



UC Cooperative Extension Humboldt County

2005 Year in Review



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UC COOPERATIVE EXTENSION
HUMBOLDT COUNTY AGRICULTURE CENTER
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Thank you for allowing us the opportunity to acquaint you with our many and varied educational programs we offer through the University of California Cooperative Extension.

Our programs are designed to take research based information from the University and extend it to people in the community. Our Extension staff provide a wide range of educational programs in agriculture, forestry, marine science, and youth development. Our motto is "helping people help themselves".

Farm Advisors, Marine Advisors, and staff research associates conducted many educational meetings and applied research projects.

Some of the educational programs this past year included: Forest Stewardship class, Master Gardener class, Natural Beef Health seminar, Dairy Day, and the Humboldt Bay Symposium.

Some of the research projects included: completion of juvenile rockfish,

cabezon and greenling habitat utilization project, testing of the effect of fertilizers on pasture nutrient values, experimenting with various control measures for Sudden Oak Death syndrome (S.O.D.), and nematode control in Easter lilies.

4-H Youth Development Program Representatives organized programs to help youth grow into healthy, capable, and contributing citizens. Some of the major activities included: 4-H camp, Domestic Exchange, a Youth Leadership Conference and the Teen Ambassador program, and the annual 4-H Lamb Barbecue and Country Auction.

A summary of these and many other activities are described in this report. I think you will be impressed with the quality and relevance of these programs designed to improve the lives of people in Humboldt County.

County Director

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**See back page for upcoming
2006 events**

VISION:
**To develop and facilitate the
implementation of innovative, useful
solutions to agricultural, natural and
human resource issues.**

Yana Valachovic, Forest Advisor

Concerns over pests and disease shaped my research and education efforts for 2005.

With the wet spring and fall of 2005 continuing into 2006, spread of **Sudden Oak Death** has occurred and visual signs of several other diseases are evident on trees such as Pacific madrone. However, Sudden Oak Death continues to be in the limelight. Four years after finding the disease in lower Redway we can now observe that a significant number of tanoak trees have died as a result of this disease and more trees and plants are playing host to the disease in our area. New hosts include Pacific yew, vine maple, blue blossom ceanothus, manzanita, hairy manzanita, and salmon berry.

The ultimate consequences of hosting this invasive pathogen in our region's forests are unknown, but there is significant cause to be concerned and the host list shows few limitations. The good news is that most plants do not seem to succumb to the pathogen, but the fate of the region's oaks and tanoaks is in question. (For more information about the pathogen see www.suddenoakdeath.org).

For these reasons I have continued to lead an effort to monitor and manage the pathogen in the north coast. With the assistance of Chris Lee, we repeated our annual survey of 75 frequently used public recreation areas; maintained a strategic network of 36 watercourse monitoring stations; and completed a focused delimitation of the infested areas in Southern Humboldt, covering hundreds of private parcels.

We are currently beginning to experimentally treat 120 acres of private and public land to test how effective thinning, pruning and use of fire can be to control the pathogen. This effort is in collaboration with USDA Forest Service, California Department of Forestry and Fire Protection, California State Parks, the Southern Humboldt Fire Safe Council/ Institute for Sustainable Forestry, several foresters and supportive landowners. The infested area in Humboldt County represents the northern gateway for disease expansion and hence has warranted an emergency response.



Yana Valachovic

We hope to develop some treatment alternatives to: 1) learn how to effectively respond to any new disease outbreaks, 2) control pathogen spread from the Southern Humboldt area, and 3) develop long-term treatment strategies to manage this damaging pathogen. Our efforts are being closely followed regionally, nationally and internationally, as few have ever attempted any wildland management efforts on this pathogen.

In other areas, I offered a **Forest Stewardship Class** for landowners that offered information on techniques and resources for forest land management. We covered the basics from understanding what resources and resource options forest landowners have on their properties, to planning for the future. I plan to repeat this course in the next year. I also offered a course for fire professionals, homeowners, builders and planners, about how to build or retrofit a home to survive wildfire.



