

# **WILDFIRE SEASON**

## IN NEW MEXICO



**What You Need to Know to Protect Your  
Family, Animals and Property**



For additional information – including important telephone numbers and websites to reference this fire season – please visit [www.nmda.nmsu.edu](http://www.nmda.nmsu.edu).

The New Mexico Department of Agriculture and the New Mexico Department of Homeland Security and Emergency Management have worked together to produce this guide about the importance of reducing the risk of wildfire as the summer season approaches. Following even just a few of the simple tips outlined in this guide will go a long way to protect our state's natural resources, as well your family, pets, and property.

During my time in office, I have visited several areas affected by wildfires. Some areas were much worse than others, but the bottom line is fires are dangerous, costly and can be deadly. Carelessness can cause a simple mistake to turn into a major disaster.

As New Mexicans we are blessed with some of the most beautiful natural places in the world; a wildfire can change our landscape for decades and homes and livelihoods can be destroyed in an instant. The best we can do is work to prevent wildfires and prepare for them. I encourage you to take the time to implement these practices around your home and in your daily routine this summer. Fire affects everyone, and **if we work to prevent wildfire, we can ensure safety for everyone and the continued protection of our precious land, water, and air.**



**Susana Martinez**  
*Governor of New Mexico*

The Department of Homeland Security and Emergency Management is honored to be part of this multi-agency effort to inform New Mexicans about the threat of rangeland wildfire and what can be done to lessen the impacts of these potentially devastating wildfires.

New Mexico has witnessed some of the largest wildfires in our state's history during 2011 and 2012. Over the past two years, approximately 45 percent of all wildfire acreage burned in New Mexico was due to lightning strikes, which are the only natural cause of wildfires. In comparison, during the same two years, approximately 55 percent of wildfire acreage in the state was due to careless human causes, such as leaving campfires burning or discarding cigarettes in dry areas. Other human causes are accidental, such as downed power lines or fuel ignition by a hot vehicle exhaust pipe.

We have entered our third straight year of severe and extreme drought across the entire state. This creates an environment susceptible to extreme fire. I need each of you to do your part in preventing fires from starting. Report fires by calling 911 as soon as you see one. Together we can protect and preserve our communities and natural resources.

**Think smart. Don't let wildfires start.**

*Secretary of the New Mexico Department of Homeland Security and Emergency Management*



**Greg Myers**

### **2012 was an exceptional year for wildfire in New Mexico.**

The Whitewater-Baldy Complex Fire near Reserve burned more than 465 square miles, leaving the biggest burn scar in state history. The Little Bear Fire near Ruidoso caused more destruction than any previous blaze in New Mexico, destroying more than 250 homes and other structures. Given the rural nature of both areas, cattle and horses were among the "residents" that had to be evacuated, and our state's precious natural resources were among the things that suffered. The Little Bear Fire, for instance, damaged six watersheds in and around Ruidoso.

The drought that created the conditions for such destruction last year is expected to persist. What to do? Short of wishing for rain – lots of steady, soaking rain – there are some things you can do to minimize wildfire and its potential impacts on your life. I invite you to learn more in the following pages and to use this as an opportunity to talk with your family and friends about preventing wildfire, as well as your plans if a wildfire were to break out in your area.

**New Mexico is a special place. Let's work together to keep it that way!**

*Secretary of the New Mexico Department of Agriculture*



**Jeff Witte**

# HOW HOMES IGNITE



Excerpted from "Communities Compatible with Nature" with permission from the National Fire Protection Association's Firewise Communities Program

**To understand a home's wildfire risk and what you can do to protect it, first consider how wildfires spread. Wildfires do not always burn everything in their paths — fire behavior is affected by fuel, weather, and terrain. Here is a look at the role these elements play:**

## FUEL:

Fuel includes anything that burns - trees, shrubs, grass, homes, fences, sheds and other vegetation and structures. Fine fuels, such as dead grass and pine needles, spread fire faster than coarse fuels, such as dead twigs and branches.

