

Published March 2010

It is an honor to introduce you to the programs and people that define the University of California's Cooperative Extension program in Humboldt and Del Norte Counties. We are truly a cooperative program that is funded through county, University and federal sources and we are here to serve and support you through a variety of educational opportunities and assistance programs.

We are located in Humboldt and Del Norte counties to help **deliver knowledge** through a variety of direct educational programs. In 2009, we offered a variety of classes from the Master Gardener certification series, to conferences on the future of the forest products industry, to a wealth of youth development opportunities. In 2010, we have already planned a number of great workshops (see the back page).

Additionally, we help **create new information** and practical assistance through our active research programs. Inside this issue you will find stories of several important research projects, such as long-term investigations of the native eelgrass and rock fish populations; study of nematode control techniques for Easter lilies; research on two different invasive species; and a full-page discussion of our efforts to learn more about the Aleutian Geese interactions with pasture forage production.

While we reflect on our past year's activities, we are excited to begin to share our upcoming programs. For example, Deborah Giraud will be working with many of you to help produce a high-quality map of agri-tourism opportunities in our region. For those of you new to this subject, this is an ideal project to help you to begin marketing, in an organized form, opportunities for tourists to learn more about your stewardship and help you capture some tourist dollars. Deborah will offer a workshop this spring to go over important details and share stories of how others have made this targeted tourism work.

We are saddened to say good-bye to two of our team members this year, Alan Bower and Jim Waldvogel.

Alan, our Livestock Advisor, has returned to the Natural Resources Conservation Service to become the Area Conservationist stationed in Red Bluff. In February, Jim, our Marine Advisor, retired after 33 years. An overview of Jim's accomplishments is included within this Review. Jim can now truly say "gone fishing"!

As you may know, the financial outlook for the State of California has been bleak, and our statewide program took a 20% cut. As a result, we are delayed in our ability to refill these advisor positions. When budgets turn around, I am hopeful that our needs will be high on the priority lists for new hires. In the interim, UC has given us some temporary funds to bring some livestock classes to our area and to complete research with the Aleutian Geese management issues.

For those of you keeping track, the Humboldt UCCE program is three years away from its 100 year anniversary. This is an honor that we share with our 4-H program and the Farm Bureau of Humboldt County. If any of you would like to help in sharing stories and photos of the last century or efforts to memorialize this event, please give us a call. We look forward to celebrating agriculture and the history of our region with you!

On a final note, we have excellent informational resources on many subjects, including growing vegetables, addressing pests and disease, rangeland management, water quality management and the like. Stop by sometime or give us a call. We look forward to being able to assist you!

Yana Valachovic, County Director



UCCE is dedicated to creating, developing and delivering knowledge and practical information in agriculture, natural and human resources to improve the quality of life of Californians.

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My educational and research programs focus on management and stewardship of forested ecosystems. I work with natural resource professionals from both public and private organizations, landowners managing industrial, non-industrial and public lands, and the general public. While I respond to current needs with specific technical assistance, I also have many long-term projects and roles.

Over the last year, I hosted two regional conferences, expanded my work in the field of wildland fire, continued to implement and expand the range of silvicultural research around the management of Sudden Oak Death and assumed the County Director role.

I worked with a group of regional leaders, agency representatives and landowners to plan a conference to help the region explore the future for the forest industry and to provide tools and techniques to assist landowners in down markets. In February 2009, we hosted **Forest Futures II**, a four-day conference that attracted 145 leaders and landowners from around California to join together to identify opportunities in conventional and emerging markets.

I helped to host the Northwest California Regional Fire Safe Council Conference where we focused on finding solutions to common issues, with the goal of increasing the capacity for Fire Safe Councils to reduce the risk of wildfire damage to local communities and resources. I facilitated a conference on better understanding the Timber Harvest Planning process, new regulations and agency expectations. And we celebrated the 15th year of the Forestry Institute for Teachers with strong teacher attendance and sustained community participation. This teacher program brings essential natural resources curriculum to the classroom, thus providing tomorrow's leaders with the knowledge to make better natural resource decisions. In this fun week, thirty teachers learn about the ecology and management of Humboldt County's forests and streams and meet many of the managers, scientists and landowners in the region.

