

STEWARDS OF THE LAND

NEWSLETTER OF GOLD RIDGE RESOURCE CONSERVATION DISTRICT

WINTER 2014-15

The Gold Ridge RCD has inspired and partnered with the community to protect the natural resources and agricultural future of our District since 1941.

VOLUME 14, ISSUE 1

GOLD RIDGE RCD RESPONDS TO DROUGHT



It's hardly news that California has been in the grip of an historic and devastating drought since 2012. According to the Governor's Office of Emergency Services, precipitation in some areas of the state is now at the lowest point since rainfall record keeping began in the 1800s, with reservoirs reaching dangerously meager levels. On January 17, 2014, Governor Brown declared a State of Emergency, directing state agencies to respond with drought assistance and to begin conserving water. Despite the relief of recent rains, meteorological models show that the oceanic forces expected to bring heavy El Nino rains this fall have not occurred, threatening another dry winter.

With nearly 100% of its funding coming from grant programs that normally require years between concept development and implementation, the Gold Ridge RCD has little flexibility to respond to emergency situations unless it receives expedited emergency funds. Fortunately, the need for large-scale water conservation and storage has been on our radar for awhile. The RCD had begun seeking funds beginning in 2009 for the design and construction of agricultural and rural residential rainwater catchment systems, targeting areas along key salmonid-bearing stream reaches. Projects have focused on offsetting stream withdrawals to preserve instream flows and enhance aquatic habitat for endangered coho salmon, primarily within the Salmon Creek and lower Russian River watersheds.

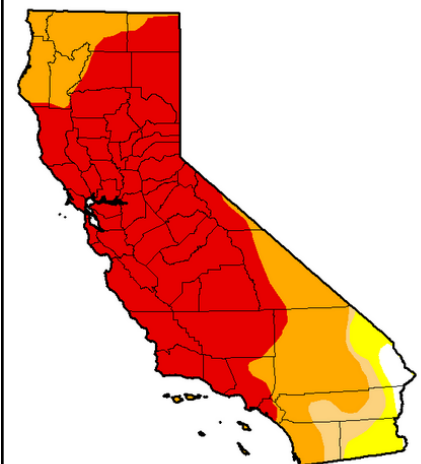
The persistent drought has expanded the focus beyond salmon habitat to support resiliency of sustainable food production and our agricultural economy throughout the district. Multiple large-scale designs for rainwater catchment systems are underway, with construction of a 1.3-million gallon system on a dairy along Salmon Creek planned for 2015.

The Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1), the \$7.5 billion general obligation bond measure approved by voters in November, will likely provide funding avenues for similar projects over the next decade.

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U.S. Drought Monitor
California



DIRECTOR PROFILE



RICHARD HUGHES



Richard and Marilyn Hughes are the owners of Westview Jerseys, in Bodega, California. Their organic dairy consists of approximately 190 Jersey cows on a 182-acre farm. Jersey cows are a bit different from Holsteins in that they are much smaller in size. Their milk, however, is noted for its wonderful flavor, its high quality and its richness in protein, butterfat, milk solids and minerals.

The Hughes didn't get their start in dairy farming the way most dairy farmers do in Sonoma County. They didn't grow up on their grandparents' ranches, or even their parents' farm. Richard grew up in the San Bruno / Millbrae

area and always considered himself a "city boy." After spending a summer on his aunt and uncle's farm in Nebraska, Richard decided to join the local 4-H program. At the age of 15, Richard raised two lambs. The project wasn't a complete bust for the "city boy," but it wasn't a complete success either.

The next year Richard decided to raise a dairy heifer. This heifer that started it all was a Guernsey named Dusty. This very 4-H project inspired Richard's parents to move to Petaluma in 1961 to start their own dairy farm. Marilyn was a neighbor to the Hughes in Millbrae and was a close friend with Richard's younger sister. Richard's involvement in 4-H also inspired Marilyn, a city girl, to join Richard and become a farm girl.

