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TREE FARM BULLETIN

Identifying Hazards in the Home Ignition Zone: Danger to Structures in the WUI

By Joe Stehling Hidden Lake Firewise Coordinator

Your Home - Fuel for the Fire?

Living in the Wildland Urban Interface (WUI) we have the beauty and tranquility of the forest and the delight in viewing the various woodland animals. We love the trees and nature and hate to disrupt the natural cycle. However, decades of policies have prevented the natural cycle of fire. Hence, our homes have been converted to fuel in the dense, overgrown forest. We normally do not think of our homes as fuel. But that is exactly what they are when a wildfire starts in adjacent forests.

The threat is particularly acute this year. The *Albuquerque Journal* published a drought map as of 22 May 2018 that shows that **NO** area of New Mexico is free from drought (Figure 1).

The drought conditions are most severe in the Northern part of the state. To date, for 2018, New Mexico has experienced 450 human caused fires consuming 163,000 acres and 26 lightning cause fires consuming 67,500 Acres. Fortunately, most of these fires were small in extent. We had one human caused fire at the entrance to Hidden Lake, where we live 15 miles south of Angel Fire. The local fire departments were able to extinguish the fire and limit to about 5 acres in the grasslands before it progressed into the very dense forest with much dead and downed fuel. Had that fire been allowed to progress, I shudder to think what the result would have been. As I write this article I received notification of a fire in Ute Park that closed highway 64.

•• FRIDAY, MAY 25, 2018

Drought in NM worsening

NM DROUGHT CONDITIONS as of May 22, 2018
For the first time since August 2013, 20 percent of New Mexico is in exceptional drought, the most serious category.

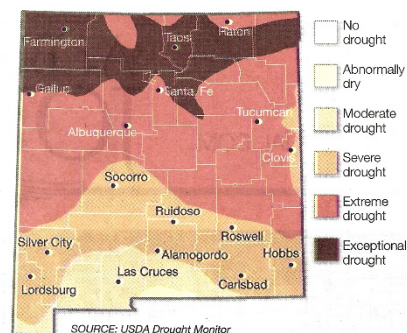
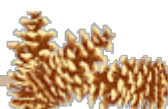


Figure 1

SOURCE: USDA Drought Monitor

JOURNAL



In the April 2017 issue of the New Mexico Tree Farm Bulletin, I wrote about creating defensible space around your structures. A home with its immediate surroundings (about 100-150 feet from the structure) is called the Home Ignition Zone (HIZ). The HIZ can extend even further if the structure is located on a slope. Within that area it is critical that certain tasks be done to keep the home from igniting. A wildland fire does not spread to a home unless it meets the fuel and heat conditions sufficient for ignition and continued combustion. In this issue I would like to outline how you can identify the hazards in the Home Ignition Zone.

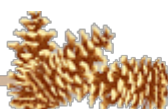
Distance and sustained heat from, for example, trees engulfed in flames can determine whether a structure or its siding, roof, or eaves will ignite. The most significant danger to a home is NOT directly from the adjacent wildfire unless the home is in the midst of the forest where the fire is burning, and the structure has no defensible space. By far the majority (over 80%) of structures that burn from a wildfire are ignited by firebrands otherwise known as flying embers. Given the right wind conditions a firebrand can travel over one mile. There is at least one example in literature of a firebrand igniting a fire five miles from the actual flame front. Floating on wind currents, it seems that the embers look for places to land where they can cause the worst damage. And where are those places that a floating ember likes to land? Glad you asked.

Making it Safe

Let's start at the roof. If your roof is metal or composition shingles, you are in pretty good shape. Of course, metal is inflammable, and tests have shown that a composition shingle roof also is not flammable. Next look at your gutters, if you have them. Buildup of pine needles or leaf's can ignite by that ember looking for a place to land. Although your roof may not ignite, your fascia may ignite and carry the flame into the structure. Soffit and attic vents should be covered with a 1/8-inch mesh screen to prevent an ember from entering the roof structure or attic.

