

[Wildfires can affect big game for decades, negatively and positively, and here's why](#)

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Wildfires can alter the landscapes (and wildlife populations) for decades

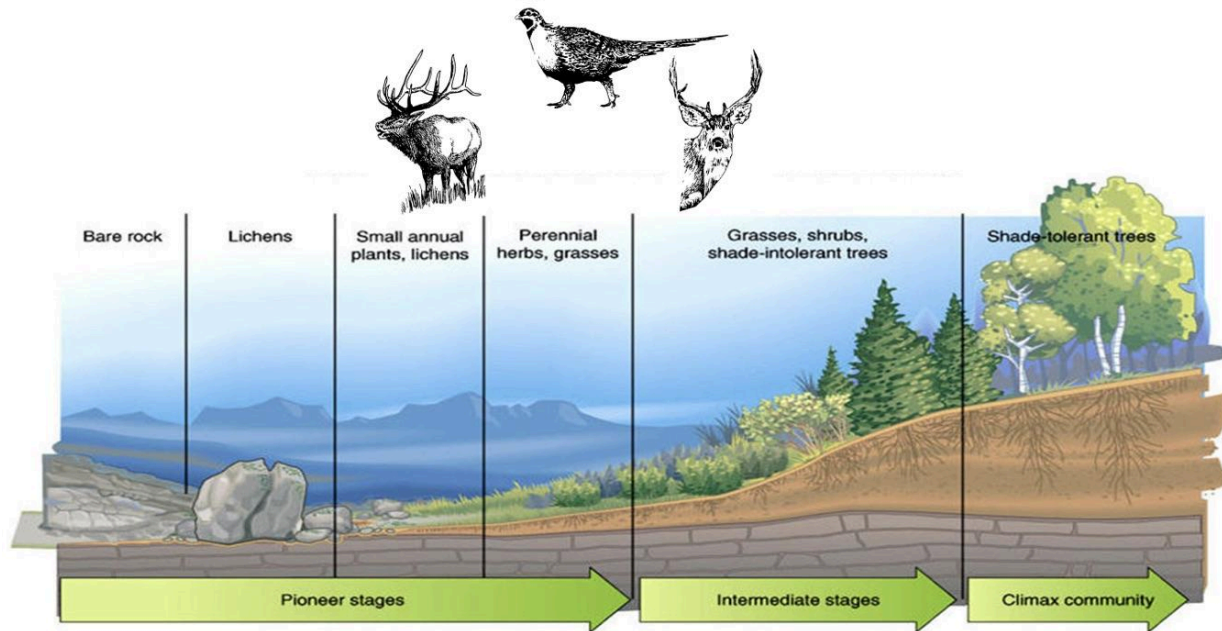
Wildfires often burn through valuable wildlife habitat in Idaho's canyons, deserts, foothills, and mountains, and what happens next is often a question on people's minds, especially in relation to big game animals that hunters and other Idahoans cherish. The answer is often "it depends" because fires and their effects can be different depending on many factors.

First, wildfires rarely kill many animals. Some individuals may die, but not enough of them to impact populations. Animals are typically good at avoiding wildfires, even large ones.

Also, wildfires are part of the natural ecological cycle and have shaped Idaho's diverse landscapes, and much of Idaho's native vegetation has evolved with wildfire. For example, the thick bark on a ponderosa pine evolved to protect the trunk from periodic fires. Studying tree rings can show that an old ponderosa likely has survived multiple wildfires during its existence. Those fires also helped clear understory and smaller trees that tried to compete with it.

Just because wildfires are a natural and historic occurrence doesn't mean they don't create problems for wildlife, especially when they burn more frequently, at higher intensities, and/or burn tens of thousands of acres at a time.

Fire Resets the Stage



Resetting the clock

“Fire resets the ecological clock,” Fish and Game’s Salmon Region Wildlife Biologist Sean Schroff said. “Idaho is a diverse state, and the timetable at which a site recovers is dependent on the habitat type, and that timetable also changes as you travel across the state.”

Generally speaking, the recovery sequence goes like this: Within a couple years, grasses and forbs re-establish. Over the next 10 to 30 years, depending on soil type, precipitation, and length of growing season, shrubs will grow and start becoming the prevailing vegetation. In wetter environments and higher elevations, trees become the next stage of vegetation, which can take 30 years or more.

Depending on the type of trees that dominate the forest, this could be when the landscape enters its “climax” phase, which essentially means that unless there’s another major disturbance, the area will remain forested.

Not every landscape in Idaho follows the grass/brush/trees sequence. In drier areas commonly found at low elevations, sagebrush and bitterbrush often dominate the final stage of regrowth.

Those low-elevation areas, such as river canyons, prairies, and sagebrush flats, are extremely important and valuable to Idaho’s migratory deer and elk because they rely on it for winter range.

Wildfire affects elk and deer differently



Elk

Intermediate grazer

- Grasses make up largest proportion of diet
- Show high selection for Bluebunch Wheatgrass and Idaho Fescue
- Invasive annual grasses don't provide adequate nutrition

Elk

Grasses make up the majority of their diet, and elk have a large stomach that allows them to consume a less-diverse diet, so grasses that regrow immediately after a fire will often benefit elk.

However, the type of grass that grows is important. Native grasses are critical for nutrition, but invasive grasses are often poor forage that's hard to digest except when it's newly sprouted.

However, elk eat things other than grasses, and they will switch to shrubs when snow conditions make grass unavailable, so shrubs can also be an important food source to maintain healthy elk herds.



