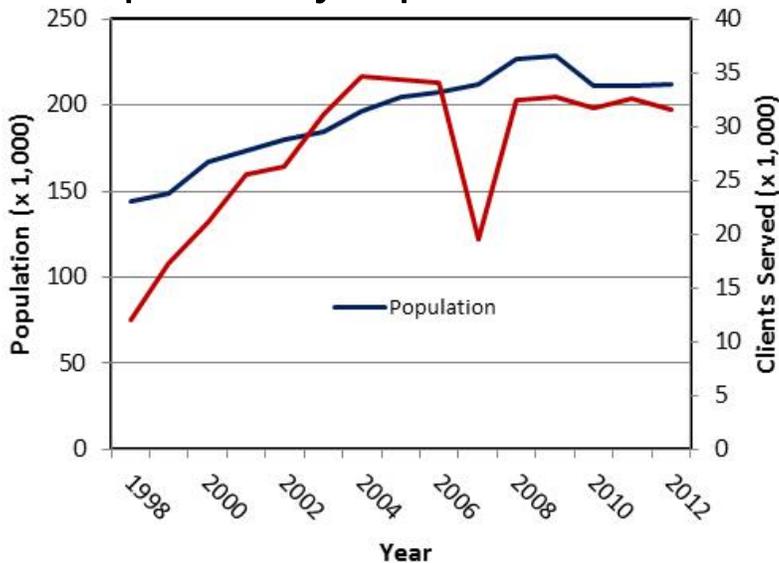


Nora Graf
Chair, Yavapai County Extension Advisory Board

Yavapai County Cooperative Extension 2012 Quick Facts

Our Mission: Yavapai County Cooperative Extension provides science-based education and information that addresses local issues and needs in the fields of agriculture, animal science, family consumer health sciences, horticulture, natural resources, and positive youth development to enhance the economic, social, and environmental well-being of individuals, families, and communities.

Yavapai County Population and Numbers of County Residents Served



- Service to the public has roughly kept pace with population growth between 1998 and 2011.
- Numbers of clients served in 2012 exceeded 2011.
- The University of Arizona cut our state budget allocation by 2% in FY 2012-2013 which had a slight impact on staffing and operations.
- Yavapai County Cooperative Extension greatly appreciated the Yavapai County Board of Supervisor's FY 2012-2013 budget contribution of \$156,837.

Yavapai County has experienced 29% population growth over the last 10 years. To keep pace with population growth, Yavapai County Cooperative Extension continues to deliver priority programs, anticipate future needs, and develop educational programs that serve this ever expanding audience. Program priorities are identified with assistance from the Yavapai County Board of Supervisors, Extension Advisory Board, agricultural producers, local governments, agencies, collaborators, and volunteers. Yearly plans of work are reviewed and approved by the Yavapai County Extension Advisory Board. Yavapai County Cooperative Extension faculty and staff are dedicated to meeting the needs of Yavapai County citizens.

A Brief History of the University of Arizona and Cooperative Extension

In 1862, President Lincoln established the "Land Grant College" system so each state could have its own university to teach agriculture and mechanical arts. These colleges (later universities) were designed for the common people rather than private or church-sponsored colleges that predominated at the time. The Morrill Act, was signed the same week as the Homestead Act and was an incentive to settle lands and establish a transcontinental railroad.

The Hatch Act of 1887 established Agricultural Experiment Stations where research would be conducted and the Smith-Lever Act of 1914 provided federal support for Cooperative Extension. These three important Acts are the basis for the Land Grant mission of teaching, research, and extension.

In 1862, Arizona had no public schools, protestant churches, courthouses, stagecoaches, or telegraph lines. By 1885, state lawmakers passed legislation and appropriated \$25,000 to establish a Land Grant university in Tucson. In 1886, 40 acres of land was donated by Tucson residents: a saloon keeper and two gamblers. The Morrill and Hatch Acts provided federal funds and the University of Arizona was on its way to becoming a reality. Old Main was completed in September 1891 and the first classes were offered that fall.

Five departments were in operation at that time: Science, Literature and the Arts; Theory and Practice, and Elementary Education; Agriculture; Normal; and Mineralogy and the School of Mines. By 1915, the College of Agriculture was named and the Forbes Building finished. The College of Agriculture and Life Sciences is still housed in the Forbes Building.