Chris Lee

I continue to offer the weeklong educational program for K-12 classroom teachers known as the **Forestry Institute for Teachers**. This program brings essential natural resources curriculum to the classroom, thus providing tomorrow's leaders with the knowledge to make better natural resource decisions.

We hosted a Buckeye Conservancy **Forest Project** workshop in the fall that brought together many state and regional leaders to discuss several forest policy options in development. And the proceedings of the **Redwood Region Forest Science Symposium** are in the final stages of production with the USDA Forest Service.

In conclusion, 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.

Ken Andersen, Dairy & Ag Waste Management Advisor

The focus of my program is on the challenges faced by the dairy industry. These challenges include:

- Daily management issues in the arenas of herd health, nutrition, pasture management, irrigation, labor, etc.
- The presentation of sound science that addresses manure management with a thrust towards low environmental impact.
- Extending current scientific research from the University of California and the UC Vet Med Center to the dairy producers.



Ken Andersen

Workshops:

In 2005, I sponsored two workshops that focused on each of the areas listed above. In February, I sponsored my third annual Dairy Day featuring Dr. John Kirk and Dr. Jim Reynolds from the UC Veterinary Medical Center, Alejandro Castillo from UCCE Merced County, Helen Hosley from Ensave, and Scott Willits from Redwood Infrared. This workshop focused on management in the milking parlor. Alejandro Castillo (Dairy Advisor, Merced County) provided language interpretation for Spanish speaking participants. In October, I sponsored a Water Quality Stewardship Workshop with Dave Lewis from UCCE Sonoma County, Robert Atwill from the UC Veterinary Medical Center, and Ken Tate of UC Davis. This class focused on the pathogen flow from dairies to surface waters and on ways to prevent this pathogen transfer. I presented the results of the pasture trial that I conducted in 2003-2004.

Research:

Having completed the data collection in 2004 for pasture fertilization, we have been able to develop crop growth curves based on the various nitrogen application rates and to track nitrate levels in the soil profile after fertilizer applications. We plan to take this to the next step by testing the effect of the various fertilizer rates on the nutritional values of the pasture. The data is currently in analysis and is expected to be complete by mid-2006. In addition, I am working with the Humboldt County Resource

Conservation District to monitor soil nutrients with winter-applied manure. The data established from these two efforts will be the cornerstone upon which we will develop the management techniques for manure applied to our pastures—the goal of which is to maximize the nutrient value of the manure for pasture growth while minimizing the potential detrimental impact of excess nutrients on the environment.

Early in 2005, I conducted a demonstration of the impact that the Aleutian Cackling Goose has on production for beef and dairy producers in Humboldt County. The information collected determined that the impact is highly significant in terms of loss of forage production which correlates directly to lower beef and milk production.

In the summer of 2005, I invited Blaine Hanson and Larry Schwankle, UCCE Irrigation Specialists, to help in researching the efficiency of traveling irrigation guns. The data that we collected was of significant interest—opening the door to further investigation through data collection planned for the summer of 2006.

Future Goals:

In 2006, along with Dr. Thomas Harter (UC Groundwater Specialist), I will be conducting a groundwater survey of nitrate levels in the Eel River Valley. This will be a comprehensive endeavor that we think will yield critical information needed by dairy producers to evaluate their manure handling management.

We are also on the web!
<http://cehumboldt.ucdavis.edu>

Gary Markegard, Livestock & Natural Resources Advisor

The focus of this program is on major issues facing the livestock industry. These issues include:

- * providing current information on weed control in pastures and rangeland
- * adapting new technology and management to meet the challenges producers face with high operational costs and low prices for their products
- * taking scientific research from the University and field stations and extending that information to livestock producers
- * and helping livestock producers produce a quality product that is safe for consumers



Gary Markegard

Beef Survey

This past year I finished up surveying two ranches for a nation-wide study to determine if *Listeria monocytogenes* is present on beef ranches, either in the environment and/or on the animals. *Listeria* is a bacterium that has been found throughout the environment, including water, soil, silage, and animal feces. Listeriosis is the name of the general group of disorders caused by *L. monocytogenes*. Most healthy people will not become ill from foods contaminated with this organism; the most susceptible are pregnant women,

the elderly and those with immunosuppressive conditions. The purpose of the study was to see if there is a problem, and if there is a problem, develop practices to prevent it from occurring.

