Management after Wildfire

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http://osufacts.okstate.edu

What can Landowners do to manage property after a wildfire?

Has your property been affected by wildfire? Are you unsure about what to do now and who to turn to for help?

Wildfires can be devastating to homes, barns, hay bales, or standing grass when used for winter forage. However, the effects of wildfires on vegetation are usually similar to the effects of prescribed fire. In many cases, wildfires provide valuable control of eastern redcedar and other brush species that have increased in coverage because of fire suppression.

The information contained in this publication includes land management practices that may be used by landowners to implement after experiencing wildfire on their property. The impacts of wildfires will vary between individual landowners and areas impacted depending on many factors.

The Natural Resources Conservation Service (NRCS) and Oklahoma Cooperative Extension Service are available to answer questions and provide assistance to landowners in dealing with wildfires.

For information on prevention and protecting property such as homes or outbuildings, refer to the Firewise Website at: www.firewise.org/home

Impacts of Fire

Many people don't understand the role of fire in the ecosystem. When wildfires roll across the landscape the primary thought in many minds is that of total loss and devastation, especially when coping with the loss of homes and barns. Landowners who rely on grasslands, shrublands, and forests as an enterprise (grazing, haying, timber production, and recreational leasing for wildlife) are faced with the question of "What do I do to recover the vegetation and habitat that I rely on?" And even though the initial appearance on the land is that of a moonscape, devoid of most vegetation, these lands will recover naturally.

Fire has been, and still is, an essential part of maintaining healthy native grassland, shrubland, and forest ecosystems and has positive impacts. In fact, fire applied in a prescribed manner is a valuable management tool used by many Oklahoma farmers and ranchers to restore and maintain healthy plant communities. Oklahoma's native ecosystems are fire dependent, and without fire these plant communities become dysfunctional and unproductive.

Another result of fire suppression is increased wildland fuel loads, which when combined with extreme weather conditions (high wind, low humidity, high temperatures) are a recipe for wildfires. ***Wildfires*** are fires that occur unintentionally. Each year, wildfires become more common and more difficult to control in some areas because of an increase in wildland fuels. Reducing wildland fuel will not eliminate wildfire potential but will reduce potential loss of structures, danger to firefighters, and costs of control. Wildfire danger to firefighters and homeowners is magnified by the presence of eastern redcedar. Firefighters should not have to fight fire in eastern redcedar but it is present on many lands that are poorly managed.

Prescribed fire is the use of fire applied under specific conditions, following appropriate planning, which allows the fire to be confined to a specific area in order to accomplish a planned land management objective. Prescribed fire is used to improve the health, appearance, recreational value, and productivity of the land. By using prescribed fire, landowners can restore and maintain forests, shrublands, and grasslands as diverse, healthy ecosystems and reduce wildland fuels loads.

Although landowners can apply prescribed fire to reduce potential for wildfires on their land, sometimes land may be located in areas where fire, even when applied in a prescribed

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manner, may not be practical. Other methods of protecting property from wildfires include installation of firebreaks around the perimeter of the property or important structures and facilities and removal of volatile fuels, such as eastern redcedar.

Vegetation Recovery

After a wildfire it may appear as if the flames have destroyed all vegetation. Loss of vegetation not only affects its use for livestock feed and wildlife cover, but is one of the most important factors influencing soil erosion by wind and water. Vegetation helps control erosion by shielding the soil from the impact of raindrops and slowing the amount and velocity of runoff and impacts from wind.

Many landowners may be left with the fear that vegetation will not return unless it is re-seeded. However, in all but be the most extreme cases (under brush piles), plants are still alive and will recover. Factors that affect recovery time after wildfire include types of plants and their adaptation to fire, fire intensity, precipitation (before and after the fire), soil type, previous history of grazing and fire, season of fire and current management.

