

Fire is an important tool for improving wildlife habitat by opening dense stands of oak brush and mountain shrubs. Finding the right window for a safe, effective burn can be tough.



Waiting for the Window

Burning Oak Ridge

Article & Photos By
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As the smoke began to rise southeast of Meeker, District Wildlife Manager Jon Wangnild was ecstatic. It had taken more than four years of planning and waiting to get here, but now fire was opening some of the dense oak brush and juniper at the Oak Ridge State Wildlife Area and creating excellent habitat conditions for deer and elk. 🌀 “This is huge for the wildlife habitat out here,” Wangnild said. “The deer and elk will love this, which means more animals will winter on this state property and avoid the surrounding private land.”

Fire is a natural part of the Western landscape, and many Western species of plants and animals benefit from the changes a fire brings. Fire stimulates new, nutritious growth and production in oak brush and mountain shrub communities, for instance, which big game and other wildlife actively seek.

Wildlife biologists and fire managers often work together to use carefully planned fires called “prescribed fires” to open dense stands of oak brush, juniper and other shrubs. Biologists want the habitat benefits, while fire managers are looking to reduce build up of flammable vegetation to help manage future wildfires.

The Colorado Division of Wildlife (DOW) worked closely with partners including the U.S. Bureau of Land Management, U.S. Forest Service, Rocky Mountain Elk Foundation, Mule Deer Foundation and White River Habitat Partnership Program to coordinate this prescribed fire to improve the wildlife habitat at Oak Ridge. But it took years for nature to present the right window for the burn.

“We want to conduct these prescribed fires when conditions are just right — dry enough for things to burn but not so dry that safety is compromised or it’s too hard to meet the specific objectives of the burn,” said Lathan Johnson of the federal Upper Colorado River Interagency Fire Management Unit, a group that includes the Bureau of Land Management, U. S. Forest Service and National Park Service. “First and foremost comes safety of fire personnel and the public.”

Through careful planning and coordination, fire managers like Johnson develop a burn plan with a prescription detailing the specific weather and moisture conditions needed to achieve their goals on the ground.

In the case of Oak Ridge, wildlife and fire managers wanted to create a mosaic of burned and unburned areas that would provide new food sources and open areas to feed, but still provide the cover that big game, birds and other wildlife need.

“We also wanted to leave some of the mature stands of oak brush that produce acorns that many species of wildlife eat,” Wangnild said, “and we wanted to leave blocks of sagebrush intact as well.”

Although that may sound simple enough, these prescribed fires are difficult to pull off because the window between extreme fire conditions in the summer and wet conditions in the spring or fall can be narrow. Toss in potential conflicts with hunting seasons and a moisture-holding north aspect for Oak Ridge and the window narrowed further.

“We can have all the planning complete, the funding lined up, personnel ready to go — but

unless we get the right conditions from Mother Nature, we don’t burn,” Johnson said. “It’s a huge challenge for us. For every planned burn that falls within prescription and is lit, we have several others that we can’t complete because we never get that window.”

Wangnild had watched two autumns pass without seeing that window. During the third autumn, firefighters attempted some burning, but conditions were not ideal for carrying fire. Now it looked like a fourth autumn would pass. Wangnild was surprised when Johnson called him in early November as the same warm and dry weather frustrating third-season big game hunters was opening a possible window for burning Oak Ridge.

Wangnild was on the edge of his seat as he checked weather forecasts and waited to hear from Johnson. Would the dry pattern hold through the end of third season? Could the burn be pulled off in the few days before the fourth season began?

Wangnild, like many state district wildlife managers, had worked with the BLM and U.S. Forest Service before on prescribed fires and knew how tough it can be to get the right window. But those past projects were on federal land. This project was different for him because the DOW was the landowner.

Through agreements in the Oak Ridge/Lost Park Coordinated Resource Management Plan, federal agencies, the DOW and private landowners are working together on a landscape level to benefit wildlife habitat and other resources in this area. A primary goal of the Oak Ridge burn is to keep big game on the state property longer during the winter which helps reduce wildlife damage to surrounding private lands.

For two days in November, federal fire crews burned about 230 acres by walking close together in a line, lighting the shrubs and trees with drip-torches as they passed. Some areas burned well after the crews passed, others smoldered without burning much vegetation.

“We hit the window, but even then conditions weren’t perfect,” Johnson said. “This is probably a little later in the year than ideal, but we did get some acres burned.”

As the smoke column grew over Oak Ridge, some fourth season hunters arrived hoping to scout this unit of the wildlife area a couple of days before the hunt and were surprised to see a fleet of fire vehicles in the parking area. Oak Ridge Property Technician Terry Ivie chatted with them and showed them some alternate areas to try in the wildlife area. The hunters left disappointed they couldn’t scout this area, but understanding.