- Surface fuels include dry grass, shrubs, pine needles, dead branches and twigs. Surface fires tend to be relatively low-intensity fires, but homes are at risk if there are continuous fuels that can burn right up to the house.
- Ladder fuels include tall brush, low branches, and other fuels that can carry fire from a low-intensity ground fire up into the tops of the trees, known as the crowns or canopies.
- Crown fuels are flammable tops of trees and tall shrubs, also called canopies. Once a wildfire becomes a crown fire, it spreads rapidly and reaches extreme intensity. Research suggests that homes must be within 100 feet of the flames to be directly ignited by a high-intensity crown fire, and breaks in tree canopies, such as roads and utilities, frequently keep high-intensity crown fire from directly reaching communities. During a high-intensity wildfire, homes are far more likely to be threatened by firebrands (burning embers) that can be carried more than a mile by strong

winds and start separate fires that lead right up to the home.

## WEATHER:

Dry, windy weather contributes significantly to the spread of wildfire. Drought conditions accompanied by low humidity lead to dry vegetation that burns easily. Wind can cause wildfires to grow quickly, to die down, or to change direction. Wind can also carry firebrands long distances - up to a mile or more.

## TERRAIN:

Generally, fire moves more quickly uphill and has longer flames than on level ground or when spreading downhill. Even the direction of the slope and how much sunlight or wind an area receives can impact fire behavior.



The Little Bear Fire burns near Ruidoso, 2012. Photo courtesy of Kari Greer, U.S. Forest Service.

# FIREWISE TIPS CHECKLIST FOR HOMEOWNERS



Reprinted with permission from the National Fire Protection Association's Firewise Communities Program

**WILDFIRE DOESN'T HAVE TO BURN EVERYTHING IN ITS PATH.** In fact, cleaning your property of debris and maintaining your landscaping are important first steps to helping minimize damage and loss.

The work you do today can make a difference. Follow these simple action steps now and throughout the year to prepare and help reduce the risk of your home and property becoming fuel for a wildfire:

- Clear leaves and other debris from gutters, eaves, porches and decks. This prevents embers from igniting your home.
- Remove dead vegetation from under your deck and within 10 feet of the house.
- Remove anything stored underneath decks or porches.
- Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
- Remove flammable materials (firewood stacks, propane tanks, dry vegetation) within 30 feet of your home's foundation and outbuildings, including garages and sheds. If it can catch fire, don't let it touch your house, deck or porch.
- Wildfire can spread to tree tops. If you have trees on your property, prune so the lowest branches are six to ten feet from the ground.
- Keep your lawn hydrated and maintained. If it is brown, cut it down to reduce fire intensity. Dry grass and shrubs are fuel for wildfire.
- Don't let debris and lawn cuttings linger. Dispose of these items quickly to reduce fuel for fire.
- Inspect shingles or roof tiles. Replace or repair those that are loose or missing to prevent ember penetration.

- Cover exterior attic vents with metal wire mesh no larger than 1/8 inch to prevent sparks from entering the home.
- Enclose under-eave and soffit vents or screen with metal mesh to prevent ember entry.

Learn more about how to keep your family safe and reduce your home's risk for wildfire damage at [www.firewise.org](http://www.firewise.org).



The Little Bear Fire destroyed this home and more than 250 other structures when it burned near Ruidoso in 2012. Photo courtesy of Kelly Hamilton, Southwest Border Food Safety and Defense Center.



# KNOW BEFORE YOU GO: CAMPFIRES AND FIRE RESTRICTIONS

By Dan Ware, New Mexico State Forestry

With the summer season right around the corner, many New Mexicans have camping on their minds. Our public lands will be bustling with activity, and folks from across the state will be making plans for a getaway to enjoy all that the great outdoors has to offer.

Whether you're planning a quick weekend escape with the family or an extended period of time camping out, there are some important things to remember before you leave.

Few things are more associated with camping than the traditional campfire. They keep us warm, cook our food and enhance camp songs and storytelling. But with this tradition comes responsibility.

New Mexico has experienced some of the driest years on record recently, and because of that, fire restrictions on public lands during periods of high fire danger have become a necessity.