In 2006, Hughes became an organic milk supplier for Straus Family Creamery, after transitioning his dairy operation from conventional to organic. His farm, with a herd of 190 Jersey milking cows, is located near the town of Bodega, only three miles from the Northern California coast. On a stormy night, he says, you can hear the waves breaking on the rocks.

Good animal husbandry and prevention of illness are at the core of organic practices and, therefore, are top priorities for Richard. However, when Richard first started out as a dairy farmer in the 1960s, he applied all modern methods of conventional dairying: frequent use of antibiotics and fertility hormones, and a diet geared toward high milk production, which emphasized grains over forages. Milk production at his farm was so efficient that his became the highest producing dairy farm in Sonoma County for a number of years.

The cost of this system was high, though. The majority of the cows in the herd experienced health issues, resulting from a high-grain diet, high stress and frequent use of medications. The overall stress on the cows contributed to conditions including acid stomach, infertility and mastitis, resulting in high veterinary costs as each health issue called for additional medical interventions. Harder on Richard, though, was the tremendous personal emotional toll the system took on him. The stress on the cows was high and their fertility was compromised. To remain economically viable, a dairy cow needs to have a calf every year. At one point, Hughes was looking at only three out of ten cows that were getting pregnant, which, in turn, required aggressive fertility treatments.

It seemed very wrong to him: "I listened to the smart people and did all the things they asked me to do. I did get the milk production, but with all the use of antibiotics and hormones, it felt like it had gone too far. I didn't want to do it anymore." Looking back to his decision to go organic, Hughes has no regrets: "With organic, there is so much less to worry about", he says, "I can honestly say that, being organic, my animals are healthier. They are far healthier."

Read the rest of Hughes' story: Article first appeared on Straus Family Creamery website. <http://tinyurl.com/nxqcznx>

LETTER FROM THE EXECUTIVE DIRECTOR

Dear Gold Ridge RCD Residents,

As we round half way through out Fiscal Year at the Gold Ridge RCD, the Board and I have been spending a lot of time and energy deliberating over our finances. Just in case you weren't aware, the Gold Ridge RCD is essentially 100% grant funded through local, state and federal sources. Each year the RCD receives about \$13,000 in property taxes from the folks in our District but we dole out about \$20,000 to the County of Sonoma to be a part of their financial system. That means that every dollar we bring into the RCD is generated by our staff spending many hours writing grant proposals. In fact in each of the past eight years the Gold Ridge RCD has brought between 1.2 and 2.5 million dollars from state and federal sources to our District. That means that for every dollar we currently get from property taxes we return \$92-\$192 in state and federal funds.

Most of this funding is spent on local contractors, suppliers and consultants for local projects which protect our water, soil, air, agriculture and wildlife. We understand that these state and federal dollars are our hard earned tax dollars and we feel proud when we can make sure that these funds get put on the ground in a responsible way. The RCD Board of Directors, who are all local farmers, residents and business owners, work very hard to make sure our tax dollars get spent in the most efficient and effective way possible. Come and visit us sometime at our monthly Board Meetings to see for yourself.

The state and federal dollars we bring in have many restrictions and because of that the RCD isn't always able to cover the true cost of a project. This means that the RCD struggles to make ends meet to make sure that these grants can get work done in our rural communities. We have come to a place where we need to ask our community to help us make sure we can still bring these funds to the beautiful West County.

If you are interested in assisting the RCD in continuing the work we do, you can make a tax deductible donation. Please give us a call or visit our website — www.goldridgercd.org — to make a donation.

We at the RCD are optimistic about our future and hope to continue to work with our community in conserving water and soil, educating our youth about our watersheds and agriculture, and stewarding our natural resources.