District Wildlife Manager Jon Wangnild and Assistant Fire Management Officer Lathan Johnson discuss the day’s burn.



Prescribed fires are carefully planned fires that are only lit when weather and moisture conditions fall within a specific prescription for a safe and effective burn.



Federal fire officials and DOW worked closely with other partners to bring the habitat benefits of fire to Oak Ridge.

“We all try to avoid conducting a burn during a big game season, but I think most hunters would be supportive once they learned what we are trying to do for wildlife and how tough it is to get that burn window in the fall,” Wangnild said. “Hunters are proud of their



The new vegetation that will quickly fill in these mechanically created openings from a joint DOW/BLM project near Basalt, Colo., is highly nutritious to wildlife. (BLM photo)



A Hydro-axe is a mechanical alternative that can create some of the same benefits in Colorado mountain shrub communities as fire. (BLM photo)

long history as leaders in wildlife and wildlife habitat conservation. And if you hunt, you know fire can help wildlife because you can see animals using past burns when you're hunting."

Sometimes people are concerned that the

actual fire may burn up the animals the biologists are hoping to help, or that a prescribed fire will push all the game out of the area. Because prescribed fires are conducted when fire conditions are not extreme, they are not typically moving so fast that wildlife can't get out of the way. The burns typically leave a patchwork of burned and unburned areas, so even right after a fire there is still plenty of good habitat around.

But does the smell of smoke send all the deer and elk into the next county?

"Wildlife will certainly move out of a fire's way, but it's very common to burn an area and then see deer and elk in that same area a day later," Johnson said. "They'll usually stick pretty close to home."

The Mechanical Alternative

While prescribed fire is often a preferred tool to improve wildlife habitat and reduce fuel build-up in mountain shrub communities, land managers must wait for the ideal weather and vegetation conditions. Sometimes land managers turn to an alternate "mechanical" tool to create some of the same benefits as a prescribed fire. The Division of Wildlife has had excellent results in the past two years mechanically treating more than 470 acres at the Oak Ridge State Wildlife Area.

Land managers use two primary mechanical treatments in Colorado mountain shrub communities. A roller chopper is a cylindrical drum equipped with several foot-long blades and towed by a tractor or other machinery. A Hydro-axe is a tractor with a mower-mulcher mounted on front. Mechanical options present a much broader window in which the treatment can occur than prescribed fire, and treatments can be done within more precise boundaries. These mechanical treatments also may be more appropriate in areas close to homes or sensitive resources.

On the other hand, mechanical treatments can be much more expensive than prescribed fire. It can take many more days to complete mechanical treatments, which average about 15 acres per day. And mechanical treatments are limited to accessible terrain.

In some cases a combination of mechanical treatments followed by burning has proven effective.

Smoke can be a bigger issue to humans visiting and living in the area. Smoke dispersal is just one more factor that can keep a planned fire from reaching an opportune window.

"Smoke is a major consideration as we plan prescribed fires," Johnson said. "We are required to get smoke permits from the State of Colorado, and we do our best to burn when weather conditions will lift smoke out of the area or away from neighboring communities."

With all the complexities involved in getting a prescribed fire from planning stages to and actual fire on the ground, it might seem easier to just let a naturally ignited lightning fire do all the work. In fact, that is being done increasingly across the West.

Safety always comes first, and a natural fire's proximity to people or homes often requires an aggressive response from firefighters. So might the threat to important natural or cultural resources.

But sometimes a natural fire starts in the right place under the right conditions in which fire managers can closely monitor the fire and allow it to bring the same resource benefits of a prescribed fire. Fire managers may even aggressively suppress one area of a natural fire while allowing another area to burn and meet resource objectives.

Just two years ago on a late summer afternoon, as Wangnild was keeping his fingers crossed that Oak Ridge would be burning in a few weeks, a lightning storm ignited the Jordan Fire about 20 miles to the west. The 800-acre fire burned in similar oak brush habitat, but potentially threatened homes on one flank. Firefighters actively suppressed the flank threatening homes. They closely monitored the fire on the opposite side of the homes, but allowed it to burn into the remote Windy Gulch area to benefit wildlife habitat and reduce fuel loads.

Like the Oak Ridge prescribed fire, the management of that fire also took a great deal of coordination among many agencies and a great deal of public outreach and support.

"The complexities of managing fire as well as wildlife in the Intermountain West have increased greatly over the past several decades," Johnson said. "But we all work together in fire to keep the public safe and to benefit wildlife and other resources where we can." ☺

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