

Humboldt and Del Norte UC Cooperative Extension 2019-2020 Years in Review

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*UCCE is dedicated to improving the **quality of life of Californians** by developing and delivering research-based information in agriculture and natural resources, and by supporting healthy families and communities.*



Prescribed Burn Association (page 6)



4-H Soup Supper & Country Auction (page 2)

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Director's Report

The last two years have had some serious highs and lows. Yes, that's me in a helicopter completing forest health surveys over Del Norte County that helped confirm that the first detection of sudden oak death in the county was isolated and manageable. So that was



both a high and a low. While COVID forced us to adjust and reframe our work, our team is excited to share with you through this *2019-2020 Years in Review* some of our accomplishments and how we have been discovering new ways to teach classes and organize activities. Most of all, we went to send the message that we have weathered the COVID storm and are looking forward to working with you.

We have been fortunate that the talented Sherida Phibbs joined our team as the Master Gardener Coordinator. She has done a fantastic job improving our website and gardening resources (pg. 3). The Master Food Preservers (pg. 3) have also been busy making videos and guides on best practices that you can watch in the comforts of your home. If you are looking to learn a new skill or share a talent, please consider becoming a 4-H leader (pg. 2), Master Food Preserver, or Master Gardener.

Our team has been deep in the fire world. We have been helping communities utilize prescribed fire, offering guidance on defensible space implementation, providing information on structure retrofitting for wildfire resilience, working in the policy arena to channel resources to address the wildfire challenges, and conducting fire-related research projects. But our work does not stop there; Jessica Rebholtz and Dorina Espinoza are working with schools, tribes, and communities all over the North Coast to address food security and nutrition. Jeff Stackhouse has been helping dairies and livestock producers improve pastures and rangelands and with herd health issues.

And while it looks like California is headed into another drought, we know that better days are ahead. You are welcome to stop by, give us a call, or follow us on Facebook. We look forward to seeing you!

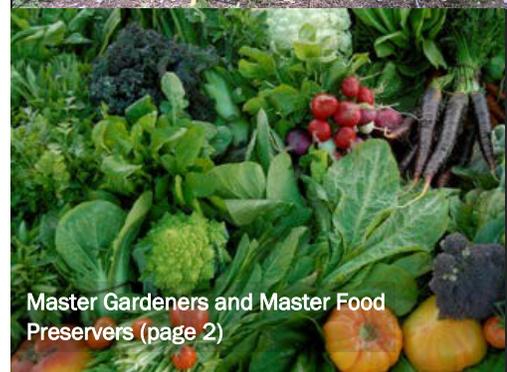
Yana Valachovic, County Director and Forest Advisor



Post-fire educational tours (page 7)



Sudden oak death research (page 4)



Master Gardeners and Master Food Preservers (page 2)



4-H Ambassadors (page 2)

UCCE Partners with the Community and

COMMUNITY PARTNERS

UCCE contributes to the community through partnerships and collaborative activities with local groups, organizations, and agencies to achieve common goals. We appreciate and thank each of these partners for their service to our community!

American Ag Credit	Humboldt Co. Office of Education
Astronomers of Humboldt	Humboldt Co. Resource Conservation District
Buckeye Conservancy	Humboldt Co. Weed Management Area
Bureau of Land Management	Humboldt Co. Wool Growers Association
Bonnie and Lee Brown Residential Treatment Center	Humboldt/Del Norte Open Door Clinic
CAL FIRE	Humboldt Redwood Company
CA Beef Cattle Improvement Association	Humboldt State University Karuk Tribe
CA Center for Rural Policy	LatinoNet
CA Conservation Corps (Fortuna Center)	Mattole Restoration Council
CA Department of Parks and Recreation	McKinleyville Middle School
CA Fire Science Consortium	Natural Resources Conservation Service
CA Oak Mortality Task Force	Northcoast Environmental Education Network
CalTrans	Northcoast Gardening Collaborative
Coastal Connections	Northcoast Regional Land Trust
College of the Redwoods	North Coast Growers Assoc.
Decade of Difference	Northern CA Prescribed Fire Council
Del Norte Co. and Adjacent Tribal Lands Food Council	Northern CA Society of American Foresters
Del Norte Co. Dept. of Health and Human Services	Northwest California Resource, Conservation & Development Council
Del Norte Farm Bureau	Redwood National and State Parks
Del Norte Resource Conservation Dist.	Redwood Region Logging Conference
Environmental Protection & Information Center	Small Business Development Corporation
Fire Learning Network	Society for Range Management
Fire Adapted Communities Learning Network	South Fortuna Elementary
Food for People	Temporary Assistance for Needy Families (CA Tribal, Yurok)
Fortuna Family Resource Center	USDA Forest Service
Green Diamond Resources Company	Watershed Research and Training Center
Hoopla Valley Tribe	Western United Dairymen
HSU TRIO Educational Talent Search	Wild Rivers Community Foundation
Humboldt and Del Norte Cattlemen's Association	Wiyot Tribe
Humboldt Area Foundation	Women in Timber
Humboldt Co. CattleWomen's Association	Yager/Van Duzen Environmental Stewards
Humboldt Co. Department of Health and Human Services	Yurok Tribe
Humboldt Co. Farm Bureau	
Humboldt Co. Fire Safe Council	
Humboldt Co. Food Policy Council	

