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PRESCRIBED FIRE IN LATE WINTER

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I am not sure how others feel, but the fall and winter season from November through February is my personal favorite time of year. Of course there are the most apparent reasons to enjoy this time of year, like spending time with the family and close friends during Thanksgiving, Christmas and the start of the New Year. However, for most reading this article, the obvious reason to love the fall/winter season is hunting! White-tailed deer, quail, waterfowl, and turkey are all species of game that can be sought after during the fall to fill the family dinner table during the holiday season. For a wildlife biologist like myself, another wildlife related activity makes it that much more enjoyable to be out in the field.

Those with the keen eye will be able to pick up the smoke clouds rising above the tree line as fuel loads are consumed and smoke clears the burn unit. One may be able to even smell the aroma of the fire as it moves methodically across the range leaving nothing but black landscape in its path. Not many things are quite as enjoyable, or more humbling, than to witness a prescribed burn in action.

Burning the unit. By: Nicholas Kolbe

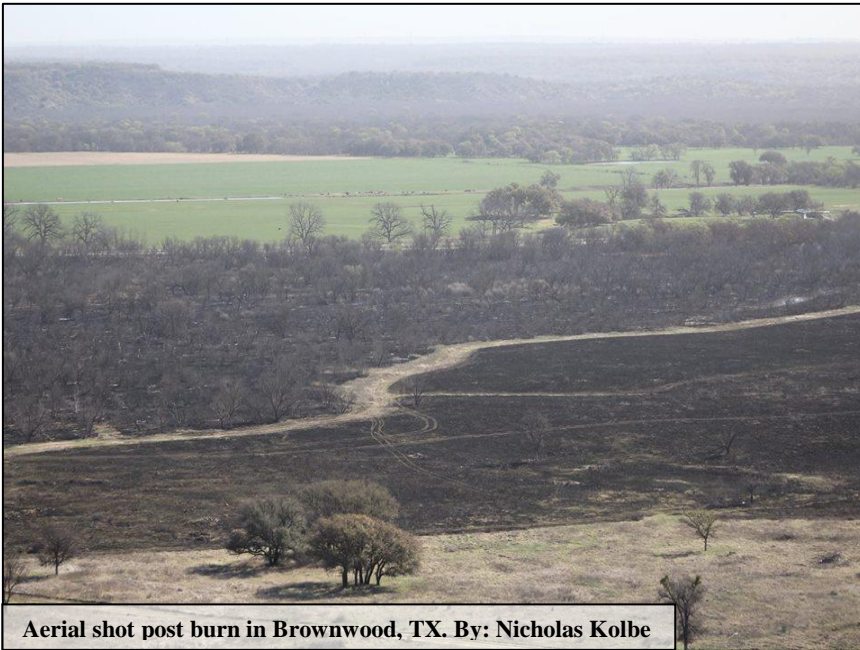


Aftermath following the burn. By: Nicholas Kolbe



In past wildlife articles, I have highlighted the benefits and drawbacks of prescribed burning and how fire interacts with your property and wildlife populations. In short, prescribed burning can accomplish a number beneficial tasks for your rangeland and wildlife populations with little effort and monetary commitment from the landowner. Prescribed fire removes old growth from your range that most livestock and wildlife species do not use or cannot use. Most of that sub-canopy old growth that you see on your range this time of year is past maturity and comprised of mainly dry lignin and cellulose. These tough plant matter components are very difficult to digest for the common four chambered stomach and contribute little to no nutrients to the animals which consume it. That old growth vegetation above also blocks out sunlight from reaching the ground floor below, which is needed to stimulate new novel growth. This new growth is what most livestock and wildlife species seek as it tends to be much more tender, nutrient rich, seed bearing and much easier to digest. However, along with the positives, there are drawbacks to prescribed burning as well.

Prescribed fire can be dangerous if not applied within the correct prescription. I believe that the fear of wildfire and the possibility of a fire breaking out of the burn unit is the primary reason why some landowners tend to shy away from burning. A prime example can recently be seen in California. High winds, low humidity, and wildfire level fuel loads have burned over 1.67 million acres in 2018. There is also that ever apparent risk of drought in Texas that one must consider when conducting a burn. Unfortunately, we live in a state in which we may have record timely rainfall one year and devastating drought conditions the next. That risk of drought is always apparent and could put your livestock and wildlife in a tough spot if one does burn and the spigot shuts off for the next eight months. Lastly, one of the major risks that I believe most landowners do not consider is



Aerial shot post burn in Brownwood, TX. By: Nicholas Kolbe

the results of their prescribed burning actions. More specifically, I believe there is a disconnect between the growth pattern of the vegetation and the intended regrowth outcome anticipated by the landowner. For example, if one's goal is to control or remove invasive exotic grasses from their range by prescribed burning and entice native grasses and forbs to take their place, prescribed fire may not be the answer as most invasive exotic plant species are adapted to and actually thrive with fire disturbance.

