



HARNEY COUNTY
Wildfire
COLLABORATIVE



HARNEY COUNTY
Restoration
COLLABORATIVE

Oregon Experiences Once In A Generation Fire Season

Fire experts in Harney County weigh in on science behind fire behavior.

By Lauren Brown
October 2020

Wildfires dominated news coverage for much of September after fires erupted along the West Coast in Oregon, California and Washington.

An uncommon weather event in Oregon just after Labor Day resulted in dozens of wildfires that destroyed thousands of homes and burned about a million acres.

Jeff Rose, District Manager for the Burns Bureau of Land Management, was enlisted to help with management support during the wildfire emergency, which included supporting fire districts and their cities as well as creating strategies and coordinating activities between fires. "The situation over there was a very rare event," he said. "A lot of unfortunate things lined up at the same time."

An unusually dry period of time in the late summer and early fall happened to coincide with a ridge of high pressure in Eastern Oregon and combined with a low pressure system coming in off the coast that generated some incredible winds. These winds exacerbated already existing fires, and when other fires started in these dry, windy conditions, it created a situation in which firefighters simply could not get ahead. "It all just stacked up together and created this unique set of events. They talk about it being generational – that once in a lifetime you would see these events," said Rose who is also a member of the Harney County Wildfire Collaborative, a collaborative of the High Desert Partnership.

Three factors

Bureau of Land Management Fire Planner and wildfire collaborative member Casey O'Connor noted that there are three things to consider when looking at wildfire: fuels, climate and topography.

The topography is one of the set variables, such as a hill, that will always be part of the landscape. Climate is the long-term weather in a particular area. Short-term weather events, such as the wind event that happened after Labor Day and which was also predicted in advance, can have an immediate impact on a fire. Fuels can include grass, shrubs, trees and anything that can feed the fire.

O'Connor said that interactions between climate and fuels are important. For example, a dry day dries out fuel, especially fine fuels such as annual grasses. Those fine fuels can create fire connectivity between shrubs and other vegetation. O'Connor said that creating breaks in the fuel to break up large continuous tracts of annual grasses and shrubs is something he has been vocal about implementing. "That's what we do when we fight a fire, we look for a way to create a fuel break, be that creating cold black by wetting the edge (going direct), burning out off a road and removing fuels by burning them, or pulling it back to a lighter fuel where it takes less effort, making crews on fire more efficient while also putting them in a safer environment with reduced fire behavior due to the lighter fuels."

Humidity is also a factor. As the relative humidity goes down, the fuels dry out. This time of year, the relative humidity comes up at night. "We've turned a corner. We're into fall. You'd have a hard time lighting a grass fire at 7 a.m., but by noon, that grass will burn pretty good," O'Connor said. During the summer, in which the days are longer and the relative humidity doesn't recover in the evening, those conditions can line up to sustain a

grass fire through the night. "We do have a handful of those nights through the summer when it's just hot all night," he said. That's when a wildfire can take off on the range. In those situations, "everyone is just hoping and praying the sun is going to go down and it cools off. Then you work through the night to get around it and then hold it to the next day. That is the typical strategy, but when you have it going all night, that's not good," O'Connor said.

Lionshead Fire



Pictured: Bucket operations on the Lionshead Fire. Photo from Inciweb with credit to Joshua Clipp.

Tim Boyce, a fire management specialist for the Malheur National Forest Emigrant Creek Ranger District, worked on the Lionshead Fire, which started west of Warm Springs on Aug. 16 and rapidly spread to the Willamette, Deschutes and Mt. Hood National Forests on Sept. 7 and 8 when the windstorm hit. Boyce said important factors that contributed to the spread of this fire involved temperature, humidity and wind.

Referring to data from weather stations in the surrounding area of the Lionshead Fire, Boyce noted that graphs charting temperature and humidity indicated low humidity. "Normally the temp and humidity line cross twice a day," Boyce said. In this case, they didn't cross at all. "When they don't cross and/or the humidity stays low overnight that is an indicator of poor to moderate humidity recovery. This allows growth to continue overnight as opposed to growth being limited in the overnight hours," Boyce said.

The other factor that was key in spreading the fire was, of course, the wind, in this case an east wind or Foehn Wind event. "These winds are warm, dry, and strong, often flowing down the lee slopes of mountain ranges," Boyce said. He noted that the wind event started in the early morning hours of Sept. 8 and continued for a few days. "Sustained speeds over 10 miles per hour with gusts as high as 30 miles per hour set the stage for rapid fire growth across fuels that were already extremely dry," he said.