Yavapai County Cooperative Extension 2012 Programs and Participation

Our educational programs focus on:

4-H Youth Development	4-H Youth Programs, 4-H Leader training/support, Youth Leadership, and Science, Technology, Engineering, and Math (STEM) Education
Animal Science	V Bar V Ranch Experiment Station, Identifying Nutritional Deficits, Suggested Mineral Supplementation, Livestock Nutrition, Grazing Behavior, and Quality Assurance
Animal Science: Rangeland Management and Livestock Nutrition	Sustainability of Grazed Rangelands for ranchers and agency personnel and Rangeland Monitoring Education
Community Resource Development	Small Acreage Landowner Education, Ranching and Land Stewardship, Economic Development and Analysis, Community Business Matching, and Sustainability
Family, Consumer and Health Sciences	Early Care Education, Early Brain Development, Nutrition Education, and Leadership
Family, Consumer and Health Sciences: Food Safety	Food Manager Certification, Consumer Education, and Food Preservation
Horticulture	Master Gardener training and volunteer support, Arizona Certified Nursery Professional training, Insect and Disease Management, and general assistance
Natural Resources: Noxious/Invasive Weeds	Support to cooperating agencies/institutions/organizations, Agricultural Pesticide Certification, and Public Education
Natural Resources: Water Resources	Master Watershed Steward volunteer support, well water testing, Septic System Education, and Project WET (Water Education for Teachers)
Natural Resources: Wildfire Defensible Space	Wildfire Risk Reduction, Wildfire Defensible Space Education for landscapers and the general public, and Forest Health

Yavapai County Citizens Served in 2011

Program Area	Educational Outreach	Office Contacts*	Totals
4-H Youth Development	1,474	2,554	4,028
Animal Science	254	29	283
Community Resource Development	2,907	69	2,976
Family, Consumer and Health Sciences	1,389	2,444	3,833
Horticulture	8,442	5,259	13,701
Natural Resources	4,543	2,299	6,842
Totals	19,009	12,654	31,663

*Includes email, phone and face to face.

4-H Youth Development

Yavapai County 4-H Program Overview

The Yavapai County 4-H Youth Development program uses science-based educational concepts and curriculum to teach life-skills, leadership and citizenship to the youth of the county through project work, community service and competitive opportunities. This program is delivered to youth through certified adult volunteers and 4-H Youth Development Agent Brent Strickland. Brent started work in Yavapai County in January 2012 and previously was the 4-H Youth Development Agent in La Paz County for 11 years.

The 4-H program is delivered through Community Clubs located in Camp Verde, Chino Valley, Bagdad, Prescott, Wickenburg, and Dewey by dedicated and enthusiastic adult volunteers.

In 2012, a top priority of the 4-H program was to establish an effective leadership structure for the Yavapai County 4-H club program. Five volunteer focus groups were held to establish an effective Yavapai County 4-H Leader's Council. In addition, the fledgling 4-H Leader's Council and the 4-H EXPO Advisory Committee was re-organized to include youth membership and voting privileges. Yavapai County 4-H youth enrollment was 196, with 43 certified adult volunteer leaders providing guidance and leadership to 4-H youth. The Large and Small Livestock projects continue to be the most popular (125 members enrolled). However, Science and Technology and Environment/Earth Science are gaining popularity. The upcoming year will see the program expanding into the areas of Science, Technology, Engineering and Math (STEM) and filmmaking.



Youth creating roller coasters during 4-H Science night.

In mid-October, 2012, the Yavapai County Cooperative Extension hired Stacy DeVeau to fill the position of 4-H Instructional Specialist, serving the 4-H Youth Development Program. Stacy brings nearly 20 years of education experience to the position and is excited about reaching youth in both formal and informal settings to conduct Science, Technology, Engineering and Mathematics (STEM) education activities. Between November and December, 2012, 166 youth were served, primarily in school classrooms, but also at community events, including Science Nights. STEM activities offered include exploring properties of matter, magnetic fields, the design engineering process, lunar phases, seasons, and the solar system. We are excited to be able to offer this valuable education resource in Yavapai County.

Special 4-H Events and Fairs

Yavapai County 4-H/FFA EXPO

The Yavapai County 4-H/FFA EXPO was held April 25-30 at the Prescott Frontier Days Rodeo Grounds. There were 137



Mo-Yava camp participants raising the 4-H flag during morning ceremonies.

4-H and FFA members participating with 397 project entries. 4-H members and volunteers were also vital to the Yavapai County 'Unfair Fair' that took the place of the Yavapai County Fair again this year. 4-H members from the Verde Valley exhibited their projects at the Verde Valley Fair. Yavapai County was well represented at the Arizona State Fair, the Arizona National Livestock Show, and in SAILA (Southern Arizona Livestock Association).

