



What to expect following a **WILDFIRE**

By Brian Sebade

After the immediate crisis of a fire is over, the smoke has cleared and cleanup begins, the “deer in the headlights” feeling may occur.

Wildfire leaves behind charred vegetation and barren soil, far different from the home landscape we want. After a fire, how can landowners assess the damage and determine what if anything they can do to speed recovery?

Ensure Property is Safe

Immediately after a fire, safety is the most important consideration. Losing a prized pasture or stand of trees is very disheartening, but serious injury to humans or livestock should be the greater concern at this time. One of the biggest safety concerns is standing, burned trees. The wildfire may have burned more than the branches and stems of these trees - the roots could have been burned and weakened and the risk they will blow or fall over increased. Fallen trees or portions of them can get hung up in the branches of neighboring trees and

fall without warning. These trees are a major hazard; consult an expert if unsure if they are safe.

Wear proper protective gear to prevent injury when cleaning and assessing damage. Proper protective gear includes a mask for fine dust and ash particles, hard hats, gloves, leather boots, and eye protection. When initially visiting the property, look for burned-out stump holes that fill with ash. These pits can stay hot for many days following a fire. Water wells and septic leach fields should be assessed for damage and drinking water tested.

Assessing Recovery Time

How long will it take a property to recover from a fire? How fast a property will recover and what it will look like during and after that process is highly dependent on what the property was like before the fire (the natural vegetation, soils, hydrology, weedy plants, topography, and climate), the nature of the fire, and what happens on the property after the fire.

Keep in mind what the area looked like before the fire when

assessing a burned property. Was there a healthy stand of vegetation or trees? Were many areas overrun with weeds or undesired plants? Was there soil erosion before the fire? Recovery for areas with healthy plant communities and little erosion before the fire will be faster with lower inputs compared to areas with lots of weeds and high levels of erosion. Destroyed stands of trees take decades to recover compared to grass-dominated areas that recover quickly.

Fire intensity is a major factor when determining how fast a property is likely to recover and what kinds of management practices may be needed to accelerate that recovery. Wildfires burn at different intensities and durations depending upon weather, topography, and vegetation fuel loads. A hot fire that burns longer has a greater effect on plants, soils, and water than a low heat and short-duration fire. Areas dominated by grass and lighter fuels generally have lower burn severity and often quicker recovery rates compared to areas dominated by thick shrubs or large logs and heavy fuel loads.

Be Aware of Erosion Effects

Erosion will probably increase in all burned areas because there is more soil exposed, less vegetation to reduce the impacts of raindrops, and less litter to cover soils. With fewer plants to intercept precipitation and suck up water, water runoff increases and so does the amount of soil carried away. Steep slopes further increase erosion potential. High-intensity and long-duration fires may cause soils to turn hydrophobic, which means they will not absorb water. These soils intensify runoff potential.

There are actions that can decrease erosion risk. Mulch can be placed on soils for immediate results. Mulch reduces the impact of precipitation on the soil, slows water movement, and helps soils absorb water. Barriers parallel to slopes capture soil and slow water for increased absorption.

Consider Reseeding and Weed Potential

If all native vegetation was killed (including the roots), desired plant seed can be spread on areas to establish plant communities. Deciding if pre-existing plants will recover or if reseeding is necessary can be challenging.

Let's look at two scenarios.

Scenario one: a riparian area that experienced a low-intensity burn. Half of the desired plants – perennial grasses and sedges that have mature seeds – did not burn. There is also a small population of Canada thistle, an aggressive weed that will most likely spread after disturbance from a fire. For this scenario, reseeding is not necessary since many desired plants are unharmed and will recover

by resprouting from their roots and reseed naturally to fill areas where plants may have died. The only needed action is keeping Canada thistle under control by chopping the new shoots (but not the roots) or by spraying the plants with herbicide.

Scenario two: an eastern exposure hill covered with Wyoming big sagebrush and mixed perennial grasses before the hot, long-duration wildfire eliminated all vegetation. Cheatgrass, an invasive and aggressive winter annual grass, was also



found in small patches before the fire. More intensive management is required for this scenario. The sagebrush and grasses will not resprout due to the nature of the fire. If sagebrush is desired, plants will need to be seeded for a faster recovery. Seeding perennial grasses will speed recovery, help compete with the cheatgrass – notorious for moving in after a fire – and decrease erosion potential on the hill.

Taking no action after the fire could result in significant amounts of topsoil lost to erosion and result in cheatgrass dominating the property (creating the potential for more frequent wildfires due to the increased fuel load it may create). Consult an expert for advice for using herbicides to beat back the cheatgrass and other weeds if reseeding alone does not work.

No Perfect Recipe for Success

There is no exact recipe for how to get a property back into shape after a wildfire or what exactly to expect. One thing you can expect is that plant communities will recover at different speeds and most likely will look different than they did before the fire.

A good place to start recovery is to improve site safety then target areas that have suffered the worst burn severity, have the highest erosion potential, and are certain to have an influx of weeds.

For more information, please consult the *Living with Wildfire in Wyoming Guide*, which can be found at your local University of Wyoming Extension, Wyoming State Forestry Division, and other natural resource organization offices around the state or at Barnyardsandbackyards.com.

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