The Lionshead Fire has burned more than 200,000 acres and is not yet fully contained.

Local expertise

Climate that is unique to a certain area is something locals are intimately familiar with, but it can stymie firefighters who are brought in from elsewhere to help fight wildfires. Rose said the east side of Steens Mountain can experience extremely high winds, like the winds in western Oregon after Labor Day. "It involves cold air falling off the high elevation of the Steens and going down the Alvord Desert," Rose said. Strong, gusty winds can also develop around thunderstorms as they build or especially during the later stages of the storm.

Rod Hoagland is a member of the Rural Fire Protection Association in the Fields area and recalls years ago when there was a fire on the east side of Steens Mountain. "If you talk to people who have ever lived down there or people who are familiar with the area in the evening, the wind changes directions. And if you have a fire on top of the mountain, it is going to come down and visit you at night," he said. The incident commander on that fire was someone from Mt. Hood. "He may have been really well versed in fighting fire in forest conditions, but he was not versed in the wind conditions and the fuel types that we had on the east Steens Mountain," Hoagland said. "He tried to get us to go to a safety zone and stand down." However, Hoagland had

put in fire breaks around the house and intended to protect his property. Calls were made, and the incident commander was replaced with another one.

Hoagland said teams that are brought in from elsewhere don't necessarily understand the logistics of fighting a fire in Oregon. "We have different fuel loads," he said. "The feds are the first to admit that if they can have a local person on their team or in position when they're fighting these fires, the local person can give them a lot of information about water resources, fences, roads, things where they can hook onto and put in a fire line."

The trauma of fire

These large fires that are hard to control have a traumatic impact which unfortunately our neighbors in Western Oregon are experiencing. Jim Shepherd is a semi-retired sheep and cattle producer who had permits in the Ochoco National Forest, just above Burns. During the time he ran sheep and cattle on those permits, he experienced two large fires, the Pine Spring Basin Fire, which burned 73,700 acres in 1990, and the Egley Complex Fire, which burned more than 140,000 acres in 2007.

During the Egley Complex Fire, Shepherd spent eight days moving his sheep around, trying to stay ahead of the fire. He felt like the Forest Service was content to let the fire burn, and the situation left him wrecked emotionally and physically exhausted. He lost 350 head of ewes and lambs, 300 of which he never found, and 50 of which made it out of the fire, but whose lungs were so seared, they died soon after. With help from the community, he was able to truck the rest of his herd, about 1,800 head of sheep, out of the forest to Malheur National Wildlife Refuge.

The herd spent two seasons at the refuge before they were finally able to return to the forest. "It was a terrible emotional experience," he said. Shepherd eventually wound down his operation and sold his herd and permits.

Looking back on the experience now, Shepherd said he can see how the fire wasn't necessarily a bad thing for the forest. "In retrospect, if you don't care necessarily about the trees in the forest, from the grazing standpoint, it improved the forest a lot for those of us in the grazing business. It grew a lot more forage, a lot more for the cattle and the sheep. But at the time, I was so emotional about it, I couldn't see that."

The Harney County Wildfire Collaborative (HCWC) and the Harney County Restoration Collaborative (HCRC) are two High Desert Partnership collaboratives dedicated to creating fire tolerant landscapes. HCWC is finding ways to make sagebrush steppe landscapes more resistant and resilient to unexpected fire while HCRC is creating a fire tolerant and an ecologically diverse Southern Malheur forest. Partners within these collaboratives are watching the fire season closely and many like Tim Boyce and Jeff Rose, are experiencing through their work, first hand the devastation fire has brought to the west side of Oregon.

2020 Oregon fires as of Oct 9, 2020 that have hit megafire status at over 100,000 acres, source inciweb.nwcg.gov/:

- Archie Creek, 131,542 acres, 94% contained
- Riverside, 138,054, 57% contained
- Holiday Farm, 173,393 acres, 84% contained
- Beachie Creek, 193,613 acres, 62% contained
- Lionshead, 204,455 acres, 46% contained

This article is provided by High Desert Partnership; a Harney County nonprofit convening and supporting six collaboratives including the Harney County Wildlife Collaborative and the Harney County Restoration Collaborative.