Camps

Yavapai County again saw increased participation in the camping programs this year. J.O.L.T (Journey of Leadership for Tomorrow) attendees totaled 19 including two adult chaperones and 13 youth members attended the Mo-Yava 4-H Camp, which was held at the newly purchased James 4-H Camp at Mingus Springs.



Animal Science/Range Science

Rangeland Monitoring

Several ranches in Yavapai County have ongoing rangeland monitoring programs. Here, annual data collection is combined with site-specific discussions among agency resource management professionals and ranchers. Animal Science Area Agent, Jim Sprinkle; Agriculture and Agriculture/Natural Resources Agent, Jeff Schalau; and University of Arizona Range Specialist, Doug Tolleson, collaborated on rangeland monitoring programs and subsequent data collection. Monitoring programs at the Yavapai Ranch (Seligman) and Bar Heart Ranch (Upper Verde River) have been ongoing. We have also formed the Rim Grass Range Group which is conducting educational sessions and includes several Verde Valley ranches adjacent to the V Bar V Ranch Experiment Station. These monitoring efforts brought ranchers and land management agency professionals together and guided them in making effective management decisions that ensure livestock grazing is sustainable. Diverse groups working together ultimately helped build trust between ranchers, agency professionals, and concerned citizens groups.



Warm season grasses at Cedar Flats, V Bar V Ranch Experiment Station.



Agency personnel and volunteers monitor over 20 Key Areas at the Yavapai Ranch. This photo shows an enclosure where livestock grazing has been prevented for 19 years. These sites often tell us that well-planned livestock grazing is sustainable and can be better than non-use.

Livestock Nutrition

Drs. Jim Sprinkle, Doug Tolleson and the U of A Range Livestock Nutrition Committee held a workshop titled *Managed Grazing of Beef Cattle on AZ Rangelands* in Payson. Fifty-eight attendees learned about herd management/genetics, rotational grazing, environmental stressors, current livestock nutrition research in Arizona, and financial management.

Jim Sprinkle shared University of Arizona 20 year livestock nutrition datasets with Cargill Animal Nutrition to develop Arizona specific beef cattle nutritional strategies (in particular, mineral supplements). The mineral supplementation research continues at the V Bar V Ranch near Camp Verde and the Santa Fe Ranch near Nogales.



Outgoing Arizona Section SRM President, Doug Tolleson, presents Yavapai Ranch Partner, Fred Ruskin, the 2012 Range Manager of the Year Award.

SRM Range Manager of the Year Awarded to the Yavapai Ranch

Fred Ruskin and the Yavapai Ranch received the 2012 Arizona Section, Society for Range Management Range Manager of the Year Award. Fred has been managing the Yavapai Ranch, which is a combination of Forest Service and private land, since 1980. In 1994, he coordinated a group of people that soon signed a Coordinated Resource Management Plan, which turns out to be his best decision ever. With this CRM team, and other assorted volunteers, he has dramatically improved his water and fencing situation, which has increased vegetation production throughout his ranch. This also allowed for more intensive rotations, often having livestock in pastures for no more than a month.

Community Resource Development

The Community Resource Development (CRD) position exists to better address and understand the environmental, land use, economic and social changes that rural Arizona is currently experiencing due to the influx of new residents and an increase in development. During 2012, Area Agent Erik Glenn served 2,907 people in a variety of CRD programs.

Economic Development Education

Erik Glenn conducted workshops providing an overview of economic development concepts, as part of the Kingman Economic Development Forum (Aug. 8 in Kingman), the Governor's Regional and Rural Development Conference (Sept. 12 in Litchfield Park), and Project CENTRL's Class on Community Development (Sept. 21 in Cottonwood). A total of 87 people attended these workshops. Erik was instrumental in organizing and presenting the Arizona Economic Development Short Course in Tucson, January 2012.

Verde Valley Agricultural Coalition

Erik Glenn served as a Board member of the Verde Valley Agriculture Coalition (VVAgC). This group met monthly to conduct two forums in Cottonwood in 2012: a Local Food Forum (Jun. 19) and a Food Hub Forum (Oct. 30). Over 110 people attended one of the two forums. Erik also wrote and submitted a grant proposal for the group; this proposal—made to Western SARE (Sustainable Agriculture Research and Education)—was designed to obtain funding for a Food Hub feasibility study.



Erik Glenn collaborated with Verde Valley Wine Consortium to develop the *The Economic Contributions of Verde Valley Winemaking*.



Small-acreage landowners—like this group attending an Irrigated Pasture Management workshop in Camp Verde—learn strategies for improving, utilizing and sustaining their properties.