For this reason, it's imperative that you "know before you go" – that is, check to see if any fire restrictions have been put in place for the area you plan to visit. There are some very simple ways to do this.

A new website, [www.firerestrictions.us](http://www.firerestrictions.us), has been created and will list and explain all fire restrictions on public lands in New Mexico. There is also a fire restriction hotline, **1-877-864-6985**, updated with the latest fire restrictions around the state. If you plan to camp at a New Mexico state park ([www.nmparks.com](http://www.nmparks.com)) or at a campground on federal lands, contact those agencies directly to find out if there are any specific limitations in place.

If you plan to camp at an area where fires are allowed, remember to follow these guidelines:

- Even if there are no restrictions, never build a campfire on a windy day. Sparks or embers from the fire could travel quite a distance and set a fire unintentionally.
- Watch the wind direction to ensure sparks aren't getting on flammable materials.
- Build campfires where they will not spread and are well away from tents, trailers, wood piles, dry grass, leaves, overhanging tree branches and any other combustible.

- Build campfires in fire pits (if available) or on bare rock or sand.
- Clear away grasses, weeds and debris from around the fire ring or pit.
- Build a campfire surrounded with rocks to contain the campfire.
- Use crumpled paper or kindling to start a fire rather than flammable liquids.
- Never use gasoline as an aid to starting a campfire.
- Never leave campfires unattended. Ensure that a responsible adult is monitoring the fire at all times.
- Keep plenty of water and a shovel around to douse the fire when you're done. Once the water has been applied, stir the dampened coals and douse the fire again with water. Do not leave the campsite until the fire pit is cold to the touch.

Log onto [www.nmforestry.com](http://www.nmforestry.com) for more fire prevention and preparedness information.



## ENJOY THE GREAT OUTDOORS RESPONSIBLY!

By Dan Ware, New Mexico State Forestry

Spring and summer are great for being outdoors in New Mexico. Whether you're taking a leisurely stroll along the Bosque, planning a camping trip to the mountains or just planning a lazy day of fishing, the options are limitless. With this freedom of choice comes responsibility.

New Mexico has seen incredibly active fire seasons in recent years, with hundreds of thousands of acres burned on local, state, federal and tribal lands. While many of these fires are caused by lightning, most of them are human-caused and preventable.

As we head into another active fire season, it's important to keep in mind that our daily activities and choices can play a positive role in preventing wildfires.

While we take advantage of what the great outdoors has to offer in New Mexico, we must all do our part to make sure our actions don't unintentionally cause wildfires to start. Campers and hunters must take care that their fires are out and that the ground is cold to the touch before

they leave, even if they're just going for a 10-minute hike. Off-road and ATV enthusiasts have a responsibility to make sure their vehicles are properly maintained so exhaust emissions, brake pads and catalytic converters don't cause fires.

It's also very important that residents and visitors enjoying our public lands be vigilant and keep an eye out for fires. If you see a fire, call 911 or alert state park or national forest/park staff members. As always, it's a good plan to call ahead or look online before you travel to confirm the areas you plan to visit aren't under fire restrictions or closed to access.

As mentioned in the above article, information on fire restrictions is available at [www.firerestrictions.us](http://www.firerestrictions.us) and at **1-877-864-6985**. Information on active fires is updated daily at [www.nmfireinfo.com](http://www.nmfireinfo.com).

Take advantage of the wonderful options we have and enjoy our natural resources in New Mexico. However, remember we have a responsibility to "Think Smart and Don't Let Wildfires Start."

# A NEW RESOURCE FOR NEW MEXICO:

NEW MEXICO STATE UNIVERSITY HIRES WILDLAND FIRE MANAGEMENT SPECIALIST

By Jane Moorman, New Mexico State University



In 2011 the Las Conchas wildfire burned more than 240 square miles in northern New Mexico. At the time it was the largest recorded wildfire in New Mexico history. Unfortunately, that record did not last long. Last year a new record was set when more than 465 square miles burned in the Whitewater-Baldy fire. To add insult to injury last year, the Little Bear Fire destroyed more than 250 structures in and around the Ruidoso area.