Many thanks,



Brittany Heck

Executive Director, Gold Ridge RCD



SALMON RECOVERY UPDATE

GREEN VALLEY CREEK OFF-CHANNEL WINTER REFUGIA HABITAT ENHANCEMENT PROJECT

The Gold Ridge Resource Conservation District, in collaboration with the Thomas Creek Ranch Homeowners Association, Prunuske Chatham, Inc. and University of California Cooperative Extension/Sea Grant Program, is excited to announce that the Green Valley Creek Off Channel Winter Refugia Habitat Enhancement Project has been constructed. Funded by the NOAA Community Restoration Center and California Department of Fish and Wildlife, a side channel and wetland habitat was built to provide winter rearing and high flow refugia habitat for juvenile salmonids. Upon maturity, the project will provide the structurally complex, vegetated edge habitat needed by juvenile salmon to survive and thrive during winter high flows – habitat once provided by seasonally inundated, floodplain wetlands. The newly constructed side channel and associated seasonal wetland will begin providing velocity refugia in the first high flows following implementation. The project created 1.25 acres of off-channel and wetland habitat. Working with Point Blue Conservation Science, local students will assist with revegetation efforts in the next month.



Two consecutive Green Valley Watershed planning efforts have recently been conducted to identify and propose a prioritized plan of action to address limiting factors to coho salmon survival. This project was identified as a top priority and was designed to address the lack of winter rearing habitat in the Green Valley Creek Watershed, particularly in the lower reaches of the creek. Green Valley Creek is one of only five remaining streams in the Russian River drainage where wild juvenile coho are known to exist. Green Valley Creek has been impacted by many activities during the last century that have led to degradation of the stream habitat. Currently, the main type of habitat is provided

by flatwater habitat. Off channel habitat or backwater pools would provide a velocity refuge for coho salmon in the winter.

Led by the willingness of the Thomas Creek Ranch community to host a project that will showcase off-channel habitat creation, at least two tours or workshops will be offered to showcase the project. One of which will be targeted towards streamside landowners in the lower five miles of Green Valley Creek to address the habitat limitations posed by incised, simplified channel conditions and to demonstrate the construction of off channel habitat as a potential solution.

Fisheries monitoring to evaluate the project will be an extension of a long-term coho monitoring effort that is currently conducted by the UC Cooperative Extension in the Russian River, designed to evaluate the effectiveness of the Russian River Coho Salmon Captive Broodstock Program (RRCSCBP). A stationary PIT tag detection system with multiple antenna located throughout the project reach in Green Valley Creek and the constructed channel will be used to estimate the number of smolts leaving and adults returning, migration timing, and differences in survival among release groups. The monitoring infrastructure that is currently in place provides a unique foundation for evaluating the effects of the proposed habitat enhancement project on coho populations in Green Valley Creek. For more information, contact Sierra Cantor at (707) 823-5244 or Sierra@GoldRidgeRCD.org.

RAINWATER CATCHMENT SYSTEMS FOR SALMON CREEK RESIDENTS

As part of our ongoing water conservation program in the Salmon Creek watershed, the Gold Ridge RCD is finishing construction of seven rainwater catchment systems for properties located in and around the town of Bodega. These systems will collect and store a total of 157,000 gallons of rainwater each winter, and the water will be used for non-potable outdoor purposes such as irrigation and



livestock watering during the summer dry season. The systems are designed to collect their target water volume even in a severe drought year, so water is available when it is needed most. In addition to enhancing water supply security for residents of Bodega, the rainwater systems will reduce the amount of water drawn from Salmon Creek or from shallow wells located near the creek, leaving more water to support juvenile salmon and steelhead during the dry season.

The RCD currently has active water conservation programs in the Salmon Creek, Dutch Bill Creek, and upper Green Valley Creek watersheds. We can provide technical assistance to landowners who are interested in developing rainwater catchment or off-channel water storage projects, and we have a limited amount of grant funding available for construction of these projects. If your water comes from one of these creeks, or a shallow well adjacent to a creek, and you are interested in participating in an RCD water conservation program, please contact us at (707) 823-5244, or John@GoldRidgeRCD.org.