Next, look at siding and windows. A stucco or log home is relatively safe from direct ignition. Vinyl siding may melt when exposed to high heat allowing embers to lodge in the exposed wooden support structure and ignite. Single pane windows are susceptible to breaking from intense heat allowing embers to enter the structure. Double pane windows can withstand more intense heat. If the exterior pane is broken, the inner pane should be able to withstand the heat. The flame front actually passes rather rapidly and if you are not in the middle of overgrown flaming forest, and have defensible space, your structure may be spared. If you have large picture windows, especially if they are single pane, eliminate plantings beneath the window or keep at a very low height.

Check your deck and any attached structures. Trex and other composite decking material is relatively inflammable. However, do you have a flammable broom or hemp welcome mat by your wooden front door that an ember can land on and ignite? What about deck furniture? Whenever you leave your home for any extended periods of time, bring flammable deck furniture inside. Be sure to check any nook and cranny for buildup of leaves, pine needles, or other flammable debris. That ember floating above would love to land in the pile of flammable debris. Do not store flammable items under your deck and screen the opening under decks and stairs with 1/8" mesh screening to prevent embers from entering and lodging in flammable material under the deck or stairs. A wooden fence attached to your house is a potential source of flames should the fence be ignited by an ember landing on flammable



debris under the fence. Consider replacing the wooden fence with a metal one or at least the first five feet from the house should be nonflammable.

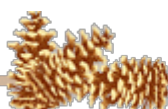
What about vegetation? Allow only succulent or other flame-resistant plants near the foundation, especially under windows. Ideally planting should not be closer than five feet from the structure. Keep all vegetation around the foundation pruned low and well-watered, especially during fire season. Avoid wood chips in planting beds adjacent to the foundation. That pesky ember may not actually ignite the wood, but it may smolder enough to ignite the sole plate on the foundation wall. Having juniper bushes around your house is the same as having a gasoline can in that location. Junipers burn quickly and very hot due to the resinous nature of the plant. Keep debris cleaned out from under all plants; an ember can smolder for long periods unseen and could eventually flame up. Remove any tree branches that overhang the roof and that are within 10 feet from a chimney and remove closely spaced trees close to the house so the crown of the trees are a minimum of 30 feet apart. I will discuss this a bit later. However, if you have a small group of trees close to the house that provide shade and whose branches are not overhanging the roof, consider the trees a part of the structure and measure your Home Ignition Zone (defensible space) from that tree. Be sure the trees are limbed up 8-10 feet and that no firewood is stacked against the trees and stack are 30' from the structure. If you have a large stack of firewood that you cannot move, at least cover the pile with a tarp so embers cannot lodge between the logs. As a side note, firewood stacked against trees provides not only ladder fuel for flames to move into the tree crown but also provides harbor for insects that can attack the tree.

Moving out from the structure, thin trees to the 30-foot crown spacing and limb up 8-10 feet. On a relatively flat lot, 30 feet is the defensible space for zone one. Tests have shown that at a distance of 30 feet a wooden structure will not ignite directly from the fire. Again, no firewood stacked against the trees. Keep grass mowed and well-watered. A grass fire can move very rapidly once ignited. The prevailing winds during the fire season are most likely from the south southwest. That side of your property should be done first.

Finally move into defensible space zone two and remove dead and down material; thin trees so crowns are not touching. A rule of thumb is that you should be able to drive a pickup truck through the trees. Crown spacing of 10 feet would be good but becomes less important than within zone one. Prune trees 8 - 10 feet up to prevent a ground fire from moving into the crowns of the trees. A ground fire is more easily controlled than a fire that has moved into the crowns of the trees.

Keep debris cleared away from your propane tank. It should be 30 feet from your structure if possible. Your driveway should be at least 12 feet wide for fire apparatus to be able to enter your property. Plan for a turnaround, preferable a circular one. If firemen do not feel they can enter your property and exit safely, they will not enter. During a fire in the Taos Canyon several years ago that threatened Taos Pines, the local fire departments were forced to triage the houses on Taos Pines to determine those that they might be able to save and those that they could not be expected to save.