4-H IN HUMBOLDT AND DEL NORTE

WHAT IS 4-H?

The 4-H program is the nation's largest public youth-serving organization that builds competency in STEM, health, leadership, and civic engagement through hands-on active learning activities led by 4-H adult volunteers. Over the past two years in Humboldt and Del Norte Counties, 670 youth and 200 volunteers learned side-by-side about animals, outdoor exploration, cooking, entomology, robotics, sewing, veterinary medicine, and more. During the COVID-19 pandemic, the 4-H program continued to serve our local youth with a different look, sometimes virtually and/or in an open space with social distancing. The compassion and resiliency of 4-Hers was shown through the making of face masks for front-line workers and the outdoor Soup Supper and Live Auction in Del Norte County. The 4-H program welcomes all youth ages 5-19 to join and gain a sense of belonging, skill mastery, independence, and generosity.

BELONGING

Approximately 205 adult volunteers in Humboldt and Del Norte share that 4-H impacts their lives through learning side-by-side with youth, sharing their knowledge, and connecting with youth. These contributions foster partnerships that help youth feel supported, respected, and included. Our volunteers provide listening ears, follow through on commitments, help build teams, and help create a sense of connection and belonging to their communities.

MASTERY

Youth learn to meet challenges, experience success, and find their interests from a breadth and depth of topics that range from computer coding, beekeeping, bucket calf, and bicycling, to fiber arts. Adult volunteers share their expertise and interests with youth through hands-on experiential learning. Volunteers receive training to equip them with the resources, support, and tools to guide youth in tapping into their interests and curiosity.

INDEPENDENCE

Decision making in 4-H is a shared experience between youth and adults. Youth develop leadership skills when they are guided by caring adults. In 4-H, youth may serve as an officer in a Club; or a co-chair of Summer Camp, the Lamb BBQ fundraiser, or Presentation Day (an event where youth demonstrate a learned skill). Older youth have the opportunity to represent their county as a 4-H County Ambassador, a leadership development opportunity where youth serve as the champions of the 4-H program.

GENEROSITY

Youth are actively engaged in and give back to their communities through service-learning activities like donating food for our local food banks and sharing small animals for patients at Adult Day Care facilities. These experiences provide the foundation that help youth find purpose and meaning in their lives. The 4-H program is coordinated by Kelly Pedrotti and Dorina Espinoza.

Extends Services through Volunteer Programs

MASTER FOOD PRESERVERS

Throughout Humboldt and Del Norte Counties, the Master Food Preserver (MFP) volunteers were busy teaching the community how to preserve food safely and training new MFP volunteers. Our 51 MFPs gave over 900 volunteer hours through public demonstrations, workshops, and tabling at farmers' markets and public events. The MFPs also provided over 350 hours to train 14 new MFP volunteers through a 4-week intensive training of boiling water canning, pressure canning, freezing food practices, dehydration, and hands-on labs. During the pandemic, the MFPs transitioned to virtual delivery of food preservation demonstrations. The first event drew over 40 people from throughout California, and these events continue to grow in size and reach. Our Master Food Preservers travel far and wide, sometimes virtually, to share their knowledge and skills of safe food preservation practices and delicious food preservation recipes. If you would like a food preservation demonstration for a group of friends or neighbors, call Dorina Espinoza, and she will match you up with a volunteer!