SPREADING THE WORD

Gold Ridge RCD blog

Being in the business of conserving natural resources since 1941, Gold Ridge RCD has finally decided to add its voice, insight and opinion to the Internet by starting a blog. A blog is a type of website with posts (entries) displayed in reverse chronological order (in other words, newest at the top.) We hope that you will find the blog to be of interest to you – after all, you are our main audience and we want to bring you information that will enlighten, inform, inspire, and consistently remind you of the special place we call home, western Sonoma County. To see the blog, please visit www.goldridgercd.wordpress.com. You can also read our weekly news by signing up for our E-newsletter at www.goldridgercd.org

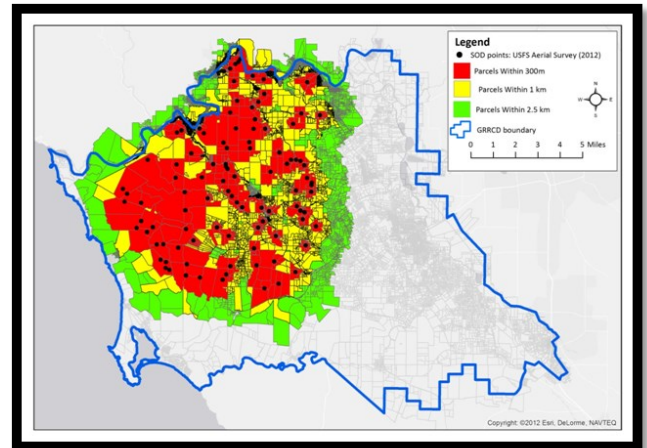
Gold Ridge RCD Facebook

Since we've started the Gold Ridge blog, we thought that we might as well expand our online presence by utilizing Facebook. It's hard to believe that Facebook was created 10 years ago as a socializing network where users can keep in touch with family and friends – sometimes endearingly and/or annoyingly so. To reduce your potential for Facebook information overload, we promise to only use our account to promote our upcoming events and useful announcements, as well as important information from our partners. We promise we'll keep our argument-causing posts to a minimum and that we won't obsess over the number of friends that we have. Because we know that we're good enough, we're smart enough, and dog-gone it, people like us. So like us on Facebook today!



UNDERSTANDING SUDDEN OAK DEATH (SOD)

We have all heard the phrase, “A picture is worth a thousand words.” The map at right pictures a thousand sighs of frustration, sorrow and anguish as it illustrates the impact of Sudden Oak Death (SOD) on the forests, habitat, and iconic landscape that defines western Sonoma County. Each black point on the map is a confirmed occurrence of recently dead tanoak or coast live oak. The red parcels are within 300 meters of a known occurrence. This data was our starting point for putting together a mailing list when Gold Ridge, in partnership with the UC Cooperative Extension from Sonoma County, invited landowners to attend our “Managing SOD, a Meeting for Forest Landowners” workshop on March 22, 2014 at the auditorium in Harmony School near Occidental.



Our outreach efforts were successful as there were 70 workshop participants who eagerly listened and had their questions answered. The day included UCCE experts on forest ecology, SOD and wildfire behavior, the status of SOD in Sonoma County, local landowner experiences with SOD management, and a private researcher who just completed a manual on managing sudden oak death (see *Hot off the Press!*). Attendees learned about the complexity of redwood forest ecology; how forest fire is negatively enhanced by standing-dead trees killed by SOD; how to manage California bay laurel trees and poison oak to lower the chance of disease spread; and that Agrifos, a chemical that protects healthy trees from SOD, does not work consistently on tanoak.

What is Sudden Oak Death?

Sudden Oak Death is a forest disease caused by the plant pathogen *Phytophthora ramorum*. When the pathogen infects susceptible trees, such as tanoak, coast live oak, California black oak, and canyon live oak, the name Sudden Oak Death is appropriate. These trees are infected through the trunk of the tree (except for tanoak, which can also be infected through the leaves) and are known as bole hosts. On many other plants in the forest – Douglas fir, coast redwood, madrone, and many others – infections occur primarily on leaves and twigs and are referred to as Ramorum blight, which is generally non-lethal.

What is *Phytophthora ramorum*?

