This is a land in balance. There is plenty of suitable habitat, habitat for animals to walk through, habitat for birds to fly through. There is enough sunshine and rain for plants to grow. And enough of other natural processes to keep pests in check, clear out dangerous underbrush, to keep a balance in nature. Natural processes like fire.

Greg Creacy: People have a natural fear of fire, so it’s a challenge to overcome that fear to convince people that fire will ultimately result in more good than harm.

Caroline Noble: It’s taken a long time for me to fully appreciate the role of fire and I enjoy teaching people because it’s not a simple concept to get across to people. It takes some time and some demonstration and explaining to get them to understand what it’s all about.

Wes Moorehead: The benefits are numerous. We see benefits to soil, the nutrients available in the soil. We see benefits to wildlife, to the browse available to wildlife and the habitat composition. We also see benefits and fuels reduction, reducing those fuels that could potentially burn in a wildfire scenario.

Todd Staples: With land as diverse and big as in the great states of Texas and Oklahoma, we need a network defending landowners and the public. And that’s why I am very proud of our local first responders, our local and state officials partnering with our landowners to make certain we’re doing everything possible to mitigate wildfires in our vast open regions.

For years we thought fire was a bad thing, but that was wrong. There is an entire profession of conservationists and scientists who study the natural processes of fire. These fire ecologists don’t just book-study, they go out into the field and see for themselves, first hand, how important the natural process is to maintain a healthy ecosystem.

Fire: A Natural Process

Lane Green: Well it’s a natural process. It is just as important as sunshine, rain, and wind to all the many species that depend upon fire for their very survival. So they’ve got to have rain to grow habitat, and wind- move seeds around to plant them, sunshine- the energy to grow, fire- recycling process that makes all of that work. Lightning strikes originally started fires. A strike of a tall tree that’s well grounded in the forest scatters sparks across the forest floor, and then flames would ignite. Say there was a wind blowing this direction, the fire would start in that direction. The wind changed, it would move around. So it did what we call “meandered” across the landscape, and it was almost as if it was alive.

These fires would slowly spread over considerable distance, until they hit a stream or other gap in vegetation. Roads and developments create artificial fire breaks, ending the natural meandering and stopping the natural progression of fire.
Green: And one of the things Native Americans noticed is that after a fire, the grazing animals showed up. Well they depended on those animals for food, for shelter, for hides and other things. And so they said “ah, we set the fire, we can bring these animals in”. They also the areas cleared around their villages so they could pass through the woods more easily. They learned it from observation of nature, we learned it from them, and we’ve continued that tradition for people that lived on the land. Somebody who doesn’t live on the land, that’s where we have to get them to understand this is a natural process, a very difficult concept, because fire is scary. Fire you see in the headlines is something to be afraid of and prevented. The story of the good side of fire as a natural process is still being told.

Reducing Wildfire Intensity

Greg Creacy: We’re here in Bastrop State Park, in Texas, one year after the 2011 Bastrop County Complex wildfire. What you see here on the right hand side of the road, is an area that had never been treated with prescribed fire. On the left hand side of the road, it had been treated multiple times with prescribed fire, every 3-4 years. You can see the difference in fire intensity when the fire crossed the road, we still have the green trees and the forest is relatively still intact. A wildfire burning in an area where fires have been suppressed for a long period of time burns very intensely. It’s got an accumulation of fuels and quite often, the fire moves to the canopy of the trees if you’re in a forested habitat. When a fire enters an area that has previously been treated with prescribed fire, the fire drops to the ground level, there’s not an excessive amount of fuel to burn, and it’s a low intensity fire that moves across the ground. And in most cases, the trees survive and are still green following a wildfire.

Wes Moorehead: Prescribed burning is a great tool for natural resource managers. It’s a good tool for reducing fuel loads. Fuel can be anything from twigs, to limbs, to pine straw, or leaves on the ground. You know, I think the benefit to people is the fuel reduction aspect of prescribed burning. Prescribed burning allows us to mitigate some of those fuels before a wildfire enters into an area. If you go into a forest situation, or even a prairie situation, rangeland, whatever it may be, overtime vegetation is going to build up, and if it is burned under the wrong condition, say in a wildfire, those fire intensities can be very high, can be very volatile and do a lot of damage to the ecosystem itself and also structures and anything else manmade nearby. Prescribed burning allows us to mitigate some of those fuels before a wildfire enters into an area and we’re able to reduce those fuels before a wildfire comes in and actually creates a fire situation that we don’t want, so we can actually mitigate potential wildfires by using controlled burns.

Habitat for Wildlife

Fire is a natural disturbance, but it also rejuvenates the habitat. It returns the nutrients that are tied up in the vegetation, it returns that material to the soil, and you get new regrowth and lush vegetation that’s beneficial for wildlife and keeps the habitat healthy over the long term.

Fire benefits numerous wildlife species. Whitetail deer are a good example of a species that thrives after fire. In habitats where fire has been suppressed over a long period of time, all the vegetation growth eventually gets out of reach for a deer. After a fire, a lot of the vegetation is brought back down to ground level within reach and it’s more nutritious and the deer are much more healthy. In our grassland
habitats, prairieland chickens, quail, they thrive in post-fire environments. It provides a variety of food, attracts various insects that they require.

**Rangeland Management**

Fire can be a beneficial tool on rangelands, for livestock management you can use fire as an inexpensive way to keep brush in check, to maintain lots of grass for your livestock. Periodic burning of your grazing lands can return those nutrients to the soil, get new lush vegetation that the livestock prefer. You can minimize use of fertilizers, herbicides, and other chemicals, and it’s cheaper in the long run.