My own **research** expanded into the field of 1) quantifying the fire hazard associated with high hardwood mortality and 2) in understanding what the effects were of this mortality with the first fires to burn in an area infested with Sudden Oak Death, during the Basin Complex in 2008 in Big Sur.

Our work in **Sudden Oak Death** monitoring, management and education continued and expanded this year. I have been fortunate to be a recipient of funding from the Forest Service to maintain two great staff, Chris Lee and Radek Glebocki, to implement these projects. We started a new adaptive management experiment to control the disease using Agri-fos, a phosphorous-based chemical that assists in a tanoak tree's ability to fight off the disease. Because the pathogen that causes the disease needs moisture to survive, we installed a large-scale experiment in advance of the disease area to test whether a reduced canopy cover (50 and 100 ft² of tanoak basal area) was more effective in reducing disease establishment than pre-treatment conditions (300-400 ft² of tanoak basal area). We also continue work in tracking the spread of the disease by our watercourse monitoring and roadside detection programs. We thank everyone involved with these efforts and acknowledge their tremendous support and dedication to this research.

In all of these projects, we have collaborated with faculty and scientists from UC Berkeley, UC Davis, Oregon State University, Humboldt State University and scientists from a number of state and federal agencies. A portion of the results of our efforts were presented at the Sudden Oak Death Science Symposium IV in June 2009. Interest in our projects continues to expand, and I have been fielding calls from managers throughout California based on our experiences here.

In 2010, we have several workshops in the planning phases. This spring we will offer workshops on woody biomass to energy conversion, incentives and Sudden Oak Death. Over the coming year we will also plan the next Redwood Region Science symposium for early 2011.

"We thank everyone involved with these efforts and acknowledge their tremendous support and dedication to this research."



Chris Lee



Yana Valachovic



Radek Glebocki

In 2009, my coastal and marine advisory program continued to play a key role in a large collaborative planning effort called the **Humboldt Bay Initiative (HBI)**. The mission of HBI is threefold: to promote increased scientific understanding of our natural and human communities; to create an integrated natural resource management framework that links the needs of people, habitats and species; and to facilitate community-wide collaborative problem solving. HBI recognizes that an ecosystem-based management approach to natural resource management requires an understanding of the consequences of human actions to natural systems.

HBI encompasses many people, diverse viewpoints, and a broad spectrum of knowledge and expertise. Together, HBI members are working to envision the desired future state of Humboldt Bay ecosystems and economies and to chart a course towards that vision based on an understanding of current conditions, priority threats, and future trends. In Spring 2009, the HBI project team produced a strategic plan emphasizing coordination and integration of natural resource management actions. Project collaborators developed science-based recommendations with the goal of providing for the needs of fish and wildlife while considering socioeconomic interests and constraints. The report is available at:

<http://groups.ucanr.org/HumboldtBayEBM/index.cfm>

A related project is **Subtidal and Intertidal Habitat Goals for Humboldt Bay and the Eel River Estuary**. High-resolution digital source imagery of the region was successfully acquired in June 2009 during a minus tide (after three years of waiting for the right combination of low tide, proper sun angle, and clear weather). The true color and near infrared images are available by contacting the UC Sea Grant Extension office in Eureka at 443-8369. Using the new imagery, benthic habitat mapping is currently underway by Photo Science, Inc. in Petersburg, FL, in collaboration with NOAA Coastal Services Center in Charleston, NC, following the Coastal and Marine Ecological Classification Standard (Version III). The habitat maps will be useful for evaluating, planning,

implementing, and monitoring conservation actions. We are preparing a report characterizing subtidal and intertidal habitats for our region, including a synopsis of available ecological literature and management recommendations. The report and maps will be available in Summer 2010.

“...HBI members are working to envision the desired future state of Humboldt Bay ecosystems and economies...”