Arizona's Changing Rural Landscapes Website

The *Arizona's Changing Rural Landscapes* website (rurallandscapes.extension.arizona.edu/) is designed to educate public and private stakeholders about exurban growth in Arizona and the effect that growth is having on landscapes, economies and people. The site saw approximately 4,561 unique visitors, 6,590 unique visits, and 14,054 page views in 2012.

Landowner Education

Erik Glenn conducted a small acreage landowner workshop in Chino Valley in April 2012. This workshop was delivered to 13 participants and taught them how to inventory resources on their property and how they could create income streams from various activities. Erik also collaborated with other members of the National Network of Sustainable Living Educators to create an online course and revise a handbook covering sustainable living concepts.

Erik Glenn Leaves Cooperative Extension

In December 2012, CRD Agent, Erik Glenn resigned from the University of Arizona Cooperative Extension to join the Pima County Information Technology Department as Geographic Information Systems Analyst. Cooperative Extension will miss Erik's knowledge and experience in economic development.



Family, Consumer and Health Sciences

Certified Professional Food Manager Training

Which one of these 4 food safety behaviors is the BEST to control foodborne illness?

- A. Cooking food to the proper temperature
- B. Proper hand washing
- C. Cleaning and sanitizing cutting boards
- D. Holding cold food below 41 degrees F. and hot food above 135 degrees F.

If you said B., proper hand washing, you would be correct. All of these practices are important to control foodborne illness, but frequent and proper hand washing is the absolute most critical behavior.

Each year, one out of six Americans will get sick from a foodborne illness. According to the Center for Disease Control (CDC), every year millions of people suffer from foodborne illness, hundreds of thousands are hospitalized and thousands die. The food safety education program at Yavapai County Cooperative Extension provides research-based food safety information and education through one-to-one contacts, telephone, e-mail, publications and community workshops for industry representatives and consumers of Yavapai County to ensure that their food is safe. Web site links are available for industry, consumers, and K-12 educators at The University of Arizona Cooperative Extension Web site www.cals.arizona.edu/yavapai/.

Over the past year, 230 Yavapai County food establishment managers were trained through the Prometric Certified Professional Food Managers' (CPFM) Program. This nationally-recognized, six-hour certification course is aligned with the newly updated 2009 FDA Model Food Code and is offered monthly in Prescott and bimonthly in Cottonwood. Required by the Yavapai County Environmental Health Department, this course helps restaurant managers and employees increase their knowledge of food safety

Food Safety Industry Council

Established in 2002, the Yavapai County Food Safety Industry Council, continues its mission to promote and maximize food safety through education, research and policy provided by leadership of representatives from the food industry, consumers, academia and the regulatory agency. The Yavapai County Board of Supervisors (BOS) appoints the 15 members who include food establishment representatives and consumers. Ex-officio members include representatives from the Yavapai County Health Department and the University of Arizona Yavapai County Cooperative Extension. Significant accomplishments this past year included: revising the Yavapai County Health Code to update it to the 2009 Food and Drug Administration Model Food Code and finalizing the Health Space Web Site through the Yavapai County Health Department to be available for the public to view restaurant inspections/results.

principles and make informed decisions to reduce risk factors and the incidence of foodborne illness. Evaluations from the participants have included the following comments: "informative and interesting training, valuable information that I will use to train my entire staff, I thought I would know everything, but I learned so much."



CPFM participants calibrate a bimetal stemmed thermometer.

Consumer Education "Be Food Safe"

As part of Yavapai County Cooperative Extension's community outreach, Lori Brandman, Program Coordinator, addresses issues of concern to consumers through educational seminars and trainings, as well as through phone calls, e-mails, and one-to-one visits. This past year several programs were presented to specific audiences including two senior citizen centers and the culinary program at Chino Valley High School. Our goal is to provide practical knowledge and information so consumers understand the importance of food safety and disease prevention, related programs are available for interested audiences.

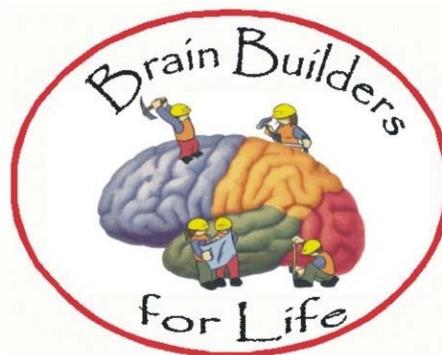


Family, Consumer and Health Sciences

Brain Builders for Life-Prenatal to Age Three

The importance of early childhood development cannot be underestimated. Current research in neuroscience and early brain development indicates that the most critical stage of healthy early brain development is from zero-to-three years of age. Two foundation concepts have been identified by the Arizona Governor's Office for Children, Youth, and Families for early childhood education:

1. High quality early experiences are critical for early brain development which forms the foundation for learning.
2. High quality early childhood education is one of the most effective strategies to ensure children begin school with the skills they need to succeed.



