

# What Do Wild Animals Do in a Wildfire?

When big blazes spark and spread, some species escape, some perish—and some even thrive.

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[Wildfires](#) are raging across the U.S. Pacific Northwest, wreaking havoc on human lives and forcing evacuations from homes. But for some wildlife species that have evolved to live with fire, the scenario is not so dire.

Many animals and other organisms have evolved to cope with—and even thrive in the wake of—the flames.

Summer heat, dry air, strong winds, and thousands of lightning strikes have ignited and spread at least 21 separate fires for about a week, burning almost a million acres. Oregon and Washington declared states of emergency last week. (See "[Wildfires Intensify in Pacific Northwest as Winds Rise](#).")

But "wildlife have a long-standing relationship with fire" in these regions, says ecosystem ecologist [Mazeika Sullivan](#) of Ohio State University, Columbus. "Fire is a natural part of these landscapes."

For instance, some predators see the fleeing species as an opportunity for snacking. Bears, raccoons, and raptors, for instance, have been seen hunting animals trying to escape the flames. (Read "[Under Fire](#)" in [National Geographic magazine](#).)

What's more, when the flames begin, animals don't just sit there and wait to be overcome. Birds will fly away. Mammals will run. Amphibians and other small creatures will burrow into the ground, hide out in logs, or take cover under rocks. And other animals, including large ones like elk, will take refuge in streams and lakes.

Gabriel d'Eustachio, a bush firefighter in Australia, says he doesn't usually see many animals in fires, although a flaming bunny once surprised him. But he has spotted plenty of invertebrates preceding the flames. "You get overrun by this wave of creepy-crawlies walking ahead of the fire," he says. (See video: "[Fighting Wildfires](#).")

"In those short-term situations," says Sullivan, "there's always winners and losers."

## Danger and Death

Some animals die in the smoke and fire—those that can't run fast enough or find enough shelter. Not all of those creepy-crawlies that d'Eustachio sees, for instance, may escape.

Young and small animals are particularly at risk in a wildfire. And some of their strategies for escape might not work—a koala's natural instinct to crawl up into a tree, for example, may leave it trapped. (See "[Koala Rescued From Australia Fires](#).")

Heat can kill too—even organisms buried deep in the ground, such as fungi. [Jane Smith](#), a mycologist with the U.S. Forest Service in Corvallis, Oregon, has measured temperatures as high as 1,292 degrees Fahrenheit (700 degrees Celsius) beneath logs burning in a wildfire, and 212 degrees Fahrenheit (100 degrees Celsius) a full two inches (five centimeters) below the surface.

Scientists don't have any good estimates on the number of animals that die in wildfires each year. But there are no documented cases of fires—even the really severe ones—wiping out entire populations or species.

## Second Act

As anyone who's ever experienced a house fire knows, the effects don't end when the flames are put out. The same is true for landscapes burned in a wildfire.

"People look at burned areas and think they're dead. They're not dead. They've just changed," says [Patricia Kennedy](#), a wildlife biologist at Oregon State University in Union. "It's a whole new habitat."

Which can also mean new opportunities. In some places, for example, woodpeckers will fly in and feast on bark beetles in dead and dying trees. "They gorge on these invertebrates," Kennedy says, then leave when the beetles are gone.

## Change Agents

Wild areas like forests and prairies naturally grow and change in composition over time. A year-old forest will have a different set of plants and animals living in it than a forest that's 40 years old. A disturbance like a wildfire can serve as a sort of reset button, letting an old forest be born again, says Kennedy. And "a lot of species require that reset." (See [National Geographic's wildfire pictures](#).)

Exactly what happens after a fire occurs depends on the landscape, the severity of the fire, and the species involved. But the event always sparks a succession of changes as plants, microbes, fungi, and other organisms

recolonize the burned land. As trees and plants age, light and other features change—and the composition of creatures in the area changes in response.

Streams and other water bodies that flow through a burned area can also change. Water flow, turbidity, chemistry, and structure can be altered. Fish may temporarily move away. And there can be short-term die-offs among aquatic invertebrates, which can affect animals on land.

"The water and the land," says Sullivan, "are highly connected."

## Let It Burn?

Many species actually require fire as a part of their life history. Heat from the flames can stimulate some fungi, like morel mushrooms, to release spores. Certain plants will seed only after a blaze. Without fire, those organisms can't reproduce—and anything that depends on them will be affected.

Over the past century in the United States, the natural progression of wildfires has often been suppressed. Fire prevention has been promoted, and those fires that sparked were quickly put out before they could spread.

That's led to fewer of the types of trees and other plants that grow only in the years after a fire. It's also caused declines in some animal species that depend on that young, post-fire habitat. "We've thrown the ecosystem so far out of whack with a hundred years of fire suppression," Smith says. (See "[Opinion: Don't Log Burned Forests—Let Nature Heal Them](#).")

Fire suppression has even contributed to the decline of species now listed as endangered, Kennedy notes. The [Kirtland's warbler](#) is one example. These small songbirds from Michigan nest only in young jack pine forests. But the pines' cones only release their seeds in a fire. So without fire, much of the birds' nesting habitat has been eliminated.

As Kennedy says, fire is a bad thing when it happens in your backyard. But it can be a healthy event for a forest—and for at least some of the animals that live there. □