We are continuing to collect data as part of long-term investigations on the growth characteristics of **native eelgrass** (2001-present) and **rockfish abundance** (2001-present). In addition, we are working with the California Department of Fish and Game to monitor and eradicate a non-native invasive species, **dwarf eelgrass**. If left unchecked, dwarf eelgrass poses a threat to the intertidal mudflats of Humboldt Bay and the Eel River estuary. These mudflats are important foraging grounds for migratory shorebirds using the Pacific Flyway. On mudflats in Oregon and Washington that have been invaded by dwarf eelgrass, there is a corresponding decline in certain species of benthic invertebrates that are favored prey items for shorebirds.

Since September 2009, I started a year-long sabbatic leave working on writing up the results of our eelgrass and rockfish studies for publication. Annie Eicher and several student assistants are doing a great job working on these continuing projects while I am on leave.



Susan Schlosser



Annie Eicher and student interns working in mudflats

My work is organized around three broad issues: 1) sustainability of agriculture, 2) public horticulture, and 3) community and economic development. In 2009, highlights include several educational programs and continuation of some research projects.

Sustainable Agriculture: a sustainable agricultural system requires the following: 1) a healthy environment; 2) economic profitability; and 3) economic and social equity. These issues are complex, and we as a nation struggle with how to reach and improve these benchmarks. Change is inevitable, and some local agricultural endeavors will thrive while others may not. Farmers are working together to overcome numerous challenges. My program brings the current information from a variety of government and University sources to aid clientele in resolving issues and meeting goals.

I have continued outreach to landowners on the topic of farm and ranch succession. A two-part workshop was held in February 2009. I partnered with California FarmLink and we brought together speakers to inform and motivate people to work with their families on this important issue. Those who attended had positive things to say about the impact the information had for them, and they are working on plans to help the next generation succeed. If you would like to review any of the resources presented, please give me a call.

I am working to help **beginning farmers and ranchers** get started, as well as established farmers and ranchers. I am starting a new project with California FarmLink to produce a land inventory, a workshop, and mentoring program for beginning farmers. A recent survey was sent to 1,800 landowners. This survey will address important questions such as: 1) what is the future of agriculture in Humboldt County, and 2) will young farmers be able to access land during upcoming generational transfers? Please let me know if you did not get a survey and wish to participate, it is not too late to send it in.

Profitability: I have been awarded a Headwaters Fund grant to work in the area of **ag. nature and heritage tourism**. Helping landowners gain tourist dollars is gaining popularity across the nation. Ag, nature, and heritage tourism can be done in a variety of ways. It can be approached as a one-time event on your land, or it can involve a continuing service activity. Tourists are looking for ways to interface with agricultural producers and stewards of the land. They want to learn and have a fun activity outdoors and they will pay for the experience. On April 2, 2010, we will have a workshop where you can learn more about the possibilities and recommendations.

There are now many national web sites that promote local foods and our growers are listed on many of them. We also now have our own site where producers can market local products. The web-based sales project for local foods can be found at www.redwoodag.com. Anyone with agricultural products to sell, not just commercial farmers, can list them here. Also, there are listings for labor and

equipment. This project was funded by UC Sustainable Agriculture Research and Education Program, and I am hopeful that the local community will find it useful. Local food buyers, both for households and institutions, can utilize this local web listing.

Community and Economic Development: Food security can be enhanced with local gardens, and local interest in this topic continues to grow. I am on the Steering Committee for the Community Garden Collaborative. We held a workshop in October with enthusiastic response, and there are many new community gardens starting this year. I am working with the Mobile Medical Clinic on a new garden in Fortuna, with 25 families. A new community garden is also underway in Hoopa and plans are progressing for an overhaul of the irrigation system in Hoopa. This will be of great benefit to farmers and families in the Hoopa valley.

The Master Gardener Program continues to provide not only education for the participants, but also outreach to the community. Through this program we are building human capital in gardens and food production! The class was held in spring 2009 and local demand for the class continues so I am offering it again in February 2010. Our educational outreach included having the UC Integrated Pest Management (IPM) kiosk at the 2009 County fair, and this fall it was located at Arcata City Hall and the Arcata Library. The computer station enables people to look up research based information on a variety of pests. The IPM website is a great resource and can be found at <http://ucipm.ucdavis.edu>. I presented and organized several others workshops including fruit tree pruning, growing your own food, keeping backyard goats, canning tuna and vegetables. The variety of requests I get for workshops these days continues to expand; let me know of your interests.