With all of this information, considering the good and the bad, the risk and reward, I ask the question; is prescribed burning right for you and your

range and your wildlife?

To answer that question, one must first revisit their goals and understand what they are trying to accomplish. Are you trying to reestablish your rangeland with native plant species? Are you trying to decrease brush encroachment or regrowth on your ranch? Are you trying to provide increased grass, forb and brush diversity for your white-tailed deer and quail species? Answering these questions first will provide you with a better idea if prescribed burning is a correct management practice for your property. I will say, in my opinion, most of the time prescribed burning pros will outweigh the negatives given its versatility and cost efficiency.

When conducting burns on your rangeland, I recommend starting early in the year such as late January to early February. This time interval has always been one of the best times to place fire on the ground to help improve your rangeland. February is ideal because a lot of the hunting for most ranches is winding down for the year as managers and hunters give their wildlife a breather. This break gives property owners and managers time to get out into those areas before the rains begin to fall, temperatures begins to rise and vegetation begins to grow.

That brings me to my next point. Burning in late January through February and even into early March provides the rangeland with the best opportunity to make use of those timely spring showers that we all pray show up. As I mentioned above, there is always the inherent risk of burning your range and the spigot shutting off and leaving a black canvas on your ranch. However, burning during the transition period between winter and spring time provides you with the best opportunity to take full advantage of the "rainy season" here in Texas. Take that phrase "rainy season" lightly please. Historically, most areas of Texas receives 25-30% of their yearly rainfall during the months of March through May. The coastal region of Texas will see elevated rainfall throughout



Regrowth of native forb and grass mix 1 year post burn. By: Nicholas Kolbe

September and October as well with hurricane season in full swing. However for most, this timely spring and summer rain is crucial as most wildlife species are dependent on this precipitation to fulfill life processes like parturition.

I know I am speaking to the few here that may not know this but white-tailed deer give birth to young in the months of May through July, depending upon when conceived during the mating season. Some may wonder why deer give birth to young in the middle of summer. Well it is all by nature's design. A female white-tailed deer, once conceived, will gestate young for 200 days before parturition in the summer. The reason to drop young in this time period is because that is when most forage is available on the range. With the rain that falls in March through May, there is a rush of vegetation that grows on the range to be made available to deer through the spring and summer months. This vegetation allows for mothers of offspring to regain nutrients for gestation, lactate for offspring and, believe it or not, begin to gear up for the next mating season. Prescribed burning in late winter to early spring will prime your rangeland to take advantage of those spring showers and regrow novel, nutrient rich vegetation for your deer.

White-tailed deer are big winners when it comes to late winter burning and timely spring rainfall. However, they are not the only wildlife species that benefit from prescribed burns. Other species such as quail and turkey time their mating patterns and parturition to synchronize with the timely rainfall and regrowth cycle as well. This allows them to also take advantage of the new growth on the range for nesting, foraging, incubation of eggs and seclusion cover to raise their brood. With so many species depending upon vegetation to be available during a specific time of year, burning to rejuvenate vegetation can be a very important tool to provide game species with just what they need to fulfill those ever so important life processes.

When implementing a burn there are a few things to keep in mind and address before lighting that drip torch. First before ever planning a burn, I would advise you to understand the dynamics of your rangeland. Know the vegetation in your planned burned area and understand how those specific plant species will respond to fire. As I mentioned briefly above, many species of invasive exotic vegetation thrive with fire disturbance. If your ultimate goal is to get rid of grass species like King Ranch Bluestem or Tanglehead on your range, more than likely fire will only make the situation worse and harder to combat. Also think about the timing of your burn. Burning in different times of the year such as cool season versus warm season will more than likely produce a different composition of emergent vegetation. I would highly advise one to talk with their local biologist or do a little digging on their own to really understand the composition of vegetation on their range

and how these species will react to fire. This thought process should also be in lock step with the needs and life processes of the wildlife species in which you are trying to manage for as well. For example, if you are trying to provide a more nutrient rich food source for your livestock, burning an old Buffelgrass or Tanglehead field might just be the answer as cattle and other livestock will flock to the new lush regrowth.

The next item that should be considered is the amount of burning one is planning to implement. Understand that the black charred landscape could well be there for a while if rain does not show up following your burn. I would advise only