MASTER GARDENERS

Spring always brings new beginnings, and it certainly was the case for the year 2020, when the Humboldt/Del Norte Master Gardener Program found a new volunteer coordinator, Sherida Phibbs. The Master Gardeners (MGs) sought out and developed new ways to provide mentoring and education to the community. A new [website](#) and a Facebook presence provided resources for the home gardener. These supported an increased community interest in landscaping and vegetable gardens resulting from the pandemic stay-at-home orders. An online "Ask a Master Gardener" Help Desk was established, and a team of MGs is able to assist clients with queries while working from home. Partnering with the Humboldt State University Library, six public webinars were presented. The 1,500 MG volunteer hours also included work with the Humboldt Botanical Gardens, The Ryan House, Hospice of Humboldt garden, Humboldt Bay Wildlife Refuge, school gardens, and farmers' markets.



Master Food Preserver certification class



Master Gardeners at the Ryan House



4-H youth smile for the camera at a training.



Bucket calf project in Smith River

UCCE Creates Knowledge through



Restoration of an encroached oak woodland (left). Restoration is easier when the Douglas-fir trees are small (right side).



Invasive medusahead grass outcompetes native grasses and can be managed with prescribed fire.



Sudden oak death symptoms on a tanoak.

SILENT STRAWS

The loss of deciduous oak woodlands to native conifer encroachment is a major conservation concern in Northern California, resulting in losses of wildlife habitat, traditional land uses, biodiversity, native biota, and other ecosystem services. Yana Valachovic, Jeff Stackhouse, and Lenya Quinn-Davidson have been evaluating the effectiveness of conifer removal treatments to provide data-driven guidance to agencies and landowners interested in oak restoration. After completing several oak research projects, the team has turned to study the interactions between conifer encroachment, soil moisture, and stream flows, and the economic tradeoffs of managing for rangelands over timber. As we approach another low rainfall year, this project highlights the connections between forest densification, water availability, and tree health and mortality across the state, prompting important questions about the impacts of encroachment (a.k.a. the silent straws) on the region's limited water supplies, and on the natural and human communities that they support. Stay tuned for the latest information.

RX FIRE TO CONTROL INVASIVES

Lenya Quinn-Davidson and Jeff Stackhouse are evaluating the success of using prescribed fire to control invasive species. Medusahead is a non-native, invasive grass that is unpalatable for cattle and wildlife (photo left). Its seeds are covered with tiny barbs that attach to livestock, humans or vehicles that pass by. It is a late-season grass, so it can be burned in early summer after everything else has gone to seed and it is still green. Prescribed fire can also be used to reduce native invasive woody plants like coyote brush and Douglas-fir trees. Lenya and Jeff are monitoring the success of their burns on several Humboldt County ranches, and they look forward to sharing research results in the coming years. For more information, or to get involved in the Humboldt County Prescribed Burn Association, contact Lenya at lquinndavidson@ucanr.edu.

SUDDEN OAK DEATH IN DEL NORTE (EUROPEAN STRAIN)

After two decades of monitoring, sudden oak death (SOD) has unfortunately been distributed to Del Norte County. In collaboration with CAL FIRE, Yana Valachovic and her team detected the pathogen on tanoak for the first time in the county. Additionally, using genetic tools, the team learned that the pathogen's strain comes from Europe. This discovery is a significant finding because the European strain can be more impactful on conifers and has never been detected in California before. The team worked quickly to manage the infestation and is employing a thorough monitoring program with the hopes of containing the pathogen and limiting impacts. The SOD team also completed research into finding practical and low-cost techniques for cleaning and sanitizing large equipment that can harbor the pathogen (see photo first page) when working in infested sites. An air compressor was highly effective, followed by a peracetic acid wash. Contact Yana Valachovic to learn more about the research or to help keep an eye out for the disease.

Research and Special Projects

DAIRY WATER QUALITY

Jeff Stackhouse has been working cooperatively with Dr. Deanne Meyer, UC Cooperative Extension Livestock Waste Management Specialist, to help local dairy businesses improve best management practices for pasture manure application and watershed protection. This research has also led to science-based regulatory changes. Biannually, UCANR hosts classes with dairy producers to assist with water quality compliance. For more information, contact Jeff Stackhouse.

FIRE POLICY CHANGES

Over the last two years, Lenya Quinn-Davidson and Yana Valachovic have been working at state levels to help address a number of policy solutions to California's fire challenges. Yana Valachovic and colleagues within UC and the Forest Service completed an analysis of the home survival trends in Paradise, California, following the Camp Fire. This work has helped establish the need for updates to the defensible space guidance to help homeowners protect themselves from wind distribution of embers. Lenya Quinn-Davidson was invited to develop the curriculum for a new CA State-Certified Burn Boss Program to help increase the professional skills of prescribed fire practitioners, and now she is working on alleviating some of the barriers in Rx fire liability laws.

WHERE ARE ALL THE OAKS?