Research: My irrigation study at Hopland UC Field Station and the Easter lily bulb research in Smith River continue with data collection and new methodologies tested. I assisted in field testing a new organic fertilizer product and am planning a new scotch broom eradication project.



Deborah Giraud

Hello, my name is Frances Tjarnstrom, and I am pleased to be a part of the UCCE team in 2010! I am working in conjunction with Humboldt State University to obtain my Master of Science degree in Rangeland Resource Science. My research project involves the study of the effects of Aleutian cackling goose grazing on several local beef ranches. The spring 2010 season will be the second year for this project and is the continuation of work I did with Alan Bower, past Livestock Advisor.

Perhaps you've seen the many flocks of these geese flying overhead in recent weeks. They are making their way back to northern California from their wintering grounds in central California. These geese use Humboldt and Del Norte counties as a 'spring staging' area; the calories they consume and store now will help them on their migration back to the Aleutian Islands off Alaska where they breed.

Aleutian cackling geese (*Branta hutchinsii leucopareia*) were listed as an endangered species in 1973 when less than 800 birds were recorded. Successful conservation measures allowed the population to expand, and they were delisted in 2001. The population estimate for 2005 was over 100,000, and almost the entire population spring stages in the northern California coastal region. While news of their recovery is exceptional for the species as a whole, it also causes concerns for folks making their livelihoods from ranching. Because many of these geese feed on private pasture lands, the expanding population has led to increased conflicts over forage consumption, and ultimately, available forage for cattle on ranches in Humboldt County.

Geese have selective feeding behaviors and prefer plants that have low fiber and high protein content. This ratio is found more readily in newer plant growth, which can be stimulated by maintaining forages at a short stubble (leaf) height. Rotational grazing practices are one way to keep short stubble heights. Many local ranchers adopted these practices within recent years to pursue economic and ecological sustainability. This management practice has proven to be highly attractive to Aleutian cackling geese. As the population

continues to increase, they exert increased grazing pressure on local private ranch lands. My research will provide estimates for pasture production rates under conditions of no grazing, grazing by cattle only, and grazing by cattle and geese.

I am using three ranches this spring that are located in the Loleta bottomlands. Six study pastures on each ranch have been selected for use. I am taking samples from each pasture on regular intervals that coincide with each producer's grazing rotation schedule. Results will be compared to show pasture production with no grazing, and with and without grazing by cattle and Aleutian cackling geese. Preliminary results from the first year of research show that Aleutian cackling geese are having a significant impact on pasture production. Goose presence was a significant factor when pasture forage regrowth was measured.

Research will continue this spring until mid to late April. The geese begin moving north in early April. I look forward to sharing results from this project with you!

Note: Please let us know your interests for future livestock classes. We will do our best to continue to meet local needs. We have already heard of interest in a "ranch water quality update" and a class in "beef quality assurance".



Aleutian Geese on Pete Bussman's property



Frances Tjarnstrom

The Del Norte Extension office provides youth development projects through the National 4-H program and marine and natural resource outreach with the Sea Grant marine advisory program. The office houses a full time academic Sea Grant advisor, one half-time 4-H Program Representative and it is also served by three cross-county assigned Extension advisors from Humboldt County (forestry, plant science and range management). The Del Norte County Extension office also houses and oversees the Smith River Advisory Council (SRAC) watershed coordinator position funded through Fish and Game restoration funding.

4-H Youth Development Program (YDP) accomplishments:

The 4-H YDP serves approximately 250 youth between the ages of 5 and 19 in community club settings. The community club program is guided by 55 adult volunteer project leaders. About 50% of the youth raise large and small animals. The other 50% focuses on leadership, citizenship, home economics, arts and crafts and marine science projects.

The 4-H Youth program develops responsibility and leadership skills in local youth. It helps youth acquire knowledge and skills to explore future careers and gain satisfaction from their work. The 4-H YDP develops positive self-image and teaches youth to work cooperatively with others.