Through a grant provided by the Department of Economic Security, the University of Arizona Cooperative Extension conducted the Brain Builders for Life training institute across the state for childcare providers. Childcare professionals learned valuable information and strategies to improve the quality of health and learning in infants and toddlers. In Yavapai County, this sixteen hour training was presented to 28 participants. In addition to this training, information on early brain development and how it impacts the growth of young children was also taught to participants of the 16th Annual Northern Arizona Early Childhood Education Conference. Programming efforts also include collaborating and networking with other Yavapai County organizations such as the Yavapai Regional Medical Center Family Resource Council, Yavapai and Prescott Colleges, the Del Webb Family Enrichment Center and KKONA (Kinship Kare of Northern Arizona). Programs are also available for interested families of young children.



Participants of the Yavapai County Brain Builders for Life training in Prescott demonstrate how the brain of a young child gets "wired".

Turfgrass Science and Water Demand

Research on the Cutting Edge

Area Extension Agent, Kai Umeda, works with Yavapai County turfgrass managers at golf courses and sports fields. In Yavapai County, Kai is investigating billbug damage and treatment options. Other insects that Kai investigated were: white grubs, masked chafers, May/June beetles, blackturfgrass Ataenius, cutworms, sod webworms, armyworms, and rove beetles. His applied research seeks to identify damage thresholds (the level of infestation that warrants treatment), identifies and tests treatment options (synthetic chemical, biological control, and effective trapping/monitoring methods).

Cooperative Extension Biometeorologist, Paul Brown, maintains the Arizona Meteorological Network which consists of 27 stations. Prescott has an Arizona Meteorological Network (AZMET) station at Watson Lake which is maintained through a partnership with the City of Prescott. Real-time data can be viewed at the AZMET website: <http://ag.arizona.edu/azmet/>.



Twenty seven Arizona Meteorological Network weather stations calculate the amount water demand during the prior day so that irrigation can be accurately be calculated and applied.

Horticulture

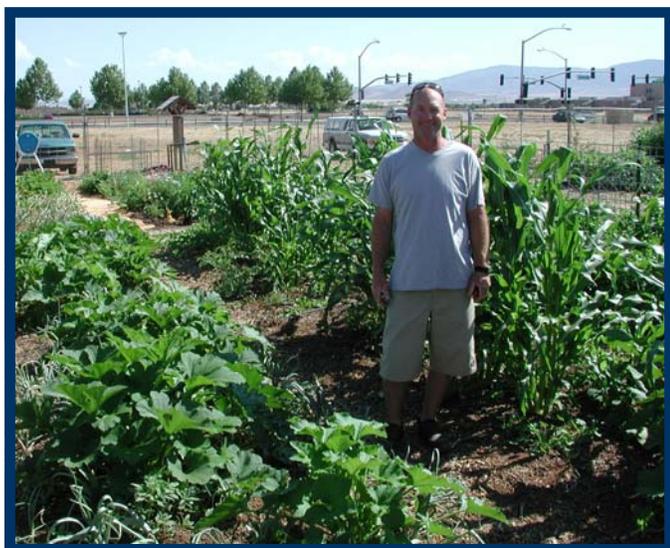
Master Gardener Program

The Yavapai County Master Gardener program teaches interested citizens to become valuable horticultural volunteers in their communities. Extension Agent Jeff Schalau taught and coordinated the 2012 Master Gardener Training Course in Camp Verde and managed the program in conjunction with Mary Barnes, Master Gardener Volunteer Coordinator.

After 15 weeks of practical training, class members become Associate Master Gardeners. The Training Course is offered to 40 residents each spring and alternates yearly between Prescott and the Verde Valley. After volunteering 50 hours, participants become Certified Master Gardeners. Each subsequent year, Master Gardeners provide a minimum of 25 hours of volunteer service and six hours of continuing education to maintain their certification.

In 2012, 145 Master Gardeners contributed 13,555 hours of volunteer service to citizens and institutions of Yavapai County. This included 2,137 face-to-face, 934 phone, and

182 E-mail contacts. Master Gardener Volunteer Coordinator, Mary Barnes, maintained records, facilitated communication, conducted program planning, and tracked volunteer activities. She also designed and continues to update the Yavapai County Master Gardener web site. Ms. Barnes' valuable volunteer service is integral to Yavapai County Cooperative Extension's success. Master Gardener, Nora Graf, edited and managed the monthly newsletter *Yavapai Gardens* and maintained the Yavapai County MG blog. Master Gardeners also provided volunteer service to school gardens (3), community gardens (5), one museum, one hospital, public parks (4), staffed educational displays at 14 public events, coordinated Master Gardener Association meetings/activities (10), and organized the Yavapai County Master Gardener recognition picnic. The Master Gardener Speaker's Bureau also gave presentations to 25 community groups which reached 592 people. Yavapai County Cooperative Extension continues to have one of the most ambitious and successful Master Gardener Programs in the state.