Bob Brockman: Basically what I’m trying to do is, cheapen up my way of improving my land, getting rid of some of the ash juniper, prickly pear. With dozing costs upwards of $100-150 per acre, I can do this for $20 an acre. It’s just a cheaper way of maintaining our land.

Dr. Charles “Butch” Taylor: Most ranchers are trying to manage cedar as well as prickly pear. They’re trying also to mitigate the wildfire danger in this part of the state, and they’re actually taking a proactive approach in trying to manage these fuels and they need to be recognized for that.

This location was front-end grubbed in 1986. All the juniper was removed and as you can see, without the use of fire, follow up treatment of fire, how thick this junipers increased in a short period of time. This research area has been burned every other year since 1986, so you can see it’s obvious the fire has not hurt the grass production. The fires been beneficial in that it’s removed almost all of the cedar it’s improved the flower production and had a big increase in grass production.

**Species Diversity**

Dr. Ron Masters: The area we’re in now is burned on a two year cycle, and has been burned on a two year cycle for a number of years. It’s interesting to note that that changes things a lot in terms of the plant community that’s found here. We have our herbs and forbs, our grasses. We also have woody structure here from the hardwood plants, and occasional pine seedling that have sprouted. These species form a different kind of structure, which are associated with different species of wildlife. There is an incredible diversity of plants out here, and there is also an incredible arrangement of structure as well, which is important to the different wildlife species, and we like to see this because it’s beneficial to wildlife.

**Conducting a Prescribed Burn (9:55)**

So how is prescribed fire done? It’s a team effort. They gather to come up with a plan. They determine things like size, location, acceptable weather parameters, and what the outcome should be.

Eric Staller: You know, the people doing prescribed burnings are professionals. They know what to do. They know how to do it. They know how to see how the fire’s behaving. They know how to modify their techniques to keep things under control to get the desired results you’re looking for.
Caroline Noble: When we go to actually implement a controlled burn, we have a plan, we follow that plan. That plan has parameters for weather conditions, smoke direction, relative humidity. We always ignite a test fire, which is a small fire to see if the fire indeed is doing what we expect it to do; if it’s controllable, if it’s going to meet our objectives. Then during the actual burn we continue to monitor the weather. We often have observers out on the highway, checking if we’re doing any sort of visibility reduction. We’ll have people checking the humidity, to be sure we’re still in prescription. And we’ll be monitoring the fire behavior itself to make sure it’s within the parameters we’d like it to be to achieve the goals we’ve set out for that burn.

Robyn Dabney: This is a drip torch. Basically we just light it on fire then drag the fire with it. We are trying to resort back to the native prairies that it used to be, so we’re getting rid of some of the trees, some of the shrubs, some of the undergrowth. It’s interesting because you see all the black, you see all the dead stuff, but it actually helps stuff grow, it clears stuff out so a lot of it can get sunlight and more nutrients, water in some cases, that hasn’t been an issue here today we’ve noticed, but yeah. You’ll come back and you’ll see a lot more of the native species growing back, lots of green. It’ll look totally different.

*Living in the Interface*

Justice Jones: The wildland urban interface is an area where we build homes and communities adjacent to wildland or agricultural vegetation, and it’s in this area that poses the greatest risk to communities with the threat of wildfire. It’s also in the wildland urban interface that prescribed fire, when utilized judiciously can have the biggest impact on protecting communities and our ecosystems from catastrophic wildfire. Just like landowners are responsible for managing their lands, homeowners have a responsibility to manage their property and homes in a way that is fire resistant and compatible with the fire adapted ecosystems we reside in.

*Smoke Management*

Lane Green: The thing that inconveniences the public the most is probably smoke and we as fire managers, we have to, as we say, “own our smoke”. It’s our smoke from the time we light the first match until the last smoldering snag is out. We plan with weather conditions and get our authorizations to burn based on dispersal of smoke going up and away.

Justice Jones: It’s worth putting up with a little smoke to have a fire safe and healthy ecosystem.

Eric Staller: And so, when you have a good day and the smoke goes where you want it to go and your burn is executed perfectly and you get done at the end of the day and it’s beautiful black and a few things smoking, it’s very satisfactory.

And amazingly within a short time, the black begins turning green again.

Dr. Kevin Robertson: Most plants in these fire dependent habitats re-sprout very quickly after they burn. So it’s kind of like mowing the grass. When you cut the grass, you’re not killing the grass you’re just knocking it back to the ground. That’s what fire mostly does in these habitats.
Wes Moorehead: I think it’s important that we look at all landscapes for prescribed burning. Particularly landscapes that have historically had fires as a component, where Mother Nature put fire on the ground. We need to look at those landscapes and introduce fire back into them to make a healthier more productive ecosystem and also make a safer ecosystem for those that are around it. So by introducing fire, by using prescribed burns, we’re actually mimicking what Mother Nature has done for thousands of years and we can actually see an increase in native vegetation, native species, the species that we want to see out there, and a reduction in the species we don’t want out there.

Through science and research we have learned that fire is as important to the ecosystem as sunshine, rain, and wind. With careful, thoughtful stewardship, and working with nature to lessen man’s impact, we will have a vast treasure for all to enjoy for generations to come.

A Land in Balance is brought to you by the Texas A&M Forest Service, Texas Parks & Wildlife, Oklahoma Forestry Services, the Southern Group of State Foresters, and the USDA Forest Service.