There can be carpets of sprouted acorns, but how often do you see oak saplings? Lenya Quinn-Davidson and Jeff Stackhouse have been investigating this issue through a long-term research trial on two Humboldt County ranches. Cattle are often assumed to be eating these seedlings; however, Jeff (a wildlife biologist and livestock scientist) had suspicions that other animals were involved. Five years ago, they established a study that includes controls with oaks accessible to cattle and deer; cattle enclosures that were still accessible to deer; and cattle/deer enclosures that could not be grazed or browsed. After five years of monitoring, the patterns are becoming clear: oak seedlings don't survive well in the controls or the cattle enclosures, but in the areas where they are protected from deer browse, the seedlings are growing into larger sapling-sized trees. They will continue to monitor these plots to better understand the complexities of oak regeneration in the North Coast.

ELK SURVEY

Jeff Stackhouse worked with a UC Berkeley graduate student to quantify elk impacts on private landowners in Humboldt, Del Norte, and Mendocino counties. The data from this project provide a better estimate of the elk populations on private lands and the associated economic impacts to agriculturalists on the North Coast. As a result of this, and many other efforts, the Del Norte County elk harvest increased by 300% in 2020, increasing opportunities to harvest elk, and decreasing economic losses on private lands.



Happy North Coast dairy cows relax in the sun.



Yana Valachovic and Lenya Quinn-Davidson with colleagues in Sacramento following a fire policy briefing.



Oaks produce lots of acorns, but seedlings struggle to make it to larger sized trees.



Elk populations are expanding in the North Coast (photo NPS).

UCCE Partners with the Community through

PBA and Volunteer Fire Department members gather for photo after completing an Rx burn in Bear River.



PRESCRIBED BURN ASSOCIATIONS EXPAND IN CALIFORNIA

In 2017, Lenya Quinn-Davidson and Jeff Stackhouse worked with local landowners and volunteer fire departments (VFDs) to lead the development of California's first prescribed burn association. The Humboldt County Prescribed Burn Association (HCPBA), which officially formed in March 2018, is a collective of landowners, VFDs, and other interested community members who will work together to provide training and accomplish prescribed burns for a wide range of objectives, including range improvement, invasive species control, conifer encroachment, fuels reduction, and more. Membership is open to all! If you are interested in getting involved, email Lenya at lquinn davidson@ucanr.edu. Their leadership has inspired the development of PBAs all over California and now more than 12 PBAs are in various stages of formation throughout the state.

Teachers learn about North Coast forests and fish during their week at FIT.



FORESTRY INSTITUTE FOR TEACHERS

For the last 27 years, the Forestry Institute for Teachers (FIT) has provided K-12 teachers with knowledge, skills, and tools to effectively teach their students about forest ecology and forest resource management practices. The week-long program, which takes place in the summer, brings together natural resource specialists and teachers from rural and urban settings, working side-by-side to understand the intricate relationships between forest ecosystems and human use of natural resources. FIT seeks to provide balanced, science-based education vital to understanding how decisions are made about the management of forests and the natural resources upon which humans depend. Since 1994, ~1,200 teachers have been through the Humboldt FIT program! A 2019 graduate said, "My heart is full, my mind is opened and stretched, my spirit is inspired and recharged. My memory of all of you as a human group has healed me and filled me with hope." To learn more, visit forestryinstitute.org. COVID temporarily disrupted the delivery of this program.

PRESCRIBED FIRE PLANNING AND DEVELOPMENT VIDEOS

Our team worked with many of the nation's experts in prescribed fire to produce a 15-part video series covering a broad range of topics to help practitioners develop burn plans and management objectives for different ecosystems. The videos have been distributed to prescribed burn associations and CAL FIRE vegetation management staff across the state. During COVID, prescribed fire classes were moved online, and the video resources developed for these classes are also available to help landowners and professionals learn more about using prescribed fire. All of these videos are available on YouTube via a search for UC Forestry and Range.



Using Rx fire to reduce fuels in a mixed-conifer forest.

