

Takeaways from the 2018 Wildfires

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Preface

Palo Alto Humane Society (PAHS) extends heartfelt thanks to Kasper Halevy for his hard work and dedication in researching and producing this report. Kasper and the middle school Animal Advocacy Club at the International School of The Peninsula chose to research this topic because of its urgent nature and its importance to maintaining our safety and the beauty of the wild areas that have been recently affected by widespread wildfires. PAHS has a long history of advocacy, offering a library of disaster preparedness reports that detail steps to be taken to protect us and our animal companions. These reports in both English and Spanish can be found at: https://www.paloaltohumane.org/education-programs/disaster-preparedness/. Kasper and the club's research and the resulting study are valuable additions to the information provided in our reports.



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Context for This Report

Many of us are pet owners, or if not, certainly animal lovers. For many of us, our pets are our best friends, therapists, and even soulmates. They are always there to cheer you up on a bad day, or to welcome you home after a long day of work. They keep your kids company by providing them with cuddles and kisses. Unfortunately, a very large number of these animals were killed or severely injured in the 2018 California wildfire season

In November 2018 one of the deadliest and most destructive wildfires in California history, struck northern California. Through a jaw-dropping 7,579 smaller fires within the one mentioned, at least 85 people were killed, at least 1,677,855 acres were burned, and about 18,000 structures were destroyed. Sadly, people were not the only ones who perished or were severely hurt or displaced—many animals were too. In a large number of cases, animals' owners didn't have enough time to evacuate their pets, leaving them in the path of the blazing fires to die. Whilelarger wild animals like deer and elk are usually, though not always, able to escape the fire's path,

smaller animals like squirrels, foxes, and snakes can't always escape. Birds are able to fly away, but their nests and eggs can be destroyed. Despite their large size, horses are also prone to extreme danger in fires, as they are typically either tied to something or locked in their barn by their owners, hindering their ability to escape.

The aftermath of a wildfire is even worse for animals, with its effects ranging from degraded resources to complete annihilation of a species. Here are some of the possible devastating effects of wildfires ("Various Causes and Effects of Wildfires." Earth Eclipse, earthclipse.com):

1. Loss of Ecosystems and Biodiversity.

Wildfires destroy the habitats and the ecosystemic relationships of a wide variety of animals and plants, leading to the decimation of ecosystems and their biodiversity (even to the extinction of certain species). Wildfires damage the habitable and adaptable land for specific animal and plant species. They drastically alter the way surviving animals have to live, as food sources are destroyed. Most animals cannot adapt to this severe change, resulting in their massive migration and death.

- 2. Forest Degradation. Wildfires are a major cause of forest degradation. Whenever wildfires occur, thousands of acres of trees and vegetation are burnt to ashes. These devastating fires repeatedly reduce the quality of features of forests such as soil fertility, biodiversity, and ecosystems.
- **3. Air Pollution.** We all know that plants purify the air we rely on for respiration. They do this by taking in carbon dioxide and other greenhouse gases and emitting oxygen in return. When these plants are destroyed by fires, the quality of the air we breathe in declines because of the lack of greenhouse gas absorbers and oxygen emitters. In addition, colossal clouds of smoke caused by wildfires lead to widespread air pollution. Finally, because our air quality diminishes subsequent to wildfires, greenhouse gases pervade our atmosphere, causing global warming.
- **4. Soil Degradation.** Soil is composed of nutrients and other important components that sustain a great variety of life forms both in and above the soil. Wildfires destroy everything mentioned above, causing tremendous harm to organisms of all kinds. The burning of trees and vegetation also leaves the soil bare, making it very vulnerable to erosion.
- **5. Destruction of Watersheds.** Trees and vegetation are watershed protectors since almost all of our water comes from water tables derived from the forest. Whenever trees and vegetation burn, the natural protection systems for water tables, streams, and rivers are negatively affected.
- **6. Loss of Space for Shelter.** Since wildfires displace and injure a large number of pets, shelters are often overwhelmed by the influx of animals needing care, resulting in an overload of homeless pets, and depleting the shelters' resources.

Unfortunately, wildfires occur very often, especially in the United States. In 2019, from January 1 to July 30, there were at least 25,619 wildfires. Certain wildfires are so extreme that

they can burn at close to 2000 degrees Fahrenheit (1093.33 degrees Celsius). Let's see which factors can produce such devastatingly destructive wildfires.