Yavapai County Master Gardener, David Sawyer, manages the Prescott Valley Community Garden. Fresh vegetables are available to low income community members.

Seiridium Canker of Cypress

In July 2011, diseased wood was sampled from Leyland cypress trees in Prescott, Arizona. *Seiridium* canker was confirmed in those samples. Identification of this pest was a significant finding as Leyland cypress has been widely planted in Yavapai County and across Arizona. Extension Agent, Jeff Schalau, authored a publication on *Seiridium* canker to assist nurseries and landscape contractors managing its spread and subsequent tree mortality. Jeff was also an invited speaker on *Seiridium* canker for the 2012 Arizona Nursery Association's SHADE Conference in Glendale, AZ.

2012 Arizona Highlands Garden Conference

Master Gardeners in Yavapai, Coconino, and Gila, Counties planned, organized, and delivered the 12th Annual Arizona Highlands Garden Conference in Flagstaff on October 6, 2012. Pre-conference tours were offered the day prior to the conference. These included several Flagstaff gardens including a small hobby farm that uses permaculture design principles, a water-wise garden that features native and drought-adapted plants, a lush garden of drought-adapted perennials with a rain water harvesting system, and the garden of the author of "Farm Your Front Yard". The conference was attended by 200 Arizona Master Gardeners and gardening enthusiasts. Plenary sessions were presented by David Salman (High Country Gardens, Santa Fe, NM) and Charlie Nardozi (TV and Radio Gardening Personality, Vermont) with multiple concurrent sessions rounding out the conference agenda.



Seiridium canker conidia (reproductive structures) under a compound microscope (photo by Steven Koike).

Another Recent Resident of Arizona

The *Bagrada* bug (*Bagrada hilaris*) was first identified in Arizona and California in 2008. It is a pest of various crops including: cabbage, kale, cauliflower, Brussels sprouts, broccoli, sorghum, maize, potato, cotton, caper, pearl millet, and some legumes.



Natural Resources Education

Mingus Springs Camp Purchased by University of Arizona

Arizona 4-H purchased the *Harold and Mitzie James 4-H Camp at Mingus Springs* from the Henry Dahlberg Foundation in December 2011. Many generous donors helped in achieving this goal. The *James 4-H Camp at Mingus Springs* is located along Ash Creek on the western side of Mingus Mountain between Prescott and Cottonwood. It has a legacy of outdoor science education and applied watershed research. *James 4-H Camp at Mingus Springs* can accommodate up to 100 campers. A dining hall, recreation hall, cabins and bathhouse are also on site. Other

amenities include, swimming, fishing, a low ropes course, Frisbee golf, hiking, and wildlife viewing. Yavapai County Cooperative Extension is central to the camp's mission and delivered many educational programs to campers during 2012. The 2012 monsoon season also delivered abundant rains last year. Two separate storm events in September 2012 delivered over 5 inches of rainfall which caused extensive flooding. While the damage was extensive, we are rebuilding and repairing the damage and will be ready for the 2013 camping season.



Natural Resources Conservation Workshop for Arizona Youth (NRCWAY)

NRCWAY was held at Mingus Springs Camp June 25 to 29, 2012. NRCWAY is sponsored by the Arizona Section, Society for Range Management (SRM). Agent Jeff Schalau co-directed this week-long residential program in collaboration with Cochise County agents Kim McReynolds (Camp Director) and Susan Pater (Co-Director). Thirty-six youth from

across Arizona participated in this diverse camping experience. The workshop utilized experienced natural resource professionals and University of Arizona faculty as instructors to build skills/competencies of the youth participants and continues to be the preeminent natural resource camp experience in the state of Arizona.

Invasive Species Education

Invasive and noxious weeds are spreading across open spaces and water bodies throughout North America. In Yavapai County, there are significant populations of: yellow star thistle, Malta star thistle, Russian knapweed, spotted knapweed, diffuse knapweed, Scotch thistle, Canada thistle, annual brome grasses, and many others. New invasive plants continue to be introduced by contaminated seed, heavy equipment, recreationists, and wildlife. In addition, the nursery and landscape industries could potentially introduce plants which could become invasive (Pampas grass is one example).