Beyond a simple tally of acres burned or a painful recounting of homes lost, these record-setting wildfires left an indelible mark and impression on almost all New Mexicans, not just those directly impacted by evacuation notices or the loss of property.

Principal and far-reaching negative impacts included trickle-down economic impacts such as loss of tourism opportunities and the impairment to watersheds that significantly deteriorated their ability to provide clean water to communities and municipalities that rely on runoff water to fill reservoirs.

Based on drought forecasts, the New Mexico State University (NMSU) Cooperative Extension Service (CES), in collaboration with grassroots stakeholders across the state, identified the need for a new position: CES wildland fire management specialist. This specialist is tasked with developing a forest- and rangeland-centered CES and research program designed to provide science-based information regarding all aspects of wildland fire.

NMSU is one of two land-grant universities in the U.S. to create this type of position. Doug Cram held this position at the University of Hawaii before NMSU hired him to return to his native state to serve as the wildland fire management specialist.

"I will be focusing on three phases of wildland fire events: before, during, and after the fire," Cram said. "For example, how do proactive forest



New Mexico's new extension wildland fire management specialist Doug Cram demonstrates and compares potential crown fire behavior between an "untreated" and "treated" forest stand at a recent youth education day in Alma, New Mexico.

management treatments alter fire behavior? What lessons have we learned from the past that families and communities can implement during a fire? What post-fire mitigation techniques are effective?"

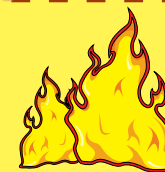
"We are in an unprecedented time preparing for inevitable fires as well as reacting to large contiguous acres of high-severity fire," he said. "However, there are some potential bright spots on the horizon, including strengthening the New Mexico forest industry and its capacity to help thin forests, and creating partnerships with the New Mexico Forest and Watershed Restoration Institute and the Southwest Fire Science Consortium."

Cram started his new position April 1. He can be reached at [dcram@nmsu.edu](mailto:dcram@nmsu.edu) or at 575-646-8130.



## CLIP-AND-SAVE CHECKLIST: WHAT TO DO BEFORE AND DURING FIRE SEASON

By Kelly Hamilton, Southwest Border Food Safety and Defense Center



### Things to do before wildfire season:

- 🔥 Create defensible space around your buildings
  - Remove shrubbery, wood piles and other burnable materials
- 🔥 Create a family emergency plan
  - Practice evacuating your family and pets; time yourselves
  - Know where you will go if you have to evacuate
- 🔥 Make sure pets are micro-chipped and identifiable
- 🔥 Know how you will get emergency information

### Things to do when wildfire season starts:

- 🔥 Follow directions from emergency personnel
- 🔥 Keep vehicles fueled and maintained
- 🔥 Know two ways to leave your neighborhood
- 🔥 Keep an emergency kit packed and ready to go
  - Water, non-perishable food, medications, money, eyeglasses, infant supplies, clothing, blankets and a flashlight with batteries
- 🔥 Locate and be prepared to take important documents
  - Social security card, birth certificate, etc.
  - Family photos
  - Other small family treasures

- 🔥 Remove flammable drapes and curtains
- 🔥 Consider purchasing non-combustible window coverings
- 🔥 Move combustible items away from your home

### Things to do when wildfire is approaching:

- 🔥 Pets
  - Confine pets to the house during potential evacuations so you can evacuate them quickly
  - Ensure you have water, food, medication and other important items for your pets
  - Keep pets in kennels
- 🔥 Open fireplace damper and close fireplace screens
- 🔥 Close windows, vents and doors
- 🔥 Wet down as much of your roof, siding and the ground around your home as possible
- 🔥 Turn on lawn sprinklers and position them on your roof if possible
- 🔥 Turn off propane tanks and gas lines
- 🔥 Turn on a light in each room to increase the visibility of your home in heavy smoke

**Always prioritize LIFE over property!**





## EMERGENCY PREPAREDNESS FOR YOU AND YOUR ANIMALS

By Tom Dean, Extension Southwest District Office

If you have to evacuate, do you have an emergency plan for your family? What about your animals?