Educational Programs

EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM (EFNEP)

Serving both Humboldt and Del Norte Counties, Jessica Rebholtz and Dorina Espinoza provide impactful and quality nutrition education and healthy lifestyle classes to adults and youth in our communities. Now in its eighth year, the USDA-funded EFNEP (Expanded Food and Nutrition Education Program) works with adults and youth to improve their lives one meal at a time. "I eat a lot more vegetables and get more exercise because of this class. I have lost weight and eating healthy and enjoying life," said a 2019 adult participant. As a result of this program, adult participants demonstrated improved diets (84%), improvements in physical activity (66%), improvements in food safety practices (66%), and 72% improved their ability to plan meals, cook at home, or compare food prices. In the youth program, 82% learned to select healthier food using the federal dietary recommendations, 63% improved in physical activity, and 54% improved their safe food handling practices. These personal changes positively impact community health and wellness and help support healthier and more food-secure Californians. During the pandemic, all classes transitioned to online teaching. We'd like to give a shout-out to Fortuna Middle School, who helped us deliver these nutrition classes to all of their middle school students. All EFNEP classes are available in English or Spanish and taught by Jessica Rebholtz.

PREPARE FOR WILDFIRE

Wildfire has impacted every region in California. Using the insight gained from studying the Tubbs (2017), Carr (2018), and Camp Fires (2018), and building on the expertise of UC colleagues, Yana Valachovic has been traveling all over California to share critical information on how homeowners can protect themselves from wildfire. Typical defensible space practices are not sufficient to address radiant heat and ember exposures. She has shared her knowledge with the insurance industry, fire safe councils, CAL FIRE units, communities rebuilding following wildfire, state agencies, and master gardener groups. Additionally, with the Humboldt County Fire Safe Council, they have developed a brochure that summarizes this guidance. More details can be seen on UC's comprehensive wildfire [website](https://ucanr.edu/sites/fire/), which includes information on preparing for wildfire, recovering from wildfire, and using fire as a tool (<https://ucanr.edu/sites/fire/>).

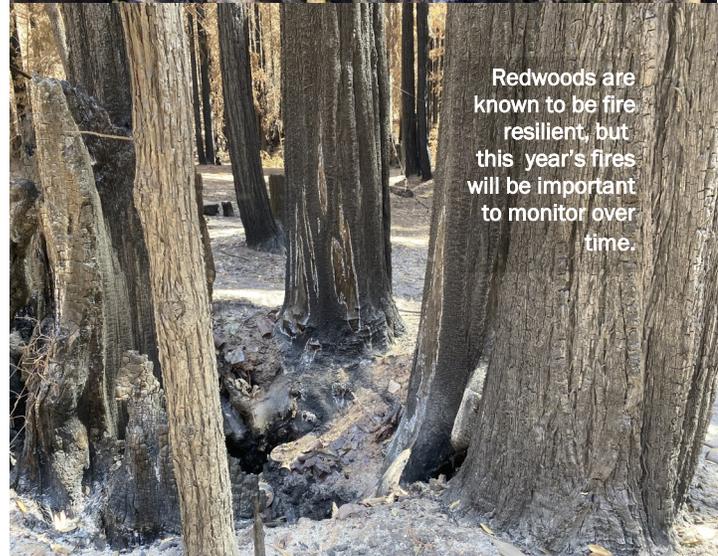
FORESTRY CLASSES

Yana Valachovic and her colleagues hosted several recent tours to explore redwood and Douglas-fir forest management. In 2019, foresters from all of California visited Jackson Demonstration Forest in Mendocino to learn about thinning strategies, multi-age silviculture, and cohort regeneration. In 2020, a subset of this group visited Sonoma to learn about post-fire management strategies and explored whether it is possible to kill a redwood tree. The redwood region has had only a limited number of wildfires in managed forests, leaving ample room for debate and discussion.

EFNEP offers nutrition education for both youth and adults.



An aerial view of the City of Paradise following the 2018 Camp Fire. The trees burned where the houses burned.



Redwoods are known to be fire resilient, but this year's fires will be important to monitor over time.

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If you have special needs,
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Useful Resources

This collection of excellent informational resources can help you in the home, garden or with your agriculture or natural resource business.

- **Pest management** information for your home or garden
ucipm.ucdavis.edu
- **Forestry resources**, publications and big ideas on how to steward California forest lands ucanr.org/sites/forestry
- Tips on how to grow a successful home **orchard**
homeorchard.ucdavis.edu
- **Small and family farms** resources and information sfp.ucdavis.edu
- Research-based information on important issues facing the **horticulture industry** ohric.ucdavis.edu
- Downloadable **publications** regarding agriculture and natural resources anrcatalog.ucdavis.edu
- UC research-based information, accomplishments, and statewide extension activities in planting, growing, and harvesting **fruits and nuts** fruitsandnuts.ucdavis.edu
- Information relevant to California vegetable **consumers, growers and processors** wric.ucdavis.edu
- Research in **weed management** wric.ucdavis.edu
- Information related to **production, harvest & processing of foods**
ucfoodsafety.ucdavis.edu