Yavapai County Cooperative Extension Agent, Jeff Schalau, provided educational programs, consultation, and information to Yavapai County residents through workshops and site visits. In 2012, he consulted with the Camp Verde Town Council and staff about yellow starthistle management and presented a workshop on May 18 to 30 local residents. He also presented an 8 hour pesticide certification training for the invasive species removal crews along the upper and middle Verde River.



Russian knapweed is one of the persistent perennial noxious weeds found in many areas of Yavapai County.

Natural Resources - Water Education

Youth Water Resource Education

During 2012 a total of 102 teachers attended Arizona Project WET teacher trainings held in Yavapai County. Edessa Carr chaired the Verde Valley Youth Outreach Group which provided a two-day professional development workshop for teachers that was focused on the history of the Verde River and its watershed. This workshop was an interagency collaboration among the Prescott National Forest, National Parks, State Parks, the Natural Resource Conservation District, Salt River Project, the V Bar V Experiment Station and the University of Arizona Cooperative Extension in Yavapai County.

A direct outreach program, Wild Over Water (WOW) continues to bring trained Project WET docents into local fourth grade classrooms. A total of 573 students received 4 hours of classroom instruction covering the water cycle, watersheds, groundwater, surface water and the importance of water conservation.



Dead Horse Ranch State Park was the site of the 5th annual Verde Valley Water Festival which was held in October. The involvement of nearly 80 volunteers makes this community-supported event a success. Mingus Union High School students assisted in presenting important water resource lessons to 422 fourth grade students who learned about their local watershed and the role they can play in helping to conserve water.



Participants in the Verde River teacher workshop.

Water Resource Education for Adults

A Master Watershed Steward course was held in the fall in Camp Verde. Ten students completed the course and are volunteering with the National Park Service, State Parks and local watershed groups.

Two rainwater harvesting workshops in Prescott and Cottonwood were attended by over 100 people. Field visits were made to rainwater installations following the classroom presentations on passive and active systems.

Private well owner workshops were held in Mayer and in Camp Verde to help homeowners gain an understanding of best management practices for protecting groundwater and wells. In addition, affordable water testing kits continue to be sold to encourage private well owners to monitor water quality for arsenic and other parameters.

Staff developed a comprehensive water web page on Yavapai County's extension website that has numerous resources for local residents.

Educational outreach was conducted at Verde River Days and the Verde Valley Birding and Nature Festival. Students were led in field study investigations at Mingus Springs Camp, the Hassayampa River Preserve, and along the Verde and Agua Fria rivers. Special presentations were also given at the SPOT, a local science museum and in local classrooms.



Natural Resources - Preparing for Wildfire



Wildfire defensible space combines ecological principles, fire resistant plants, strategic hardscape elements, and ingenuity to mitigate risk factors.

Instructional Specialist, Mark DiLucido coordinated Wildfire Defensible Space education for Yavapai County Cooperative Extension between January 1 and July 31, 2012. Our funding for this program had previously relied on Title III Forest Fees. When the guidelines for these funds were modified in 2011, it was no longer possible for these funds to be allocated to defensible space education. Mr. DiLucido accepted a new job with the City of Flagstaff. This transition was timely and Extension Agent, Jeff Schalau, continues to seek funding sources for this important program.

Prescott area communities and property owners benefited from "Lessons Learned From The Wallow Fire," a program by Mark that was developed after he toured national forest and private properties in the path of the Wallow fire. "Lessons," used aerial and ground-level photographs of properties and forest to analyze the effectiveness of current defensible space strategies. Two strategies, tree thinning on the national forest and defensible space implementation on private property, helped slow dangerous crown fires and protect homes and property near Alpine and Nutrioso. These strategies are also in use by most local communities so verification of their effectiveness is critical to protecting homes and property in our area.

Mark supported nine recognized Firewise Communities® and four other groups by delivering defensible space education programs for their residents. These Communities created and maintained defensible space with help from Yavapai County Title III Forest Fees. Volunteers These combined the knowledge gained from Cooperative Extension with labor from local contractors to reduce wildfire risk in their communities.

Mark supported also provided presentations about healthy forest practices and the benefits of restoring forests to natural densities. Education and outreach at public events continued with Cooperative Extension's participation at the Statehood Day celebration in Prescott on February 14, 2012 and the Wildfire Expo on the Prescott Courthouse Square on July 21, 2013. Mr DiLucido also used social media (Twitter and Facebook) for education and outreach to residents of Yavapai County.