What Causes Such Deadly Fires?

There are many ways a wildfire can be sparked. Some causes of wildfires are the result of naturally occurring events, such as volcanic eruptions or lightning. Most unfortunately, humans are responsible for 90% of the wildfires in the United States. Below are some of the ways that humans can, sometimes unintentionally and sometimes with malicious intentions, spark wildfires ("Various Causes and Effects of Wildfires." Earth Eclipse, earthclipse.com).

- **1. Burning Debris.** It is common for some folks to burn some of their yard waste in their backyards. Legally, this is allowed. Environmentally, this is almost asking for a wildfire. So many things could potentially go wrong: the wind could cause your backyard fire to spread; you might have ignited too large a fire; you might not be protected by your fire retardant, or it could be defective. To prevent causing a wildfire by burning debris, do not burn yard waste, and make sure your fire extinguisher functions and that weather conditions are windless. However, as many of us know, the weather is more often than not unpredictable, so burning anything will result in some level of risk.
- 2. Unsupervised Campfires. Camping is a highly popular activity among many people, and camping nearly always includes some sort of campfire. Everyone wants delicious s'mores, don't they? While camping is a very fun outdoor activity, it involves serious responsibilities. One of the most important responsibilities is to make sure no fire is ever left unattended. One of the Boy Scouts of America's primary outdoor rules is to be careful with fire, and that rule exists for very good reasons. After a fire has served its

purpose, whether it was for cooking or to warm you up, be sure to extinguish it. Some people believe that the fire will naturally burn itself out. However, all it takes is a breeze or a few sparks to spread to cause a much more massive fire. Often, trees, leaves, pinecones, and other flammable items on campgrounds cause fires to spread. You don't have to give up your campfires on those camping outings. Just be extra conscientious regarding controlling and extinguishing your fire. Always have a fire retardant or a few buckets of water ready to be utilized anytime the fire gets out of hand.

- **3. Engine Sparks and Car Crashes.** The impact of certain kinds of crashes results in an increased chance of fire. Fortunately, whenever car crashes occur, fire trucks are nearly always on the scene in anticipation of a fire. Engine sparks, similar to small campfire sparks, can cause a bigger fire if other flammable devices are nearby. Be sure to drive safely!
- 4. Cigarettes. According to a worldwide study, unextinguished cigarettes are the leading cause of wildfires, costing 27.2 billion dollars per year (7 billion dollars in the United States alone). In many urban areas, cigarettes are disposed of carelessly on the streets. Oftentimes, the cigarette still contains a little speck of a flame. As with the previous two causes, the smallest of flames can produce more severe fires. Cigarettes also pollute the environment, which is certainly not beneficial to your health! To prevent fires, either quit smoking or make sure that your cigarette is completely extinguished and deposited in a trash can.
- **5. Fireworks.** Despite the display and entertaining celebratory "ritual" of fireworks, they ultimately increase the chances of a wildfire occurring and also disturb and frighten wildlife in their immediate vicinity. Essentially, fireworks provide short-lived pleasure in exchange for inadvertent environmentally destructive effects.
- **6. Arson.** This factor is responsible for 30% of all wildfires. Arson is the act of burning someone else's or one's own property, often

with malicious intent. How arson causes a wildfire is self-explanatory. Some people commit arson to destroy their own property in the hope of compensation through insurance payments. Maliciously intended or not, arson has deleterious effects on the environment through air pollution and potential wildfires.

7. Machine Malfunction/Explosion. The explosion of gas balloons can ignite wildfires, as can outdated appliances and faulty electrical outlets, extension cords, wiring, and space heaters. According to the U.S. Fire Administration (https://www.usfa.fema.gov/), machine malfunction was responsible for 28,600 wildfires in the U.S. each year.



Now that we have outlined the causes of wildfires, let's take a look at how you and your pet can be prepared in the event of a wildfire.