Natural Meat Market Grant

With the help of Annie Eicher, staff research assistant, we received a headwaters grant from the Humboldt County Board of Supervisors to conduct a feasibility and marketing plan for selling natural meat products produced in Humboldt County. Annie and I held several producers meetings to discuss the project and gathered input into setting up the study. With the help of Jacqueline Debets, economic development coordinator for the county, we put together a management team to hire an outside consultant to do the feasibility and market development part of the grant. This project provides a great opportunity to utilize our productive pastures and rangelands to produce a natural beef product. Natural beef can be grass fed, organic, or a combination of the two; the demand for these products has risen dramatically in the last two years. Part of the grant covered educational seminars; we organized a grazing and animal health seminar that was well received by local producers.

Peter Nelson, Marine Fisheries Advisor

This is a summary of my activities from my hire date (March 7, 2005) through March 2006 as a Sea Grant / Cooperative Extension advisor for Humboldt and Del Norte Counties. Much of this period was spent becoming acquainted with the area, meeting constituents and learning about locally-relevant issues in fisheries, marine and riverine conservation, and coastal/natural resource management.

My training is primarily in the fields of fish ecology and quantitative biology. I have experience and interests in fisheries/natural resource management and am structuring my program so as to provide quality information through collaborative research with fishermen, academic scientists, natural resource managers and interested individuals. I have received funding to develop improved juvenile groundfish sampling methods and have proposals pending for conducting a volunteer-based seabird mortality monitoring project, sampling juvenile rockfishes, examining habitat use of Humboldt Bay fishes around

aquaculture projects, and developing an ecosystem-based management plan for the North coast of California.

I have a project examining trends in the recreational fishery for razor clams, currently emphasizing the fishery in Humboldt County but with plans to expand this program to Del Norte, and another project examining seasonal and specific patterns of UV protective compounds from the mucus and eyes of several groups of fishes (e.g. salmonids, surfperch and rockfishes).

In addition, I have been active in various forms of outreach and service including teaching a seminar at Humboldt State University, chairing a planning committee for a national fisheries extension meeting and participating in an informational workgroup organized by two Humboldt County Supervisors.



Susan (McBride) Schlosser, Marine Science Sea Grant Advisor

In 2006 I completed a three-year, collaborative research project on juvenile rockfish, cabezon and kelp greenling habitat utilization. Fourteen fishermen from Newport, Oregon to Morro Bay, California participated in monthly sampling in nearshore habitats such as kelp forests, rock reefs, open sand or muddy bottoms, eelgrass and harbor pilings. We trapped fourteen species of rockfish. Black rockfish were the most numerous species; followed by copper rockfish, grass rockfish and blue rockfish. The total number of juvenile rockfish, cabezon, and kelp greenling trapped were similar in 2003 and 2005. Approximately twice as many fish were trapped in 2004 in each species group. The most highly utilized habitats for juvenile rock fish and kelp greenling were kelp and pilings. Cabezon utilized kelp and sand habitats the most. In 2006, I will be preparing a manuscript for a scientific journal article on the results of this project.

Working with the Scientific Advisor Committee for Estuarine Restoration (SACER), I collaborated on organizing, developing the program and hosting a two-day Humboldt Bay Symposium titled “A Regional Perspective to Restoring Physical and Ecological Processes in Humboldt Bay.” Over 200 people attended two days of presentations on estuarine restoration in San Francisco Bay, Coos Bay, and Tomales Bay. Documenting historical conditions, restoration planning, invasive species and ecological considerations were among the topics presented. In the Humboldt Bay area there are currently about 20 estuarine restoration projects in planning, feasibility studies or in implementation. Comprehensive estuarine restoration planning, programmatic permits, and invasive species emerged as the highest priority issues for Humboldt Bay in a facilitated discussion at the end of the conference. SACER will address these



Susan Schlosser
Sampling Juvenile Rockfish

issues in 2006. Meetings are the fourth Friday of each month and are held at the USFWS Arcata Office, conference room. For more information contact Susan Schlosser, scschlosser@ucdavis.edu or phone 443-8369.

