



Placer County

11477 E. Avenue

(Bldg 306, DeWitt Center)

Auburn, CA 95603

OFFICE 530-889-7385

FAX 530-889-7397

Email: ceplacer@ucdavis.edu

Days: Monday - Friday

Hours: 8 - 5

Nevada County

255 So. Auburn Street

(Veterans Memorial Bldg)

Grass Valley, CA 95945

OFFICE 530-273-4563

FAX 530-273 4769

Email: cenevada@ucdavis.edu

Days: Tuesday & Thursday

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Email: jsims@ucanr.edu.

Website: http://ucanr.edu/sites/anrstaff/Diversity/Affirmative_Action/.

After the Fire – Tips for Rangeland Managers

By Dr. Kate Wilkin, Forestry/Fire Science and Natural Resource Advisor and Dan Macon, Livestock and Natural Resource Advisor

Like many Northern Californians, we awoke early on October 9, 2017, to reports of wind-driven wildfires devastating our communities. At this writing, fire crews continue to fight the Lobo and McCourtney Fires in Nevada County, the Cascade Fire in Yuba County and the La Porte and Cherokee Fires in Butte County. As we begin to think about the long road to recovering from these fires, we wanted to provide some resources for rangeland owners and managers to assist with post-fire recovery activities.

It might be hard to look out at the charred landscape and imagine its recovery now. However, within the month, we will start to see green growth. Riparian areas will start to green-up within the next two to six weeks. Even though many of the oaks may appear dead, many will sprout from the base this growing season. For surviving oaks, their canopies most often recover within three growing seasons. While the thin-barked foothill pines may not survive, many of our native shrub species will re-sprout or reseed.



To start the recovery, you will need to assess the fire severity on your property, and any nearby values that you would like to maintain. Many of us in the foothills are concerned about the oaks that have been damaged by fire. A 2011 publication from the University of California provides important information about

managing burned oaks. Go to <http://anrcatalog.ucanr.edu/pdf/8445.pdf> to download the publication. Authors Doug McCreary and Glenn Nader provide guidelines for determining which fire-damaged oaks on your land may survive. Trees on which the cambium layer (the tissue directly beneath the bark) has been killed all the way around the stem will eventually die. “However,” McCreary and Nader write, “even if a small portion of the circumference of the cambium remains alive (as little as 10%), the tree will likely survive.” Generally, trees that suffer leaf damage will recover if the cambium survives. The publication offers the following guidelines for deciding which trees to leave:

Okay to Cut Trees That:

- Are less than 6 inches in diameter and have been scorched all the way around the trunk.
- Are 6-12 inches in diameter and have continuous charring around the base, with reductions in bark thickness.
- Are more than 12 inches in diameter and have continuous charring, pronounced reductions in bark thickness, and occasional exposure of underlying wood.
- Have basal wounds on 50% or more of their trunks and are located where they could present a safety hazard.

We should note that while these trees are dead, they do not necessarily need to be removed. Leaving some or most of these trees as wildlife habitat is advantageous, provided they do not present a safety hazard.

Leave Trees That:

- Have lost most of their leaves but have sustained only minor stem damage.
- Have only spotty scorching on the trunk, with at least 10% of the cambium alive.
- Are over 12 inches in diameter and are scorched all the way around the trunk but with no reduction in bark thickness.

Finally, even killed trees that have been cut down may re-sprout. Live oak re-sprouts can be especially vigorous, but almost all other oak species will sprout in the following spring. If sprouts are pruned back to one or two dominant shoots, these will grow more rapidly and have less tendency to develop multiple trunks.

As we head into the rainy season, preventing soil erosion is also a priority on fire-impacted landscapes. There are several methods landowners should consider for preventing erosion after a fire. Mulch, like certified weed-free straw, can be used to cover bare soils. This reduces raindrop impact and soil particle movement and can offset the effects of water-repellent soils. On steeper slopes, straw wattles, silt fences, log barriers or straw bale check dams can slow water flow, trap sediment and increase infiltration. Depending on your landscape and livestock operation, you may want to reseed annual grasslands this fall as well – the Natural Resources Conservation Service (NRCS) should have seeding recommendations. On the other hand, natural regeneration of the vegetation may be preferable for some landowners and on some landscapes. A new publication on restoring annual grassland systems has useful information on this subject (see <http://anrcatalog.ucanr.edu/pdf/8575.pdf>). In addition, NRCS has a variety of cost-share and technical assistance programs that may help landowners address post-fire erosion and revegetation concerns. For more information, contact:

NRCS – Grass Valley Service Center
(530) 272-3417

NRCS – Yuba City Service Center
(530) 674-1461

The USDA Farm Service Agency has several programs available to assist livestock producers who have lost forage to wildfire. The Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program (ELAP) can provide some reimbursement for livestock death losses and forage losses – download this fact sheet for more information: https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2017/elap_for_livestock_oct2017.pdf.

Finally, ranchers should watch for smoke and fire-induced stress impacts on livestock. Just as with humans, smoke inhalation can cause irritation of the eyes and respiratory tract in livestock. It can also aggravate chronic lung diseases and reduce lung function. Burn injuries can also be an issue for some producers. Drs. John Madigan, David Wilson and Carolyn Stull from the UC Davis School of Veterinary Medicine have developed a short, easy-to-read publication on caring for livestock after a wildfire – download the publication here: <http://cecentralsierra.ucanr.edu/files/220420.pdf>.

Recovering from fire is a long, challenging process. In the upcoming weeks, we will write more about prioritizing vegetation management and post-fire succession on your property. In the meantime, be sure to check out the Sutter-Yuba Living with Fire Webpage at http://cesutter.ucanr.edu/Fire_Information/. If you have specific questions regarding fire impacts and post-fire recovery on your property, don't hesitate to contact us directly!

Dr. Kate Wilkin
(530) 822-7515
kwilkin@ucanr.edu

Dan Macon
(530) 889-7385
dmacon@ucanr.edu