



THE NEW FOOTHILL RANCHER

...Practical Information for Foothill Livestock Producers

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Placer—Nevada—Sutter—Yuba Counties



November 2022

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Interested in Learning about using Prescribed Fire for Rangeland Improvement?

Join UCCE and the Kramer Ranch for a Winter/Spring Series of Hands-on Workshops!

Prescribed fire can be an incredibly useful tool in improving rangeland conditions and controlling invasive weeds (like yellow starthistle and barbed goat grass). Working with the Kramer Ranch near Grass Valley, UCCE Placer-Nevada is hosting a series of winter and spring workshops and work days focused on preparing the ranch for a spring-time burn aimed at controlling barbed goat grass.

The Kramer family's goal is to do a trial burn on a one-third acre patch of barbed goat grass this spring (with hopes of treating more infestations in future years). According to UC research, two consecutive years of prescribed fire can be an effective control method for barbed goat grass. This spring will be year one of this project. In order to prepare the site for a spring-time burn, the Kramers will be burning the adjacent portions of their land to create a "black-line" fuel break during the winter months. We're collaborating with the Natural Resources Conservation Service, the Placer Resource Conservation District, and local prescribed burn associations to help the Kramers and to help other ranchers learn more about using fire.



The workshops/work days, which will kick off in mid-November if the weather cooperates, will provide a hands-on opportunity for ranchers and landowners to learn:

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- How to assess whether prescribed fire is a tool that will help them meet their short- and long-term goals for improving rangeland forage and reducing invasive weeds;
- How to use simple hand tools and common power equipment to prepare a burn unit for slow, low, winter burning;
- How to address permitting and liability issues associated with prescribed fire;
- How to work with resource professionals to plan for and implement prescribed fire;
- How to put fire on the ground safely; and
- How to use winter-time prescribed fire to prepare their land for a spring-time burn focused on controlling invasive weeds.

Obviously, using prescribed fire is heavily dependent on taking advantage of burn windows through the course of the winter and early spring. While we can't set exact dates, we can give you 24-48 hours of notice before each potential hands-on opportunity! If you're interested in participating, please [complete this survey](#). We will send an email notice before each work day or burn day.



If you have questions, please contact me at dmacon@ucanr.edu or (530) 889-7385.

After the Fire: Resources for Landowners and Land Managers Impacted by the Mosquito Fire

By Dan Macon, UCCE Livestock and Natural Resources Advisor; Rick Satomi, UCCE Forestry and Natural Resources Advisor; and Katie Low, UCCE Fire Program Coordinator.

With full containment of the Mosquito Fire, residents of Placer and El Dorado Counties have largely returned home and are beginning the difficult process of recovery. Rebuilding after fire can be a stressful experience but resources are available to help:

- El Dorado County [Local Assistance Center](#)
- Placer County [Local Assistance Center](#)

Along with damage to built structures, vegetation and natural areas on the property may need restoration – dry forage conserved for fall grazing must be replaced (likely with purchased hay in the short-term), drainage around damaged culverts and road surfaces must be mitigated before the winter. Other impacts may also emerge in the coming months – some trees that were scorched will survive while others die; burned brush may vigorously resprout and develop into future fire hazards; invasive weeds may gain a foothold on bare ground.

To help landowners and managers assess the conditions of their properties and make decisions about managing their resources going forward, we've compiled a number of helpful resources below:

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Evaluating burn severity

The most damaging long-term impact to natural resources after wildfire is soil erosion. Loss of aboveground cover and even surface cover exposes soil to erosive effects of precipitation and runoff. This may be worsened on steep slopes or areas where roads are damaged and water may channelize. There are many different methods land owners can use to reduce the risk of significant soil erosion post-fire. Generally, the faster you implement erosion mitigation techniques, the more you increase the likelihood of reducing erosion impacts. You can find more information about erosion mitigation on the [UCANR Fire website](#).

Consider evaluating risks to soil on and leading to your property. On private land, consultation with the Natural Resource Conservation Service, local RCD, or private land restoration consultant may help determine the severity of damage and what restoration work is needed to protect the soil.

If adjacent to federal land, Burned Area Emergency Response (BAER) teams are currently assessing severity impacts to determine where protection measures are required to minimize damage to soil productivity, hydrologic function, and water quality. Once complete, these reports will be made public and can be used to identify potential risks to your property.