The 4-H program also serves 200 – 500 youth through the school enrichment program in nutrition and other projects.

In 2009, The Del Norte 4-H Council raised over \$12,000 at its Soup Supper to finance 4-H events, scholarships, leadership training, awards, and travel programs.

Annual 4-H events include County and Regional Presentation Days, Fashion Revue, Judging Day, Home Ec Day, Achievement Night, Small Animal Day, Del Norte County Fair participation, CAL-FOCUS at Sacramento and an occasional Washington D.C. leadership conference.

Community service projects include Christmas stocking project and adopt a family food baskets, Earth Day petting zoo, Senior citizen sweetheart dinner in Gasquet, Emblem Club "Festival of the Trees" Daily Bread Ministries, Community Assistance Network Sacks of Snacks, Del Norte County Fair Re-Think Your Drink Campaign, and downtown Crescent City beautification project .

Del Norte Sea Grant accomplishments:

Jim Waldvogel, Marine Advisor, retired in February, 2010. Jim had a broad and successful program. We wish Jim the best in his well deserved retirement. Below is brief synopsis of a number of his accomplishments during his 33 years in office.

– conducted local workshops, demonstrations and made presentations related to the wise use and conservation of marine resources.

- served as technical advisor on the Del Norte County Marine Life Protection Act Planning Committee to evaluate upcoming management issues related to Marine Protected Areas.
- served as marine resource advisor to the Klamath Management Zone Coalition and the Del Norte Fish and Game Commission.
- chaired the Smith River Advisory Council. The SRAC is a council of local entities that conducts restoration projects for Smith River anadromous fish populations. Council efforts over the past three years resulted in the CDFG assigning a staff biologist to the Smith River Basin starting in 2010. He served as chairman of the Smith River Advisory Council for 16 of the past 20 years and Co-authored the Smith River Anadromous Fish Action Plan in 2004.
- completed a 23-year study on Chinook salmon spawning escapement and age distribution for a tributary of the Smith River (Mill Creek Basin).
- coordinated the Crescent City Seafood Festival in cooperation with the Del Norte Fisherman's Wives Association for 10 years over the Labor Day weekends. The festivals had 8,000 – 10,000 people attend annually.
- aided in the training of a sea safety instructor from the local community who has held dozens of certified fishermen Sea Safety workshops over the past 15 years.
- served as the technical advisor for 19 years to the Klamath River Task Force as the Del Norte County representative and to the Klamath Management Council as the in-river sport representative.
- supervised the Smith River Advisory Council Watershed Coordinator for 7 years during his program development.
- served as technical advisor to the Klamath Management zone Fishery Coalition and the Del Norte County Fish and Game Advisory Commission.
- aided local commercial fishermen conducting fuel efficiency studies on vessels.
- conducted a scale analysis of the age distribution of Chinook salmon returning to the Rowdy Creek Hatchery and wild steelhead returning to the Smith River system (1990-91 and 2001-2002).



Jim Waldvogel

4-H is alive and well in Humboldt County and would love to have you join us in teaching real-world life skills, workforce preparation, civic responsibility and leadership to grow stronger kids, stronger families, stronger communities and a stronger world. We have 10 community-based Clubs as well as Guide Dogs for the Blind, Therapeutic Horseback Riding, In-school Animal Science Curriculum at Coastal Grove, along with Gardening and Outdoor Environmental Education venues delivering 4-H leadership, citizenship and life skills to over 800 youth.

Project Leaders are screened, oriented and trained to work with youth to deliver life skills through a wide variety of projects and many community events. They are supported by the 4-H office with curriculum materials and training. New leaders are welcome!

4-H Families spend quality time together exploring and growing in beneficial activities. 4-H youth working with adult mentors become proficient in public speaking, leadership, problem solving, planning and organization, citizenship, and personal safety and healthy lifestyle choices. They in turn share these skills in our county by sponsoring events such as the NORTHCOAST Youth Summit (www.ysummit.org) where teens (and those who work with teens) from all organizations are equipped and empowered to make our communities stronger. Over 200 youth and adults from North Coast counties participated in this year's event hosted by a collaboration of non-profits. 4-H Youth also design and chair 4-H Summer Camp, Presentation Day, 4-H Horse Camp, Domestic Exchange, the Poultry Show, Postal Shoot, Ag Day, and other events.