Phytophthora ramorum is a plant pathogen that causes Sudden Oak Death (SOD) as well as a foliar/twig disease (Ramorum blight) in other susceptible plants. While it is not uncommon for plants that contract Sudden Oak Death to succumb to disease, it is uncommon for foliar/twig host plants to die from infection. Foliar hosts, unlike bole hosts, are not a dead end for the pathogen. Many foliar hosts, notably bay trees (photo above) act as a breeding ground for the disease, allowing inoculums to build up on leaves, and then spread to new areas via natural or artificial means.

Source: California Oak Mortality Task Force FAQ webpage: <http://www.suddenoakdeath.org/about-sudden-oak-death/faq/#Phytophthora>

Hot off the Press!

A Reference Manual for Managing Sudden Oak Death in California, Ted Swiecki & Elizabeth Bernhardt. http://www.fs.fed.us/psw/publications/documents/psw_gtr242/

Perhaps most interesting for the landowners was the perspective of Susan Anderson, a landowner from Valley Ford who shared her experience of managing SOD on her property since 2006. She worked with a forester and used funding from



CalFire's California Forest Improvement Program to develop a strategy. Her approach includes sanitation of tools and equipment, removal of infected tanoaks and coast live oaks, replanting with native oaks and Douglas-fir, and protection of a stand of black oaks with a combination of Agrifos and removal of bays.

Susan's take-home message for landowners who are tasked with managing SOD on their land is that SOD impacts can be mitigated and valuable specimen trees can be saved by landowners who develop a management strategy and make a long-term commitment to following through with it. We also heard from Nina Hapner, Director of the Department of Environmental Planning from the Kashia Band of Pomo Indians of Stewarts Point Rancheria. SOD presents a serious ecological threat to the oaks and tanoaks that have cultural and community significance to the Kashia. The most serious threat is the loss of highly valued acorn producing trees in traditional gathering areas (California Oak Mortality Task Force, 2014). SOD also presents a threat to the amount and quality of basket weaving materials (California Oak Mortality Task Force, 2014). Nina provided us with a holistic perspective that rounded out the event and reminded us all that we need to view the natural system of our forests and all of its properties as a whole and not as a collection of parts. The forest was actively managed by the indigenous people of the area for optimal use of resources and reduction of insect and disease. Part of that management included fire. The removal of one species in its entirety is NOT effective management and will alter the forest in ways that many will not understand.

There is no easy answer for landowners when it comes to SOD management. The disease is here to stay and we need to recognize that it will take a collaborative, integrated, and long-term effort to mitigate the environmental impacts of SOD and reduce the rate of spread to uninfested areas. Landowners can play an important role in shaping the post-SOD landscape, and reducing impacts to the wild and human residents. We need to plan accordingly for the future with a holistic perspective, a perspective that recognizes the dynamics of *P. ramorum* with respect to tree decline but we should also consider the age and structure of the forest, the fire history, the health of the soil, and the historical land management practices. Gold Ridge RCD thanks UCCE staff, the US Forest Service, and CalFire for their support, as well as the landowners who participated in the workshop.

SOIL HEALTH & NO-TILL DRILLING

What if we told you that the key to your land's ability to be resilient in the face of drought is the soil that lives underneath your feet? More specifically, your land's resilience is the result of the health of your soil. According to the USDA Natural Resources Conservation Service, soil health refers to the capacity of a soil to function.

Politician, Civil War Veteran, and famous orator Robert Green Ingersoll is quoted with saying that "In nature, there are neither rewards nor punishments; there are consequences."

The assumption that cultivation of the soil through tilling, disking and harrowing will increase crop yields, improve soil structure, and reduce weed pressure and competition is being challenged by a new focus on soil health by the Natural Resources Conservation Service. "Nature does not till," says Ray Archuleta, Conservation Agronomist with the USDA's Natural Resource Conservation Service and member of the National Soil Health and Sustainability Team, which begs the question: "Why do we?"

According to Archuleta, "Tilling the soil is the equivalent of an earthquake, hurricane, tornado, and forest fire occurring simultaneously to the world of soil organisms. Simply stated, tillage is bad for the soil." Therefore, the consequences of tillage has resulted in naked, bare or compacted soil with an environment "that is destructive and disruptive to soil microbes and creates a hostile, instead of hospitable, place for them to live and work."