How to Be Prepared

You need to assemble an emergency kit for your pet. This way, if a disaster occurs, you have the resources ready to be used. Here is what your kit should consist of ("WILDLAND FIRE SAFETY FOR YOUR LIVESTOCK AND PETS." Cal Fire, readyforwildfire.org):

- ➤ Sturdy leashes, harnesses, and/or carriers in order to transport pets safely and ensure that they will not be able to escape.
- ➤ Food, drinking water, bowls, cat litter box and/or small plastic bags to pick up waste, litter scoop, and a manual can opener if your pet eats canned food (ideally, enough food for two weeks). In addition to a two-week water supply, have another gallon on hand so you can rinse your pet off in case he was exposed to chemicals or polluted floodwater.
- ➤ Medications and copies of medical records stored in a waterproof container.
- ➤ First aid kit.
- ➤ Current photos of you with your pets in case they get lost. Because many pets look alike and can be hard to differentiate, this will help resolve identity issues and avoid mass confusion (also make sure your pet is wearing some sort of identification, such as a collar).
- ➤ Information on feeding schedules and amounts, special medical needs, behavioral problems, and your veterinarian's contact information (and any other local friend who can temporarily foster your pet) in case you have to foster or board your pets.
- ➤ Pet beds and toys (and a brush), if portable.
- ➤ Newspaper and paper towels.
- ➤ Toys and treats to keep your pets entertained and happy.
- ➤ Disinfectants that are not harmful to your pet(s).

You also need to know what to do when a wildfire is looming or occurring, and which precautions to take. When the time comes to evacuate, make sure you have done each of the following ("PRE-EVACUATION PREPARATION STEPS." Cal Fire, readyforwildfire.org):

- ➤ Close all windows and doors but leave them unlocked in case firefighters need to come in.
- ➤ Remove flammable window shades and curtains and close metal shutters.
- ➤ Move any flammable items away from windows or vents.
- ➤ Shut off all gas tanks and turn off all pilot lights.
- ➤ Leave your lights on so firefighters can see your house in smoky conditions.
- ➤ Shut off the air conditioning.
- ➤ Gather up flammable items from outside and bring them inside (patio furniture, children's toys, doormats, trash cans, and so on).
- ➤ Move propane BBQ appliances away from structures.
- ➤ Connect garden hoses to outside water valves or spigots for use by firefighters. Fill water buckets and place them around the house.
- ➤ Fill sinks and bathtubs with water, and turn the faucets off after sinks and bathtubs are filled
- ➤ Load your car with everything you need (emergency kit!).
- ➤ Place a ladder at the corner of the house so if officials need access to your roof, they can climb up there.
- ➤ See if your neighbors are ready to leave as well





When to Evacuate

Leave as soon as it is advised by fire officials to avoid being caught in the fire. Don't wait to be "dragged out" by authorities to leave, as it is always best to be safe rather than sorry. Evacuating earlier also helps firefighters keep roads clear of congestion and lets them move more freely to do their job to put out the fire more efficiently. In a wildfire of large magnitude, they will not have time to knock on every single door in the area. If you are recommended to leave, do so immediately!

- Firefighters will determine the areas to be evacuated and escape routes to use depending on the fire's location, behavior, and other factors.
- You will be warned very early of the potential need to evacuate. It is your responsibility to be informed and aware in order to keep your family safe. Listen to your radio or TV for announcements from law enforcement and emergency personnel.
- You could be directed to temporary assembly areas to wait for the transfer to a safe location. Always follow these directions, because when you are stuck in a fire, it is hard to see which areas are safe and which aren't, due to smoke, buildings, vegetation, and other objects impeding your vision.

Once you have evacuated, all you can do is wait and stay safe. It might be tempting to venture back to your home and check on the condition of the fire. While wanting to do this is totally understandable, it is not wise to do so unless fire officials have deemed the area safe. Once they have announced that it is safe, then you can return home. However, even after the officials give their OK, upon arrival at your home, be sure to:

- ➤ Look for any hazards, like downed power lines.
- ➤ Check propane tanks, regulators, and lines before turning gas on.
- ➤ Scrutinize your home carefully for any sparks or flames.

Lastly, to be fully prepared, you need to know how to act when trapped in a wildfire, whether you are in your vehicle, on foot, or in your house ("WHAT TO DO IF YOU BECOME TRAPPED NEAR A WILDFIRE." Cal Fire, readyforwildfire.org).