Local officials and emergency managers across the country are working on emergency plans that encompass humans, pets and livestock. Animals are an important part of the planning process. We've learned from emergency events such as Hurricane Katrina in New Orleans that pets need to be included in all plans.

So what do you do to ensure the safety and well-being of animals? It's simple: Prepare, plan, and stay informed.

### 1. PREPARE

Make sure you have thought about the basics for survival. Your animals need to have some essentials of their own, so prepare a pet emergency supply kit including food, water, medicines, medical records, first aid kit, collar with ID tag, harness or leash, pet carrier and sanitation items. Talk with your veterinarian to identify other supplies your pet might need.

### 2. PLAN

Create your emergency plan knowing that each urgent situation will require different responses. If evacuation is required, what will you do with your animals? Some Red Cross shelters will be set up in response, but they may not allow animals. You may have to leave your cat or dog at an animal shelter or another location that has been set up for the emergency. Animal shelters require a check-in process that ensures pets are reunited with their owners at the end of an event. You will need animal records (animals not up to

date on vaccination requirements may be turned away) and identification. If you have an emergency kit and pet carrier, it can be left with the animal. Sometimes owners will need to care for their animals at the shelter location.

### 3. STAY INFORMED

Visit websites that include more information about the process, including the website for Federal Emergency Management Agency at [www.ready.gov](http://www.ready.gov). Also, there are local animal groups that are working on these issues. Listen to emergency announcements during an event to know what you'll be expected to do, as well as to identify the locations to which you might be evacuated.



*This trailer is used to haul equipment to set up temporary animal shelters. Metal panels inside are assembled into 65 crates, which are used to comfortably hold small animals.*



## EMERGENCY PLANNING FOR COMPANION ANIMALS

By Sharon Jonas, Animal Protection of New Mexico

When a situation isn't safe for you to stay in your home, it's not safe for your animals either. Follow these three steps to keep you and your pets safe.

### 1. PREPARE

#### Make Your Emergency Plan

Write an evacuation plan for people and animals, and keep it where all household members can find it. Talk with your neighbors about how to help each other in case you can't get to your own homes. Ask about your community's disaster response plan.

#### Keep an Emergency Kit Ready

Store enough supplies for three to seven days in portable waterproof containers. Your animal emergency kit should include copies of vaccination and important veterinary records, medications, leash, carrier, food and a manual can opener, water, food/water bowls, bedding, towels, small litter box, cat litter and scooper, pet first aid kit and any special items that might be comforting to your animals. Keep all vaccinations up to date; this is important for emergency shelters or foster homes. Note: *For items not stored in the kit, create a grab-and-go list of things you can grab in five minutes.*

#### Identification is Critical

Have current pictures of you with your animals. Animals should wear up-to-date identification at all times, including an emergency phone number where you can be reached. Microchip your animals to help ensure their safe return if you become separated. Put identification on all collars, harnesses, cages and carriers.

#### Know Where You Are Going

Find these options *before* a disaster happens. Keep a list of safe places to go in your disaster kit, with addresses and phone numbers of friends and family outside your immediate area, veterinary offices, boarding kennels, or animal-friendly motels where you can take your animals. Local animal shelters can usually help with housing or referrals. Human evacuation shelters usually do not allow animals except service animals. If you have more than one animal, you may need to house them separately.

### 2. PRACTICE

It's important to practice your evacuation routine with everyone in the family, including the animals. Take dogs, cats and other small animals for practice trips in the car, then do the same in a rushed manner. Practice loading horses and other large animals into trailers.

### 3. ACT

#### Don't Wait Until the Last Minute

When threatening conditions arise, confine your animals so you can leave with them quickly if necessary. Evacuate early, if you can, before a mandatory evacuation order.

#### Don't Leave Animals Behind to Fend for Themselves

Pets can be lost, injured or killed. Do not leave them chained or locked in buildings or cages from which they cannot escape. You may not be allowed back to your property for several days.