Mule Deer

Browsers

- Browse & forbs comprise >75% of diet

Deer

We have to split this between mule deer and white-tailed deer because they prefer different habitats and food. The most fire-prone areas are more likely to affect mule deer habitat because they're often found in drier, open country.

Mule deer are known as “browsers” and require shrubs as a main food source year-round. Mule deer have a smaller stomach that requires more nutritious food than grass to remain healthy.

About three-quarters of a mule deer's winter diet consists of shrubs, and grass only accounts for about 11% of it, with forbs being the rest. Losing those shrubs after a fire obviously means a huge part of their diet is no longer available during a critical time of year for their survival.

Shrubs are also slower to regrow than grass, so mule deer may struggle for 10-30 years after a wildfire because they need the rich forbs, brush, and other plants that are slower to regrow than grasses.



F&G actively works to rehab fire damage when needed

Wildfires can burn more intensely in winter range, and may consume all the vegetation over tens of thousands of acres. Severe wildfires can burn nearly all vegetation, so there are few surviving plants left to naturally regenerate the landscape. When that happens, Fish and Game often tries to speed the recovery of important wildlife habitat.

But to compound the challenge, much of this land often includes invasive plants, such as cheatgrass and other plants that often germinate quickly after fires and spread faster than native plants, such as bunch grasses, sagebrush and bitterbrush. That mean it can be harder to re-establish the slower-growing sagebrush/bitterbrush/mahogany plant communities and sustain them for long periods before the next wave of fires burn through.

Research has shown that a landscape restored with healthy, native vegetation is more resilient and resistant to wildfire. So, in theory, the sooner an area can be restored to its native state, the more resistant it will be to weed infestation and future wildfires.

It's usually a public/private land partnership

Idaho's land ownership is a mix of federal, state, tribal, and private lands. Fish and Game gets involved in most long-term fire rehabilitation plans across all ownerships. As rangeland rehabilitation plans are developed, land managers will typically reach out to develop potential partnerships.

At a minimum, Fish and Game will provide technical assistance about desired seed mixes and priority areas for wildlife. The department will also often provide additional funding, especially when private lands (or state-owned lands) are involved. In these circumstances, Fish and Game usually tries to ensure there are no gaps in rehabilitation efforts.

Boosting recovery after recent burns

For example, the Paddock Fire north of Emmett recently burned about 190,000 acres in the summer of 2024 that is traditional winter range for about 4,500 mule deer and 1,000 elk.

The department worked with Mule Deer Foundation to plant 40,000 sagebrush, bitterbrush, and rabbitbrush seedlings on some of the most densely populated winter range. And Fish and Game crews and volunteers collected sagebrush seeds during fall that will be given to a nursery to grow into seedlings for future plantings.

Fish and Game also works to reduce the spread of invasive weeds by applying herbicides, followed by seeding of perennial grasses, shrubs, and forbs. Crews have recently done this on burned areas south of Bruneau and on about 20,000 acres of rangeland near Salmon.

That work benefits more than just big game animals.

"These shrubs are also important in these drier habitats because they provide habitat for many other plant and animal species," said Regan Berkley, Fish and Game Wildlife Manager for the Southwest Region.



Forests can be more resilient to fire

High-elevation, wetter habitats – think upper foothills and mountains – are summer range for mule deer and elk. Historically, these areas have relatively frequent, but smaller, fires that burn in patches and leave a mosaic of burned and unburned areas, which creates different stages of regrowth.

Generally, these sites don't require as much human intervention to recover. The mix of old, new, and regenerating vegetation also provides diverse habitat that's suitable for a wide variety of wildlife. For example, when you get into the forested areas of Idaho, you will often see a patchwork of forests, meadows, and brush fields, and it's common to see trees that died in previous fires, but have not decomposed. However, they're surrounded by lush vegetation.

Some of these low-intensity fires only burn through the understory, which fire-adapted species such as ponderosa pine, can easily withstand. But you may also see large swaths of forests burned, which were often thick stands of lodgepole pine. Lodgepole pines require fire to open their cones that allow seed dispersal, thus restarting the regeneration of lodgepole forests.

Upper elevations and mountainous sites are typically quicker to recover due to more annual precipitation that allows fast regrowth. There's also usually nearby unburned areas that spread seeds into the burned area.

However, not all wildfires in the mountains are small, and large forest fires can also burn tens of thousands of acres and create regrowth of the same age that suits some animals better than others, leading to an increase in some populations at the expense of others.



Good fires/bad fires

All wildfires are not created equal. They can be beneficial for many species of wildlife under certain conditions. Low-intensity fires that burn in a mosaic pattern can rejuvenate forage and add diversity to the landscape that benefits a variety of wildlife. In addition, smaller, low-intensity fires are unlikely to displace large numbers of animals because there is available habitat nearby.

As previously mentioned, fire can also have severe harmful effects for decades if it burns huge swaths that are slow to recover or become infested with invasive weeds that provide poor forage and habitat for wildlife.

If these large fires reoccur before the landscape fully recovers, it can reset the clock again, and the previous wildlife that occupied the area may not find suitable habitat for decades.

Fire prevention is better and cheaper than rehabilitation

Wildfires may be a natural part of Idaho's landscape, but the state also sees a significant number of fires that are human-caused, including fires ignited by escaped campfires, fireworks, cars, RVs, OHVs, chainsaws, and other sources.

Wildfires can't be eliminated, but accidental fires can be greatly reduced by people being careful with fires, or things that produce flames or sparks. Remember that an accident or a short moment of carelessness can create a big problem that costs millions of dollars and could negatively affect wildlife for decades.