In Your Vehicle

- ➤ Do not freak out (applies for all scenarios), as doing so may cause accidents
- ➤ Park somewhere void of vegetation (vegetation causes wildfires to very quickly).
- ➤ Close all windows, vents, doors, etc..
- ➤ Cover yourself with whatever you have at hand (as long as it is not flammable).
- ➤ Lie on the floor of the vehicle.
- ➤ Call 911.

On Foot

- ➤ Go to an area that has very little vegetation, such as a ditch.
- ➤ Lie face down, cover your body as best as possible, and put your hands over your head.
- ➤ Call 911 and stay put.

In Your Home

- ➤ Make sure all family members are present.
- ➤ Call 911 to inform authorities of your situation and location.
- ➤ Fill sinks and tubs with cold water.
- ➤ Keep doors and windows closed but unlocked so officials can enter and rescue you.
- ➤ Stay inside at all costs (unless a fire is burning in the house).
- > Stay away from outside walls and windows.

How Other Organizations Are Preventing Wildfires and How You Can Help Them

We have previously covered the causes of a wildfire and have included suggestions for things you should not do. However, However, those suggestions are only a few of the ways you can avoid spreading wildfires. Fortunately, we also can help (and much more effectively!) by supporting certain organizations that specialize in wildfire relief, educating the public on wildfire preparedness, preparing for wildfires, and taking steps toward preventing wildfires. We will introduce some of those organizations and discuss what they do, hopefully encouraging you to support them.



Organization #1: North Valley Animal Disaster Group

North Valley Animal Disaster Group (NVADG), located primarily in the North Valley area of

California and founded in 2002, works with emergency services to educate the public about disaster preparedness and assists in the sheltering and evacuation of animals during a disaster. This group envisions a prepared world in which animals are evacuated, rescued, and sheltered compassionately and properly when disasters occur. NVADG is not a government-funded organization and has no paid employees, so it is propelled only by its volunteers (who have been certified by Butte

County through appropriate training). NVADG has worked with numerous organizations since its founding, including the UC Davis Veterinary Emergency Response Team, United Animal Nations, Humane Society of the United States, California Veterinary Medical Association, and many more. During the November 2018 California wildfires, NVADG provided shelter facilities for the animals in need and helped out on a large scale with the rescuing of animals. NVADG evacuates and shelters pets in many disasters, including the aforementioned wildfires, the Marysville Flood, the Ophir fire, and many more. NVADG also offers emergency preparedness training to the public. Please note that NVADG will not assist you with individual emergencies, such as if your dog were choking or your cat was stuck in a tree. This group assists only during large-scale emergencies to evacuate and temporarily shelter animals safely.

As already mentioned, NVADG prepares for future wildfires not only by educating citizens on disaster preparedness but also by having resources ready in case of a large scale disaster. To help them fund their programs and evacuation operations, donate! To learn more about the work they do, visit their website at https://www.nvadg.org/.





Organization #2: Emergency Animal Rescue (EAR)

Founded in 1992, EAR's mission is to provide emergency assistance to animals, domestic and wild, in life-threatening situations. Like NVADG, they are also a non-profit organization fueled by numerous volunteers. Located in San Diego County, they evacuate animals during emergencies (such as the San Diego area's annual firestorm season). EAR is not limited only to large-scale disasters, as NVADG is. This group is able to assist you with any animalrelated emergency. (However, if you're not within their range, it would be a better idea to call your local Animal Control so emergency action will be taken more quickly). Although EAR did not respond to the November 2018 California wildfires, this group did help out in the Northridge Earthquake, Hurricane Rita, Hurricane Katrina, and many more disasters.

As EAR is an emergency service, it always has resources ready to deal with the next large-scale disaster or small-scale situations (such as that cat stuck in a tree). You can help them keep the flow of supplies going by supporting them. To learn more, visit the EAR website at http://www.emergencyanimalrescue.org/gpage2. html.



Organization #3: SoCal Animal Response Team (SCART)

Established as an official non-profit organization in 2005, SCART provides emergency assistance during large-scale disasters to animals affected by such disasters. In addition, SCART offers educational sessions that focus on disaster preparedness, similar to NVADG. SCART also holds emergency preparedness training sessions that focus on animal evacuation and sheltering and beginner-to-intermediate animal search and rescue.