#### If You Don't Evacuate

Only "shelter in place" when recommended by local authorities. Protect your pets from smoke by keeping them indoors as much as possible with windows and doors closed; provide plenty of water and use re-circulated air if possible.

See Animal Protection of New Mexico's Animal Safety Planning web page for more information and useful links: [www.apnm.org/disasterplanning](http://www.apnm.org/disasterplanning).



*The owners of Dunagan Farms in Ruidoso invited people to use their private facility as an animal shelter during the Little Bear Fire last year. Photo courtesy of Courtney McBride and DHSEM.*



# THE EFFECT WILDFIRE SMOKE HAS ON ANIMALS LARGE AND SMALL

By Dr. John Wenzel, Extension Veterinarian for New Mexico State University

As wildfire approaches, we're often reminded that the resulting smoke can cause us serious discomfort. When wood and other organic matter burns, the fine particles that are produced can cause our eyes to burn, our noses to run and even illnesses such as bronchitis. Fine particles also can aggravate existing heart and lung diseases.

What about animals? How do they react to smoke from fires? Researchers in the field of animal science have studied this question for decades. Comparing several different studies suggests that the size of the animal can determine how that animal is affected.

There's evidence that small animals such as cats and dogs experience irritation and inflammation in their upper airways – basically everything that stretches from the nose and mouth, clear down to the lungs – the same as it happens in humans. Perhaps that has something to do with the likelihood that such animals are often where we are whenever fire strikes.

Research into the effects of smoke on large animals such as horses and cattle suggests a different effect, according to the Kansas State University College

of Veterinary Medicine. Because the upper airways of horses and cattle are longer than those of small animals, they tend to experience less irritation from wildfire smoke. That's because a longer upper airway means more opportunity to filter the smoke particles before they reach the lungs.

The air currents around a wildfire help decrease an animal's exposure to the smoke. Livestock enclosed in a barn fire, on the other hand, are subjected to much greater concentrations of smoke and therefore suffer much more injury from smoke inhalation than in a wildfire. Livestock involved in a wildfire tend to suffer more injury from the heat and flames unless they are only exposed to the smoke. Irritation to airways can be severe enough to require treatment or can even be fatal. Injuries resulting from the heat or flames can also be very severe and will require veterinary care.

What lessons can we glean from this research? Counties are wise to include livestock in their emergency management plans. Communities located where wildfire risk is high need to have an evacuation plan, as well as a concentration point away from the fire danger, for horses, cattle and other livestock.

## WHEN HORSES, CATTLE, AND OTHER LIVESTOCK ARE IN THE PATH OF WILDFIRE

New Mexico Livestock Board



When wildfires in New Mexico threaten horses, cattle and other large animals, the fire plans each county has in place direct them to do one thing: call the New Mexico Livestock Board. As the state's oldest law enforcement agency, the Livestock Board's mission is to protect the integrity of New Mexico's livestock industry by helping to keep animals free from disease and safe from theft and other threats, including wildfire.

Before the Livestock Board gets the call that a fire is headed toward livestock, its staff have already begun asking several questions in preparation: "Where are animals located within possible burn areas? Where would the fire have to go to force an evacuation? If the animals need to be evacuated, what's the best route? What pickups and trailers will we use to evacuate them? And where would we take the animals?"

The Livestock Board stays prepared by planning, performing drill exercises and having the right equipment – and, of course, having a statewide network of qualified officers who are well connected within their communities. The agency deploys its mobile command post, complete with high-speed communications equipment. Livestock Board staff carry mobile panels that can quickly and easily be fitted together to form a corral. And having three veterinarians on staff makes for quick and appropriate treatment of animals suffering from smoke inhalation and other problems that arise when wildfires burn.

But the Livestock Board isn't alone when horses, cattle and other large animals need to be relocated away from fire. Some counties are lucky to have active horse groups that can help move horses from affected areas by offering the use of their horse trailers and time. Several ranchers will often step up to offer the use of their pastures and corrals, even feed and water, to fellow ranchers whose livestock are in harm's way. The relationships that Livestock Board staff build with local livestock owners are crucial when wildfires threaten.