After Mr. DiLucido's departure, Jeff Schalau continued to chair the Defensible Space Landscaping Tack Force on the Prescott Area Wildland Urban Interface Commission (PAWUIC). This group continues to be a national model for defensible space awareness and community collaboration. PAWUIC knows the value of Cooperative Extension's Wildfire Defensible Space programs and is helping to identify potential funding sources to support them.



Wallow fire damage on the Apache-Sitgreaves National Forest as viewed from atop Escudilla Mountain and looking toward Alpine.



Yavapai County Cooperative Extension Faculty and Staff

Jeff Schalau	County Director, Associate Agent, Agriculture & Natural Resources, jschalau@cals.arizona.edu
Erik Glenn	Area Assistant Agent, Community Resource Development
Brent Strickland	Associate Agent, 4-H Youth Development, bstrick@cals.arizona.edu
Doug Tolleson	Assistant Range Management Specialist, V Bar V Ranch Experiment Station
Edessa Carr	Program Coordinator, Water Resources, edessa@cals.arizona.edu
Lori Brandman	Program Coordinator, Family Consumer Sciences, brandman@cals.arizona.edu
Stacy DeVeau	Instructional Specialist, 4-H Youth Development, sdeveau@cals.arizona.edu
Karen Pizzuto	Administrative Associate, kpizzuto@cals.arizona.edu
Pamela Denney	Administrative Assistant, pdenney@cals.arizona.edu
Lisa Gerber	Office Specialist, lgerber@cals.arizona.edu

Yavapai County Cooperative Extension Advisory Board

Nora Graf	Board Chair, Master Gardener
Angela Teskey Peterson	Co-Chair, 4-H Leader/Rancher
Josephine Kelleher	Educator
Jeanne Briggs	Food Safety/Nutrition
Paul Groseta	Rancher
Trudy Birkemeyer	Rancher
Gary Mortimer	Nurseryman/Rancher

University of Arizona Visiting Faculty in 2012

Joyce Alves, FCS Agent, Apache County
Janick Artiola, Water Quality Research Scientist, SWES
Kirk Astroth, Assoc. Director, 4-H Youth Development
Stacey Bealmear, Horticulture Agent, Yuma County
Hattie Braun, Horticulture Instructional Specialist, Coconino Co.
Shane Burgess, Dean, College of Agriculture and Life Sciences
Jim Christenson, Assoc. Dean & Director, Cooperative Extension
Mike Crimmins, Climate Specialist, SWES
Peder Cuneo, Specialist, Animal Science
Kitt Farrell-Poe, Water Quality Specialist
Dean Fish, ANR Agent, Santa Cruz County
Robin Grumbles, ANR Agent, Mohave County
Larry Howery, Rangeland Specialist, SNR
Chris Jones, ANR Agent, Gila County
Colin Kaltenbach, Director, Agric. Experiment Station
Mike Kilby, Specialist, Plant Sciences Department (retired)
Miranda Loh, Assistant Prof., UA College of Public Health

Ed Martin, Irrigation Specialist and Associate Director
Kim McReynolds, Nat. Res. Area Specialist, Cochise County
Terry Mikel, Horticulture Agent (retired), Maricopa County
Kurt Nolte, Agric. Agent, Yuma County
Susan Pater, 4-H Agent/County Director, Cochise County
David Quanrud, Assoc. Res. Scientist, Office of Arid Land Studies
Channah Rock, Water Quality Specialist, SWES
Candice Rupprecht, Master Watershed Steward Coordinator
George Ruyle, Rangeland Program Chair, SNR
Ursula Schuch, Commercial Horticulture Specialist, Plant Sci.
Kerry Schwartz, Arizona Project WET Director
Jeff Silvertooth, Assoc. Dean and Director, Econ. Dev. & Extension
Trent Teegerstrom, Specialist, Agric. and Resource Economics
Doug Tolleson, Range Management Specialist, V Bar V ranch
Russ Tronstad, Specialist, Agric. and Resource Economics
Beth Tucker, FCS Agent, Coconino County
Kai Umeda, Area Turf Agent, Maricopa County

YAVAPAI COUNTY COOPERATIVE EXTENSION OFFICES

840 Rodeo Dr #C	2830 N Commonwealth Dr, Ste 103
Prescott, AZ 86305	Camp Verde, AZ 86322
phone: (928) 445-6590	phone: (928) 554-8999
fax: (928) 445-6593 f	fax: (928) 554-5996

This Report is available in Adobe Acrobat format on the Yavapai County Cooperative Extension Web Site

<http://extension.arizona.edu/yavapai/>

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Economic Development & Extension, College of Agriculture and Life Sciences, The University of Arizona. The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.