El Dorado County NRCS: Brook Fuller (530) 295-0120 ext 3

Placer County NRCS: Chris Robbins (530) 217-6258

Tree mortality

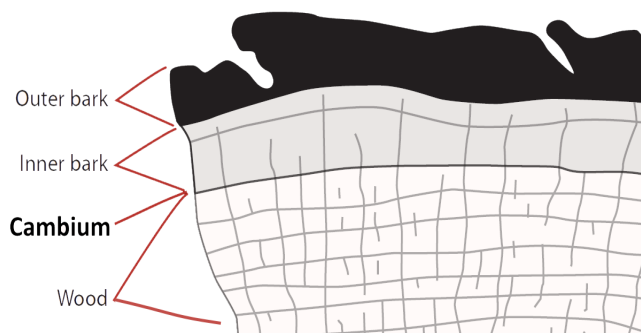
Not all trees will die after being damaged by fire. Native California tree species have several adaptations which can help them survive or recover quickly after fire. If a tree does not pose an immediate hazard to health or property, it may be worth waiting to see whether it will recover.

Hardwoods and conifers differ in their resistance and ability to recover from fire. Since conifers only produce one set of foliage each year, the loss of foliage can be fatal. Typically, conifers may survive with as little as 25% of the crown remaining intact. However, smaller trees (less than 6 inches in diameter) and where the entire base of the tree has been exposed to fire, are unlikely to survive.

In contrast, oaks can potentially re-leaf after and therefore survive when all the foliage has burned off. Even when the trunk has been killed, many oaks will resprout from the roots in the spring, which can re-establish more quickly than acorn plantings.

If uncertain, cut small openings in the bark to expose the cambium layer underneath and check if the cambium is moist. A slow burning fire may leave the foliage green, but kill the live cambium tissue of the tree.

It is also important to consider the difficulty and cost associated with removing a tree now versus in the future. Depending on the size of your property and the number of trees, emergency exemptions may be available to re-move any damaged trees and accelerate the regeneration of a forest stand. Consult with a local Registered Professional Forester or Certified Arborist for more information.



Surviving trees have **Pink, Moist, and light colored wood** under the bark



Dead trees will have **Brown, Dry, dark colored wood** under the bark



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For more information, see [Post Fire Recovery for Forest Landowners \(UCCE\)](#).

Smoke/ash impacts on forage and livestock health

While wildfire may directly injure livestock, we're often more concerned with short and long-term impacts from smoke inhalation. To reduce stress and health risk to your livestock, limit exercise when smoke is visible. Particulates can also alter the immune system and reduce the ability of the lungs to remove foreign materials, such as pollen and bacteria, to which livestock are normally exposed. If livestock have experienced coughing over a long period of time, there is a greater risk of secondary problems such as bacterial pneumonia. Give livestock ample time to recover from smoke-induced airway insult.

Plan on giving livestock 4 to 6 weeks to recuperate after the air quality returns to normal. Handling, moving, or transporting livestock during this time may aggravate the condition, delay the healing process, and compromise the performance of livestock for many weeks or months. If your livestock continue to experience primary or secondary problems with smoke-induced respiratory injury, you should contact a livestock veterinarian.

Forage toxicity is also a common concern after a wildfire, particularly in areas where structures and household products have been lost. Forage sampling research conducted after previous fires has demonstrated little evidence of wildfire ash causing increased heavy metal or other toxicity issues in forages. While more detailed studies are needed to provide additional information, preliminary results from recent fires with a high degree of structure loss have shown that forages affected by wildfire ash deposition are likely safe for livestock to consume. If you have forages that may be affected by ash deposition, evaluate the concentrations of minerals before formulating a ration. If you're exceptionally concerned about toxicity from contamination and cannot dilute with unaffected feed, isolate and test feed for heavy metals and organic compounds. Reach out to your local UCCE Farm Advisor if you have questions regarding taking a representative sample, choosing a lab, lab analyses, or interpreting your results.

More Info:

Livestock Damage: [Wildfires, Smoke, and Livestock \(UC Davis\)](#)

Forage Toxicity: [Wildfire Ash: Impact on Forage Crops](#)

Contact the [Farm Service Agency](#) for more information about livestock disaster programs.