The Livestock Board also partners with the New Mexico National Guard when wildfires burn. Together, the agencies will conduct surveillance from the air to locate people and animals in harm's way and plan for their evacuation. They also work together to deliver feed and water to livestock.

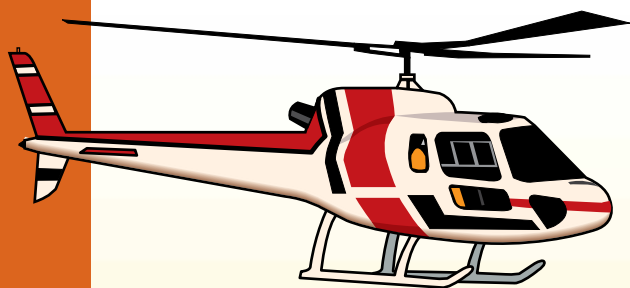
Given that the Livestock Board is a law enforcement agency, its staff also assist in evacuating people from the wildfire's path, as well as staffing roadblocks to keep people from entering dangerous areas.

When all is said and done and the fire is finally put out, the Livestock Board and its partners make sure that any livestock that had to be evacuated are claimed by their owners. Everyone's goal at that point is to return the animals to the corrals and pastures that they're used to, just as swiftly and as safely as they were evacuated from them in the first place.



WILDFIRE SEASON IN NEW MEXICO: What You Need to Know to Protect Your Family, Animals, and Property





# IF A WILDFIRE APPROACHES... ARE YOU PREPARED?

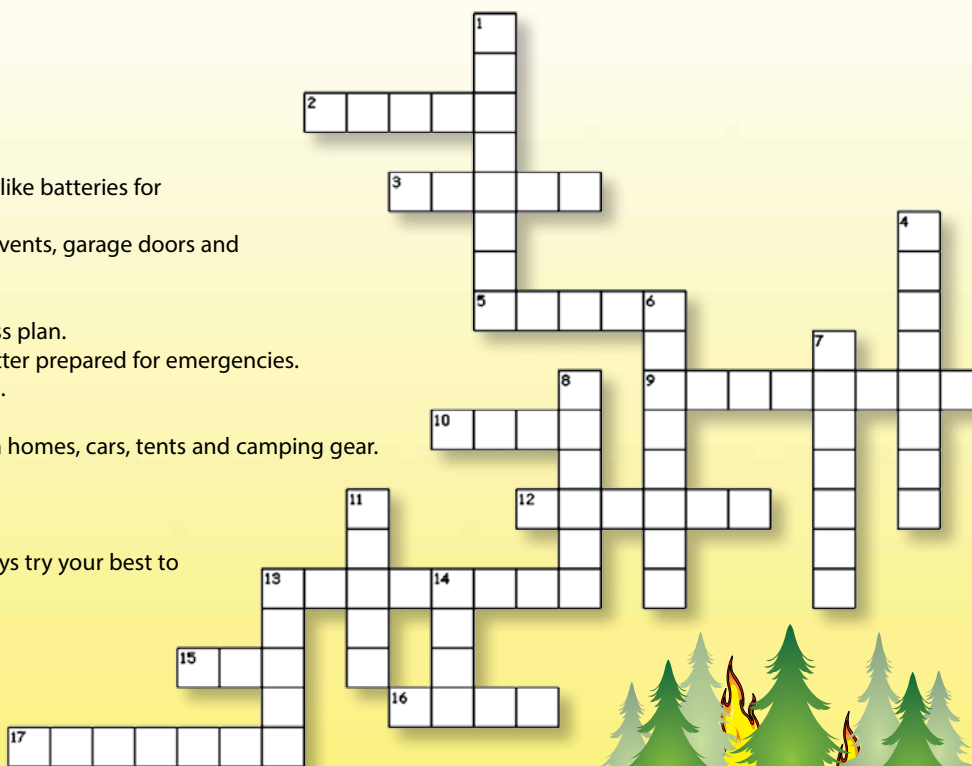
Southwest Border Food Safety and Defense Center