SCART has supplies ready for future large-scale disasters. However, because it is a non-profit organization, SCART relies solely on volunteers and public support. To see how you can help, please visit the SCART website at http://www.scart.us/About.html.



Organization #4: Smokey Bear

Founded 75 years ago, Smokey Bear is America's oldest existing wildfire prevention campaign. As a campaign (not an organization per se), Smokey Bear focuses on educating the public on the roles they play in preventing wildfires. As wildfires rage on, Smokey Bear's



message becomes louder and clearer, and do everything in their power to prevent wildfires through education.

As Smokey Bear is a national campaign, it offers many programs for both adults and students. You can also buy Smokey Bear merchandise to support the campaign. To learn more about Smokey Bear, visit the campaign's website at https://smokeybear.com/en/smokeys-history/about-the-campaign.



Organization #5: California Animal Response Emergency System (CARES)

CARES was originally conceived in 1997 in response to that year's Yuba floods. Since then, CARE has strived to enhance the management of animals during emergencies and distribute information and offer training regarding the proper care of animals pre- and post-disasters. CARE is also tasked with making sure that all emergency actions taken follow the guidelines set by the Standard Emergency Management System and the National Incident Management System. Last but not least, CARE ensures that while animals are being evacuated and sheltered, they are treated humanely.

Like the previous organizations, CARES is always prepared with resources to assist in the sheltering and evacuation of animals during a disaster. To help support all of their programs and supplies and to learn more about them, visit their website at https://cal-cares.com/



Organization #6: Large Animal Emergency Evacuation (abbreviated as SCLAR)

SCLAR was founded in 2004 because of the concern that there was not enough local emergency assistance coverage for large animals within El Dorado County. SCLAR's goals are to provide that necessary emergency coverage and to educate the public about disaster preparedness through lectures, classes, online disaster training simulations, and more.

SCLAR is also an organization that relies on volunteers and public support, making your support for their emergency supplies and important programs really count. To learn more about this group, visit its website at http://www.sclar.org/home.html.



Nevada County Veterinary Disaster Response Team (Animal Evac)

Organization #7: Nevada County Veterinary Disaster Response Team (NCVDRT)

NCVDRT was founded in 1988 in response to the 49er fire and since then has assisted in many other disaster evacuation operations. NCVDRT seeks to provide all necessities for animals evacuated during a disaster, including the evacuation itself, cleaning the shelters, proper feeding, basic medical care, identification after the disaster, and more services. NCVDRT is also a volunteer-only organization that benefits significantly from public support.

To learn more about the numerous services that NCVDRT offers and to support this organization, visit its website at https://www.nevcoanimalevac.org/about.html.



Organization #8: Yuba Sutter Domestic Animal Disaster Assistance (YSDADA)

YSDADA works with government agencies to promote the safety of domestic pets affected by a government-declared disaster. Not only does this organization have outreach programs that provide emergency training and raise awareness about animal disaster preparedness, but it also shelters and gives animals the proper care they need during and after the disaster and does everything possible to reunite the displaced animals with their owners.

To learn more about the work that YSDADA does and to support its resources and numerous programs, visit its website at http://ysdada.org/.



Organization #9: CA State Assembly Bill 486 (not an organization but worth mentioning)

Assembly Bill 486 was written by Assembly Member Monique Limón (D-Santa Barbara). In summary, the bill mandates a pre-planned evacuation plan for pets. Assembly Member Limón, who represents an area plagued by wildfires, knows firsthand how helpful pre-planning is. Countless pet owners were forced to abandon their pets during disasters because they were completely unprepared to evacuate their companions. Keep in mind, wildfires have become a year-round event and are not showing any sign of abating—this is why well-conceived evacuation plans are vital.

To learn more about this bill, please visit https://myemail.constantcontact.com/AB-486--L imon--Pet-Evacuation-Bill-Introduced-today-.ht ml?soid=1101925750350&aid=1wKfJtHDlI8.

Please refer to Palo Alto Humane Society's Emergency Preparedness resources (in English and Spanish) at

https://www.paloaltohumane.org/education-prog rams/disaster-preparedness/ for detailed information on being prepared for yourself and your pets in the case of a natural disaster.





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