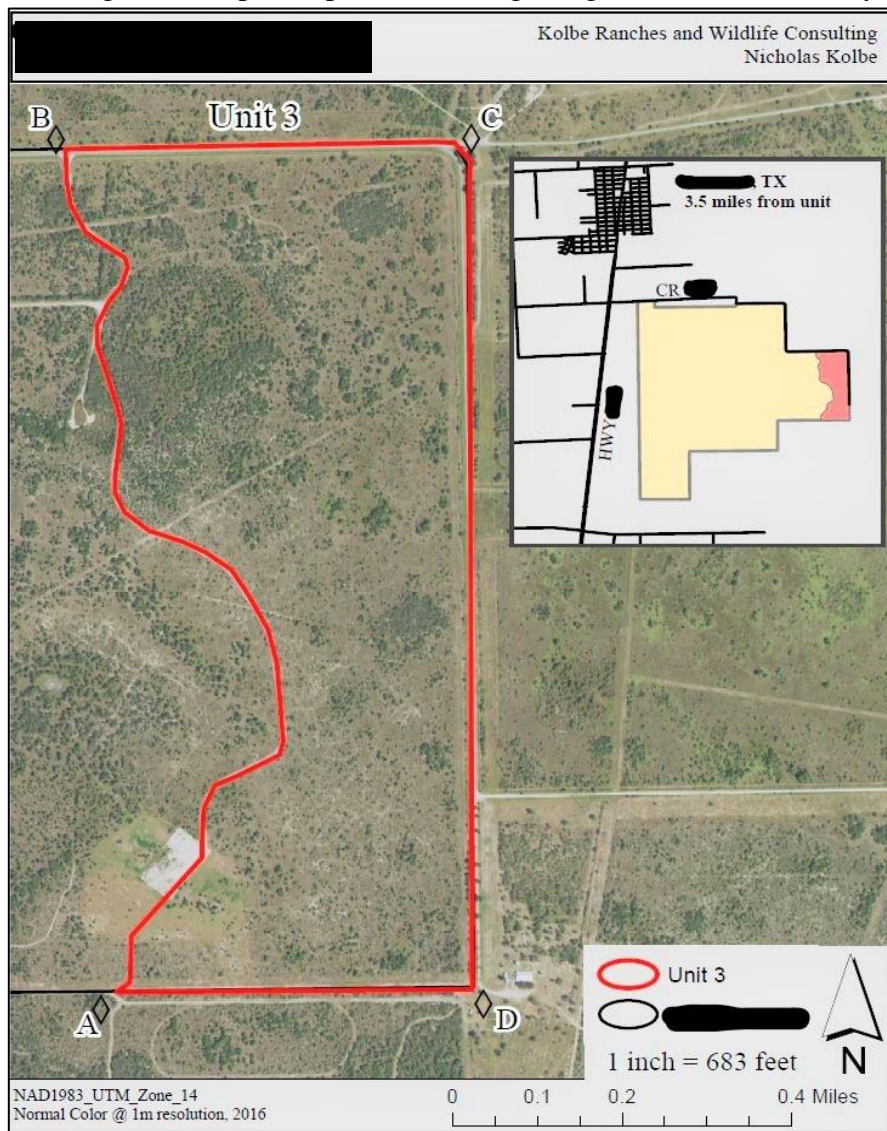
Evaluating the range prior to burn. By: Nicholas Kolbe

ever burning a designated percentage of your property at a time while leaving the remainder unburnt for wildlife and livestock to utilize. Most of the time, setting up a rotational burning plan that generally introduces fire to any given burn unit every 3-5 years is ideal. This range is, of course, variable depending on which ecoregion

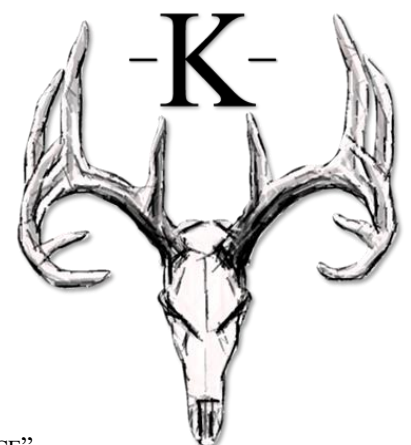
you're located within Texas. The prescribed burning regime in the Pineywoods ecoregion of Texas is quite different than the burning regime in the South Texas Plains ecoregion of Texas.

One of the last items to address, but probably one of the most important, is SAFETY. Always understand the safety precautions that need to be taken to conduct a prescribed burn. That means having a written burn plan on hand that details all aspects of the burn. Everything from local authority's contact information, prescription you plan to burn in, personnel used on the burn, equipment available for use during the burn and a map of the burn unit detailing ignition procedure, water sources, escape routes, etc. These are all vital items that should be located within the plan. Generally prior to the burn, there is a briefing that covers most of these big ticket items to ensure everyone is on the same page when fire is on the ground. Having a plan and following the burn prescription will mitigate against risk and liability.

Prescribed fire is a highly useful management strategy for your range and wildlife. Fire can help you accomplish your goals without having to spend a whole lot of money to do it. However, understanding the risk/reward scenario is key to making fire work for you. This means fully understanding your wildlife and the vegetative species on your range. Taking the time to pay attention to these crucial topics will allow you as a landowner to make the best decision on when to burn, how to burn, and the final result of your burn.



Burn Unit Map. By: Nicholas Kolbe



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"ACHIEVING LANDOWNER GOALS
THROUGH KNOWLEDGE AND EXPERIENCE"