One of the keystones of 4-H is community service. Youth provide countless hours of service through their projects, their clubs and in their communities assisting with beach clean-ups, habitat restoration, pet therapy to seniors, horseback riding for the disabled, Relay for Life, guide dogs for the blind and deaf, Valentines for Veterans, Tour of the Unknown Coast, Easter cards for Meals on Wheels, food drives and a host of support for community organizations and events.

In turn many non-profit youth organizations, businesses, service clubs and educational groups within our county partner with 4-H. This year a community wide 4-H SET Expo was held at Redwood

Acres, where 500 members of the community participated in hands-on activities for inquiring minds provided by 4-H members along with businesses, government agencies, and local educators. 4-H is emphasizing Science, Engineering and Technology (SET) in the next 5 years in response to a federal government call to increase careers in these fields. Expansion and growth are in store for the upcoming SET Expo on April 24, 2010.

“4-H is alive and well in Humboldt County and would love to have you join us in teaching real-world life skills, workforce preparation, civic responsibility and leadership to grow stronger kids, stronger families, stronger communities and a stronger world.”

We are continuously reaching out to serve new audiences in local community events through the schools and in conjunction with other organizations.

4-H is a place where we learn together to make a better tomorrow. There is a place for everyone in 4-H. To learn more visit our website:

http://cehumboldt.ucdavis.edu/4-H_Program/

4-H Youth pledge “their heads to clearer thinking, their hearts to greater loyalty, their hands to larger service, and their health to better living for their clubs, their communities, their country and their world.”



Sandy Sathrum



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CALENDAR OF UPCOMING EVENTS

- Feb 23—June 15 Master Gardener class 2010
- Feb 27 Beef Cattle Reproductive Health Workshop, Agriculture Center, Eureka, 1pm—4pm, 445-7351 to register
- Feb 27 Northcoast Youth Summit, College of the Redwoods, Eureka, 9am—3:30pm, www.ysummit.org for more info
- March 15 Sudden Oak Death Identification for landowners, foresters, nurserymen, agencies and interested public, Del Norte County Fairgrounds, 9:30am - 11:00am, 445-7351 to register
- March 25 Woody Biomass to Energy Conversion Technologies for landowners, foresters, tribes, and interested public, Agriculture Center, Eureka, to register visit <http://ucanr.org/woodybiomass>, 445-7351 for more info
- March 28 4-H Horse Show, Redwood Acres, 9am—2pm, open for public viewing, 445-7351 for more info
- April 2 Ag, Nature and Heritage Tourism Workshop Agriculture Center, Eureka, <http://ucanr.org/agriculture> for registration or 445-7351 for more info
- April 24 4-H SET Expo Redwood Acres, 12:30pm—4:30pm, 445-7351 for info & registration, or visit <http://www.setexpo.community.officelive.com>
- April 29 Incentive programs, technical assistance and emerging markets in forest carbon and biomass for farm, ranch and timber landowners, Smith River Community Hall (Del Norte) 8:30—12:30, \$10, 822-2242 for info & registration
- April 30 Incentive programs, technical assistance and emerging markets in forest carbon and biomass for farm, ranch and timber landowners, Ag Center, Eureka, 8:30am—2:30pm, \$10, 822-2242 for info & registration
- May 3—May 7 Sheep Shearing School for both the beginner and advanced shearer, UC Hopland Research & Extension Center, 9am—5pm, 463-4495 for info & registration
- May 12 & 13 Sudden Oak Death Update for Foresters and Landowners, UCCE Office, Ukiah (May 12) & Agriculture Center, Eureka (May 13), 445-7351 for info & registration
- May 13 Beef Quality Assurance Program, Agriculture Center, Eureka, 445-7351 for info & registration, \$25

Check our website (below) for additional events throughout the year!

Phone: 707.445.7351 • Fax: 707.444.9334 • Website: <http://cehumboldt.ucdavis.edu/>