How well is your soil functioning to infiltrate water and cycle nutrients to water and feed growing plants? Soil function, soil structure and soil health are the result of physical, biochemical and biological processes. And our soils need to be able to support a growing world population. But farmers face unprecedented constraints – namely climate change, energy scarcity and resource degradation (Rai et al, 2011).

According to the NRCS Soil Health Team, "Managing for soil health (improved soil function) is mostly a matter of maintaining suitable habitat for the myriad of creatures that comprise the soil food web. This can be accomplished by disturbing the soil as little as possible, growing as many different species of plants as practical, keeping living plants in the soil as often as possible, and keeping the soil covered all the time."

Works Cited:

USDA Natural Resources Conservation Service -National Soil Health and Sustainability Team. (2011). Farming in the 21st Century: A Practical Approach to Improve Soil Health. USDA NRCS. www.nrcs.usda.gov/wps/PA_NRCSCconsumption/download?cid=stelpdb1245068&ext=pdf

Rai, M., Reeves, T. G, Pandey, S., & Collette, L. (2011). Save and grow: a policymaker's guide to sustainable intensification of smallholder crop production. Rome: Food and Agriculture Organization of the United Nations. Accessed online on 15 April 2014 at <http://www.fao.org/docrep/014/i2215e/i2215e.pdf>

VOLUNTEERS PLANT POLLINATOR HEDGEROW AT BLOOMFIELD FARMS

Through funding provided by the Clif Bar Foundation and Patagonia through the North Coast Resource Conservation and Development Council, Gold Ridge staff worked with Bloomfield Organics to host a volunteer planting day, where volunteers helped to establish a 150-ft pollinator hedgerow. The hedgerow included a variety of drought tolerant, primarily native flowering perennials, meant to provide year-round sources of pollen and nectar for the honeybee and native bee species that together work to pollinate one-third of our food supply. The Gold Ridge RCD continues to seek funding to enhance on-farm pollinator habitat. Please contact Noelle Johnson at Noelle@goldridgercd.org for more information.



ASSISTANCE FOR SMALL-SCALE SEDIMENT REDUCTION



The Gold Ridge RCD is set to receive its fourth grant through the Department of Water Resources, which includes funding for small-scale sediment reduction projects on agricultural properties. EQIP-eligible landowners within the watersheds of the Estero Americano, Salmon Creek, Green Valley Creek, or Dutch Bill Creek who are interested in seeking assistance with erosion concerns are encouraged to contact Noelle Johnson at Noelle@goldridgercd.org or 707-823-5244 for more information.



UPCOMING EVENTS

33rd Annual Salmonid Restoration Federation Conference, Santa Rosa, March 11-14, 2015: Gold Ridge is hosting two sessions: a tour of salmon and trout habitat improvement projects and a workshop-and-tour on improving summer low flows for salmon in local creeks. See habitat improvements through the installation of instream large woody debris structures and construction of off-channel habitat at three project sites within the Gold Ridge district. Hear RCD staff and partners presentation on the scientific background and legalities of alternative water source and water storage projects, as well as their planning and implementation. For more information on the conference, visit www.calsalmon.org.

Rent a No-Till Drill from Gold Ridge RCD: Till-less drilling allows you to seed without disturbing sensitive topsoil. Contact William@GoldRidgeRCD.org for more information.

Make a Tax-Deductible Donation to Gold Ridge: We do more for our community's watersheds, residents and ranches with the help we receive from donations each year. Visit GoldRidgeRCD.org to make a secure donation, or mail to 2776 Sullivan Road, Sebastopol, CA 95472. Thank you.

GOLD RIDGE RCD



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BOARD OF DIRECTORS MEETINGS:

Third Thursday of each month at
6:00 pm

2776 Sullivan Rd.,
Sebastopol, CA 95472

MEETINGS ARE OPEN TO THE PUBLIC

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Ann Cassidy
Richard Hughes
Jill Butler

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