## ACROSS

2. Heat and \_\_\_\_\_ can be very dangerous for you.
3. Many items are important to have in your emergency supply kit, like batteries for \_\_\_\_\_ lights.
5. In case of a wildfire near your home, close all \_\_\_\_\_, windows, vents, garage doors and other entrances.
9. If necessary, \_\_\_\_\_ the family to a safe location.
10. Dogs, cats and other \_\_\_\_\_ should be part of your preparedness plan.
12. By creating an emergency supply kit, your \_\_\_\_\_ can be better prepared for emergencies.
13. All it takes for a \_\_\_\_\_ to start is a spark and a little wind.
15. Stay with your fire until it is completely \_\_\_\_\_.
16. If you must build a fire it should be at least 15 \_\_\_\_\_ away from homes, cars, tents and camping gear.
17. Check the \_\_\_\_\_ forecast before camping.

## DOWN

1. There are many types of natural emergencies and disasters. Always try your best to be \_\_\_\_\_.
4. Never play with matches or \_\_\_\_\_.
6. \_\_\_\_\_ bags are great for overnight camping trips.
7. Fire spreads very \_\_\_\_\_!
8. It is very important to create and practice a fire \_\_\_\_\_ plan.
11. Follow the \_\_\_\_\_ before building a campfire.
13. Always have a bucket of \_\_\_\_\_ and shovel nearby.
14. Do not build a \_\_\_\_\_ if there are restrictions in place.



## FIREWISE QUIZ

Reprinted with permission from the National Fire Protection Association's Firewise Communities Program

1. What are the safety benefits to keeping your lawn well-hydrated and maintained?
  - A. Reduces a fire's intensity
  - B. Creates less fuel for a wildfire
  - C. Makes it easy to mow
  - D. A and B
2. What material is best used to enclose under-eave and soffit vents to prevent embers from entering the home?
  - A. Metal wire mesh no larger than 1/8 inch
  - B. Metal plate
  - C. Metal wire mesh no larger than 1/4 inch
  - D. Aluminum foil sheets
3. What flammable material should be moved 30 feet away from your home?
  - A. Firewood stacks
  - B. Propane tanks
  - C. Overgrown shrubs
  - D. All of the above
4. Why is it important to prune tree branches six to ten feet from the ground?
  - A. Less leaves and debris fall on the ground
  - B. Prevents wildfire from spreading to tree tops
  - C. Prevents the tree from burning down
  - D. Keeps tree limbs from falling on a house
5. What Firewise safety tip helps protect your home from wildland fire?
  - A. Creating an emergency evacuation plan
  - B. Clearing leaves and other debris from gutters, eaves, porches and decks
  - C. Storing lawn furniture during red-flag warnings
  - D. B and C
6. Ember or spark penetration to the home can happen through what means?
  - A. Window screen
  - B. Missing or loose shingles/roof tiles
  - C. Open garage doors
  - D. All of the above
7. What plants are recommended for Firewise landscaping?
  - A. Seasonal, flowering plants
  - B. Waxy, short-leaved plants
  - C. Low-growing, low-flammability plants
  - D. Tall weeds
8. What area near the house should be clear of debris and other flammable materials?
  - A. Garage
  - B. Under decks and porches
  - C. Pool
  - D. Driveway
9. What kind of roofing material is considered "Class A" for the best fire resistance?
  - A. Asphalt shingle
  - B. Concrete tile
  - C. Metal
  - D. All of the above
10. What types of fuel breaks work well around a home's perimeter?
  - A. Gravel walkway
  - B. Driveway
  - C. Stone wall
  - D. All of the above

**Crossword Answers:**  
 Across: 2. Smoke, 3. Flash, 5. Doors, 9. Evacuate, 10. Pets, 12. Family, 13. Wildfire, 15. Out, 16. Feet, 17. Weather.  
 Down: 1. Prepared, 4. Lighters, 6. Sleeping, 7. Quickly, 8. Escape, 11. Rules, 13. Water, 14. Fire.

**Quiz Answers:**  
 1-D, 2-A, 3-D, 4-B, 5-D, 6-D, 7-C, 8-B, 9-D, 10-D



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