I continued Humboldt Bay Cooperative Eelgrass Project surveys of native eelgrass, *Zostera marina* and eradication and monitoring of invasive eelgrass, *Zostera japonica*. We completed a shore survey of Humboldt Bay, finding no *Z. japonica* outside the original detection site on Indian Island. Project results for both eelgrass species were presented at numerous local meetings and the Pacific Estuarine Research Society annual meeting.

Regarding my on-going project on the nutrition and reproduction of the Red Sea Urchins, new diets resulted in very good sea urchin gonad color and texture. Laboratory fed sea urchins are compared to commercially processed products for these studies. The prepared diets have improved. These experiments provide a basis for understanding factors that contribute to high quality in sea urchin gonad products. The sea urchin fishery is one of the most valuable fisheries in California and contributes substantially to coast community economies through the fishery, processing plants and export of the products domestically and internationally.



Deborah Giraud, Farm and Community Development Advisor

I organize my work around three broad issues: sustainability of agriculture, public horticulture and community and economic development. The education and research projects I address all fall under these issue categories.



Deborah Giraud

In 2005, I organized workshops for farmers to gain new information and network among themselves. The grape growers had a meeting in Willow Creek, as well as the annual meeting in Southern Humboldt. A large regional workshop for pest control professionals was held in Eureka, a weed control workshop was held and the goat milk producers group met three times. I held a Master Gardener training which is a 13 week class with several out of town speakers, local instructors and myself teaching the trainees; there were 55 who graduated. They are involved in a variety of activities, including Arbor Day and planning a new demonstration garden.

To address farm long term sustainability, I continue to offer consultations in the area of farm and ranch succession. Several families have met with me and I have sent out articles and information for landowners to study. I wrote a pre-proposal to the Western Risk Management group for a statewide conference for families and was asked to submit the long proposal in March. I just heard that the grant was funded. This conference will be in Sacramento next January.

I continue to work with FarmLink and recently a farm family submitted their farm to the database, as they are planning retirement and looking for a younger farmer to transition onto the farm. Keeping the land in active agricultural production and profitability for the farm family is the ultimate goal.

My definition of economic and community development includes: assisting farmers and ranchers in developing new sources of income, helping industry groups organize themselves to be stronger, develop goals, and obtain grant funding for education and research projects. I am working with Arcata Economic Development Corporation; we submitted a grant to the Headwaters Fund to assist the goat milk producers in many of these areas. A regional workshop on June 6th, 2006 will be the first

time on the north coast that the goat milk producers will have a full day educational session based on needs they identified in a statewide survey. The new Goat Milk Producers Association is involved in strategic planning for the future of this industry. I have been working with a new Resource Conservation and Development Council. Project ideas are welcome.

I was fortunate to have a grant funded position here in Humboldt County to concentrate on organic agriculture. Annie Eicher worked on research and education projects and did a fantastic job bringing resources to our county. The grant was not renewed and we are back to a regular staff level. Annie is working with the Marine Advisor's office now doing eel grass research. I will continue to address the needs of organic farmers in my programs and apply for grants for specific projects. The garden symphytan research project was able to generate new information on managing this pest. A recently published ATTRA article has a great deal of information; contact me if you would like to see it.

I have two major research test plots. One is a landscape plant irrigation study, and one is on nematode control in Easter lilies. We use many materials, including some organically accepted ones, to combat this devastating pest.

Another new grant funded program is the Farm to School project. Working with Michelle Wyler, I will be hiring a new person to work with farmers, schools and other institutions, to have locally produced foods purchased for children.

As you can see, all of our Extension programs take funds to operate and grants from private and public institutions are needed to keep our programs going. The Cooperative part of the Cooperative Extension service is the collaboration among county, state, federal and the private sector to affect change.

Please give me a call with your needs and ideas at 445-7351.

Sandy Sathrum , 4-H Youth Development

Mission: “To engage youth in reaching their fullest potential while advancing the field of youth development.”