Rangeland seeding

Preventing soil erosion is a top priority for fire-impacted rangelands. Physical changes to the soil, combined with loss of vegetation, can create a variety of problems including soil movement, increased runoff, mudflows, and debris flows. Research indicates that the amount of exposed mineral soil, regardless of slope, is correlated to erosion potential. For rangeland livestock operations, weed-free straw mulch is the best option for keeping soil in place. Soil protection measures should be in place before the first significant rain of the autumn.

For more information, see [After the Fire: Resources for Ranchers](#).

Infrastructure recovery

Do not re-enter any areas that were heavily damaged or destroyed by fire until local fire authorities have cleared the area. Once you re-enter, it is important to assess hazards to protect your health and safety. Personal Protective Equipment such as N95 rated masks, protective clothing, gloves, and boots, and eye protection can reduce exposure to hazards.

Next, you should decide how you want to remove debris. There are three main options for doing so

1) government-run programs 2) private contractors and 3) doing it yourself.

- Generally, counties implement a multi-phase approach to remove hazardous materials from residences:

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Phase I: removing household hazardous waste that may pose a threat to human health (e.g., batteries, asbestos siding, paints).

- This is required for all residential properties, but will be a free service in both counties.
 - ◊ [El Dorado County's Phase 1](#)
 - ◊ [Placer County's Phase 1](#)
- Phase II: removal of debris and conducts property clean-up work. This includes removal of all burnt debris, foundations, hazardous trees, and contaminated soil to ensure the site is safe for building. Participation in the government run debris removal program is encouraged but optional.

Food Safety: [Food Safety Following Wildfire Evacuation \(UCCE\)](#)

Placer County: <https://www.placer.ca.gov/mosquito-fire-recovery>

El Dorado County: <https://www.edcgov.us/wildfire/Pages/Mosquito-Fire-Recovery.aspx>

For damages to ranch infrastructure and livestock, [contact local FSA/NRCS professionals](#), or your local resource conservation district.

And we want to hear from you, too! What kinds of assistance and information needs do you have after the fire? We're planning on field days and workshops focused on post-fire resilience in the coming months, and want to make sure we're addressing specific questions! If you were impacted by the Mosquito Fire, [please take this brief survey!](#)

Workshop Schedule

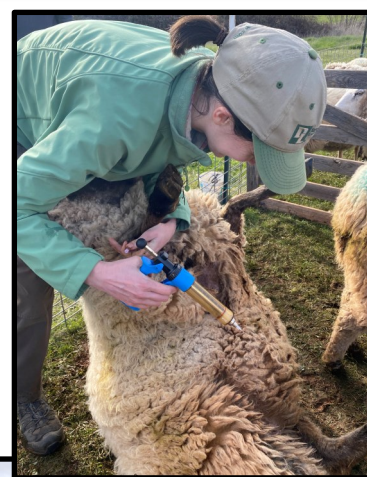
Save the Date!

Sheep Husbandry Field Day (January 14, 2023 Auburn, CA):

Our UCCE Sheep and Goat Extension Veterinarian (and co-star of the Sheep Stuff Ewe Should Know podcast), Dr. Rosie Busch, will be joining us again for a half-day field focused on sheep husbandry. You'll learn how to assess body condition and parasite status, read vaccine and medication labels, administer injectable vaccines, and assess foot health!

Pasture Lambing Field Day (March 4, 2023 – Auburn, CA):

Get hands-on experience working with lambing ewes! We'll discuss ewe nutrition, the advantages and challenges of pasture lambing, common lambing problems (and solutions!) and record-keeping systems. Led by Dan Macon and Dr. Rosie Busch.



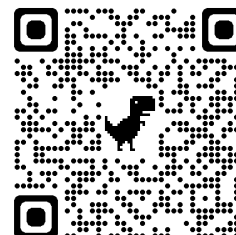
Can't Make the Webinar? Check out these Virtual Learning Opportunities!

Can't make it to a webinar or a field day? Wish you could remember what that speaker said during the workshop? Want to take a deeper dive into livestock guardian dogs? Or maybe you just want to see why Dan Macon and Ryan Mahoney decided they had faces made for podcasting!

Check out the [Ranching in the Sierra Foothills YouTube Channel](#),



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How do you prefer to get information from your local

UC COOPERATIVE EXTENSION
LIVESTOCK and NATURAL RESOURCES Program?

Please take this short survey to help me better meet your information needs!

<http://ucanr.edu/livestockinfosurvey>

For a hard copy of the survey:

Please call (530) 889-7385 or email me at dmacon@ucanr.edu.

Thank you!

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