

## Keeping Livestock Safe and Healthy During Wildfires

Wildfire can be stressful for livestock as well as for farmers and ranchers. Immediate risks for livestock can include injury or death from the fire itself; long-term risks include stress-induced weight loss or reproductive problems, as well as respiratory illness due to smoke inhalation. Remaining calm and using low-stress livestock handling techniques during a wildfire will help reduce stress for both animals and people. This approach can also help minimize respiratory problems associated with over-exertion in a smokey environment.

### Prepare Before the Wildfire

Accurate livestock inventories and other records can be critical to filing post-wildfire claims and documenting losses. Key records include preg-check receipts from your veterinarian with the number of females checked, receipts from livestock purchases (especially bulls, rams, or bucks), and ensuring all livestock transportation, either personal or third party, list the date, class of livestock hauled (e.g., cows, calves, yearlings), and number of each. Consider backing up your records using cloud-based storage to ensure access if your original records are lost.

Monitor Red Flag Warnings and operate under extreme caution. Red Flag Warnings are issued by the National Weather Service when weather conditions make wildfires more likely to ignite and spread rapidly. To monitor weather conditions, visit the National Weather Service and enter your ZIP Code (<https://www.weather.gov/mgt/redflagtips>). **It is important to develop a Red Flag Day routine for you, your employees, and livestock.** If you are planning to evacuate, be sure to allow for the time necessary to arrange transportation, gather livestock into shipping facilities, and load them.



**Figure 1:** Cow in a forest burned by the 2021 Dixie Fire.

### What To Do If You Cannot Evacuate?

Depending on where the wildfire is in relationship to your livestock, the distance between livestock location and shipping facilities, and approaching fire behavior, safely evacuating your livestock may not be possible. It is important to plan ahead and create safe zones where livestock and people can safely shelter in place in the event that you cannot evacuate. Look for green areas that do not have significant tree cover, such as irrigated pastures or mountain meadows, or look for areas that have been cleared of all flammable vegetation and materials. Ultimately, **human safety is far more important; you may need to evacuate even if you cannot get your livestock to safety.**

If sheltering in place, or if you are experiencing poor air quality due to smoke, avoid unnecessary livestock activities. For example, postpone vaccinations, pregnancy checks, or other activities when the Air Quality Index is over 151 ppm. Poor air quality may also increase respiratory infections in livestock (see <https://pubmed.ncbi.nlm.nih.gov/34827962/> for more information). **It is important to establish a**

**veterinary client relationship before a wildfire** so you are prepared to quickly care for animals that may require antibiotic treatment post-wildfire.

Most counties in California have developed livestock pass programs designed to allow producers to enter an evacuation zone to care for livestock, and, in some cases, to move livestock to a safe location. For more information on emergency livestock pass programs in your area, contact your local UCCE Livestock Advisor or your county Agricultural Commissioner.

If you are entering an evacuation zone, or if you are gathering livestock in an area threatened by wildfire, consider having the following supplies with you (Table 3):

Supply Type	Recommended Materials
<b>Personal Supplies</b>	<ul style="list-style-type: none"> <li>● Dress in natural-fibered clothes including long-sleeved shirt that covers neck, long pants with sturdy belt, heavy shoes or boots, and a cotton hat.</li> <li>● Personal medications, eyeglasses, and contact lenses</li> <li>● Leather work gloves and eye protection</li> <li>● Face coverings (N95 masks recommended for wildfire smoke protection)</li> <li>● Toiletries (including eye drops, sunscreen, bug spray, and hand sanitizer)</li> <li>● Flashlight and/or headlamp</li> <li>● Map with multiple evacuation routes and location of livestock labeled</li> <li>● Drinking water and food</li> <li>● Battery-powered radio and extra batteries</li> <li>● Necessary electronics and chargers</li> </ul>
<b>Truck and Trailer Supplies</b>	<ul style="list-style-type: none"> <li>● First aid kit</li> <li>● Spare tire and tools</li> <li>● Fire extinguisher and fire shelter</li> </ul>
<b>Tools and Equipment</b>	<ul style="list-style-type: none"> <li>● Shovel or other fire tool</li> <li>● Backpack pump or other fire water supply</li> <li>● Chainsaw and fuel</li> <li>● Bolt cutters and heavy-duty wire cutters</li> <li>● Generator and fuel to provide power to an electric squeeze chute or water pump</li> </ul>
<b>Livestock Health Supplies</b>	<ul style="list-style-type: none"> <li>● Supplemental feed/forage and drinking water for livestock</li> <li>● Medication (e.g., antibiotics, pain reliever options, disinfectants, needles, and syringes)</li> <li>● Ropes and/or other catching and restraint tools</li> <li>● Euthanasia tools</li> <li>● Paperwork: Livestock inventory records and transportation slips for cattle.</li> <li>● Herding tools (e.g., flags, paddles, boards)</li> </ul>

**Table 3:** Recommended list of supplies to take if you are entering an evacuation zone or if you are gathering livestock in an area threatened by wildfire.

Finally, take photographs of all wildfire-related losses (livestock, infrastructure, and equipment) to provide documentation for insurance purposes or Farm Service Agency federal disaster payments.