We teach real world life skills and workforce preparation while developing civic responsibility and leadership in youth. Families spend quality time together exploring and growing in new dimensions.

Program Management:

There are 12 traditional clubs in communities throughout Humboldt County. Other delivery modes include: the 4-H TRAIL therapeutic riding program for disabled youth and adults; the Manila Community Services District 4-H After School Program; 4-H Northern Humboldt Eyes for the Blind (guide dog training); New Life Christian School after school program; Redwood Coast Institute challenge activities for at risk youth; Trinidad summer school program and Coastal Grove Charter School 4-H Science Program. Outreach efforts are continuously made to serve underrepresented groups within our county. Presentations are given at schools, community events, to service organizations and network collaborations as well as personal contacts.

Youth Development: Youth explore over 200 exciting areas of study including animals, bicycling, computers, gardening, outdoor adventure, robotics, shooting sports and welding. There are 510 youth members in our clubs and more youth involved through our other delivery modes. They are enrolled in 1563 project groups. We have 211 project leaders leading 363 project groups or serving as club or county leaders. A Teen Ambassador Team, the county 4-H All Stars, provide vital leadership roles in supporting clubs and county events. They conduct an annual Youth Leadership Conference open to all in Humboldt County. They designed this event to empower teens (and those who work with teens) from all organizations to hone their skills and make our communities stronger.

Volunteer Training and Support: Adult volunteers guide and support youth as they learn by doing. All volunteers are screened, oriented and trained to work with youth. Research based curriculum is provided for project work. The County 4-H Leaders Council assists in overseeing the county-wide program including major county events.

Community Collaboration:

4-H is networking in the community with other non-profit youth organizations, business partners, service clubs and the educational community. Some key collaborators are the NET, NorCAN, the Youth Leadership Coalition, the Child Nutrition Task Force and RCAA’s Northcoast Mentor Program.

Civic Responsibility: 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 through 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, pop tops for the Ronald McDonald House, fair clean up, and a host of support for community organizations and events. A new Engaging Youth Serving Communities grant is allowing youth to be trained to facilitate positive change in their rural communities. The future holds many more new opportunities.

4-Hers 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.” 4-H grows stronger kids, stronger families, stronger communities and a stronger world.



Sandy Sathrum, Program Rep



2006/07 CALENDAR OF EVENTS

| | |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 21-25 | Redwood Acres Fair |
| June 29 | Scientific Advisory Committee for Estuarine Restoration—USFWS Arcata Office— 8:30—10:30 am— estuarine restoration framework This group (SACER) meets monthly the last Thursday of each month at the USFWS Office in Arcata. |
| July 6-13 | 4-H Domestic Exchange |
| July 6-10 | 4-H Horse Camp |
| July 8-15 | 4-H Washington Focus Citizenship Conference |
| July 9-15 | Forestry Institute for Teachers (www.forestryinstitute.org) |
| July 12- August 10 | 4-H Japanese Exchange |
| July 14 | 4-H Ecology Day Camp |
| July 28-30 | 4-H Summer Pal Camp |
| August 10-20 | Humboldt County Fair |
| October 1 | 4-H Lamb BBQ & Country Auction |
| October 1-7 | National 4-H Week |
| October | TBA—A Livestock ID workshop |
| October 9-12 | 6th Annual California Oak Symposium, titled “California’s Oaks: Today’s challenges, tomorrow’s opportunities”. Intended for academics, planners, conservation practitioners, foresters, arborists, land owners, and other interested in oak management issues. For more information, visit the Symposium website at: http://danr.ucop.edu/ihrmp/symposium.html . |
| October 15-18 | National Sea Grant Fisheries Extension Meeting to be held in Jacksonville, Florida. The intent is to bring extension people involved in sport and commercial fisheries together from around the county to attend workshops and learn from each other. |
| January, 2007 | Farm and Ranch Succession Conference, Sacramento. An extensive hands-on workshop for all generations to plan for the continuation of agricultural businesses. Contact Deborah Giraud for final dates- 441-5289. |

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Cooperative Extension Programs in Cooperation with U.S. Department of Agriculture, University of California and Humboldt and Del Norte Counties.