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Fire has played a key role in the development of Oklahoma's landscape and ecology and plant communities respond favorably to fire. Most of our native trees, shrubs, forbs and grasses have mechanisms of coping with fire. Some will grow new leaves; some will re-sprout from their roots, while others have fire resistant seeds that will sprout following a fire. Plants are most susceptible to fire if they are actively growing. For warm season plants this would be during the summer months and for cool season plants, the winter months. Bunchgrasses like little bluestem accumulate dead material above the root crown and the center of the plant dies over time. After a fire, it sometimes appears that the plant was killed when in fact the center of the plant was already dead. This can be observed by examining burned and unburned plants in the same area. In contrast, rhizomatous grasses, such as big bluestem, have growing points below the soil surface and do not accumulate fuel next to the root crown. Woody plants are adapted to fire by location of buds or protective bark. Most woody plants resprout if top growth or apical buds are killed. Once apical dominance is lost, dormant basal buds below the soil surface begin growth. Some woody plants such as eastern redcedar lack basal buds and do not resprout. Many woody plants have thick bark and are adapted to intense fire. Eastern cottonwood, post oak, and shortleaf pine are examples of fire tolerant woody plants.

Management prior to wildfire will also affect recovery time. Proper grazing management resulting in healthy plants (identified by an abundance of plants, seeds, root crowns, and rhizomes) prior to wildfire will help to ensure healthy, vigorous recovery and growth afterwards. If there is concern that the plant community will not recover, a field evaluation can be made to determine what, if any action is needed. This is best done at the end of the growing season after the wildfire when plants have had an opportunity to grow and reproduce.

Management Following the Wildfire

Following a wildfire, management practices need to be applied that encourage desired plant growth. The desired plants will depend on the objective of the landowner. For, example,

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an increase in forbs (weeds) will benefit many wildlife species and not affect livestock production unless at extreme levels. Allowing plants to grow and thrive is critical for recovery and cattle can be an important tool in manipulating the vegetation. If grazing is planned on burned areas, grazing management practices need to be applied that promote the growth and vigor of the desired plant community. Remember plants that are sometimes referred to as weeds are palatable and eaten by livestock and are valuable to wildlife.

Management considerations following a wildfire include:

- Some areas may need to be deferred until plant growth is adequate to support grazing. This will be dependent on precipitation. If it doesn't rain, plants won't grow whether burned or unburned.
- Always use proper stocking rates.
- Alter season of use by avoiding the same areas and plants at the same time each year.
- Rotate livestock between pastures to allow plant recovery before being re-grazed. This may need additional practices such as temporary fencing and new water facilities.
- With adequate precipitation, areas can be grazed with intensive early stocking (IES). The key is to remove cattle by July 1 if using IES and not graze the area again until after frost.
- Apply fertilizer according to a soil test for introduced species such as bermudagrass.
- Utilize rotation of salt, mineral and feeding locations to better distribute grazing.
- Weed control may be necessary. Types of weed control include herbicides (very expensive when compared to net profits per acre), flash grazing or intensive early stocking with cattle (most economical if proper pull-off date is used) or mowing (most expensive). Weed control is usually not economical in terms of cattle gains based on a number of experiments done over the past 10 years at the pasture level. A lot of the information that assumes increased productivity for cattle was done on small plots without cattle grazing. If weed control is used it will have a negative impact on wildlife food and habitat.
- Monitor to ensure management decisions are encouraging desirable plant growth.
- In most cases, erosion will not be a problem after a wildfire. Burned vegetation is still in place and provides protection from soil movement due to remaining plant roots and plant parts. Some instances where erosion could occur may include areas where active erosion occurred prior to the wildfire (gullies, ditches along driveways, around structures). There may also be potential for erosion on very steep slopes and along drainages if there was a lack of vegetative cover prior to the wildfire. If there are concerns with erosion, contact the local NRCS office for assistance with planning alternatives for treatment.

Assistance after the Wildfire

The information provided in this publication is meant to provide some guidance in helping landowners make decisions following wildfire events. The impacts of wildfire will vary in each situation as will the course of action and management needed following the wildfire. The key is to not overreact. All of Oklahoma's ecosystems are fire dependent and therefore adapted to all kinds of fire.

For further assistance in evaluating your land and planning practices to address concerns following a wildfire, contact your local NRCS or Oklahoma Cooperative Extension Service Office. Offices are located in every county in Oklahoma and are listed in phonebooks under federal and state government.

Help evaluating your land and planning practices following a wildfire is available in your local Oklahoma Cooperative Extension Service office.

The Oklahoma Cooperative Extension Service
Bringing the University to You!

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
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- It dispenses no funds to the public.
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- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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