Again, think like a firebrand floating overhead just looking for a place to land and wrought havoc. There are no guarantees that if you do everything right, especially if your neighbor has not done his work as well, that your house will survive. But doing the items listed above gives it a much better

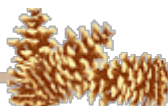
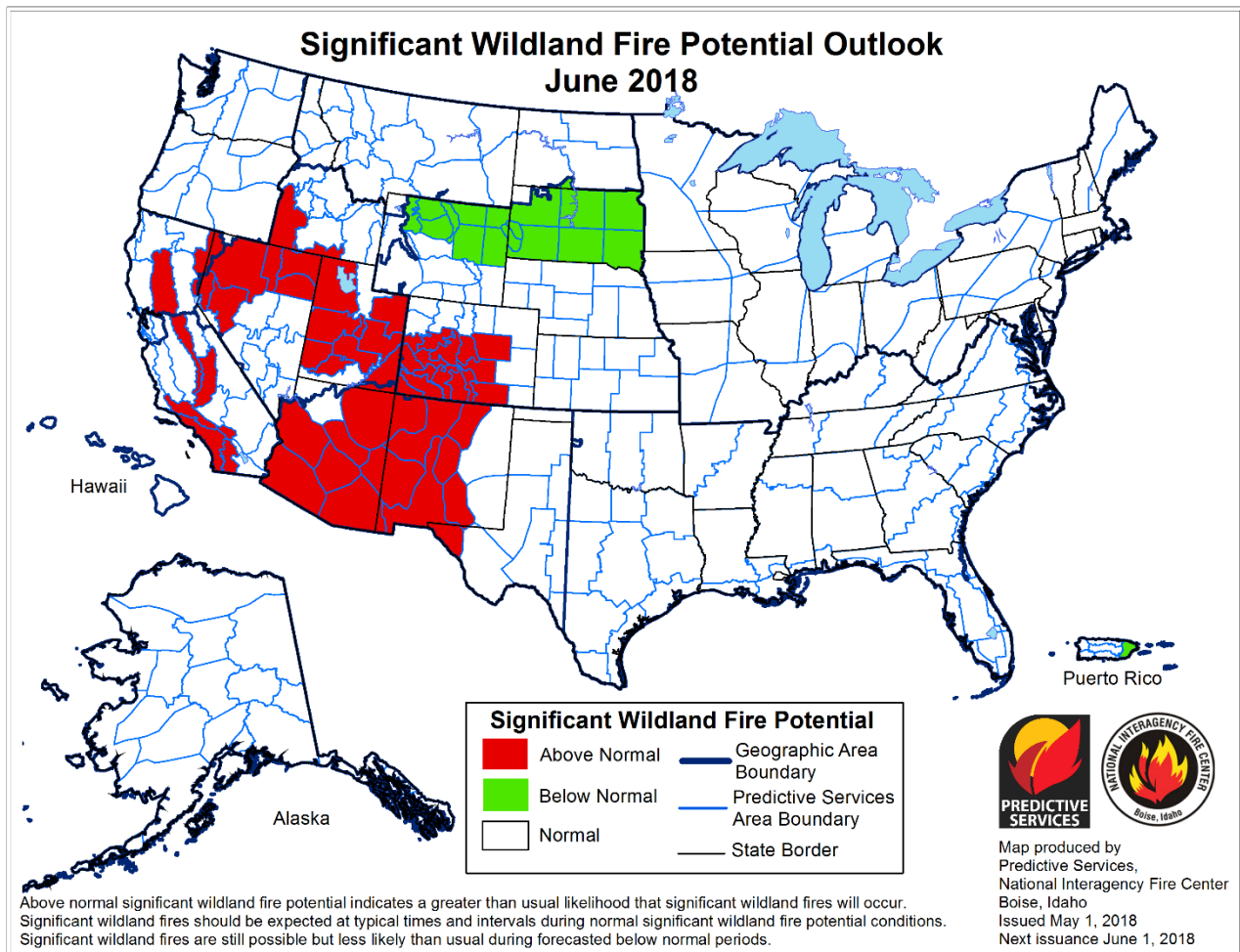


chance of surviving a wildfire. Most of the homes destroyed in the past years California fires were burned due to structure to structure ignition.

The efforts of property owners who do not have structures should be directed at cleaning up deadfall and ground debris and work at thinning and removing low hanging branches. Thinning should concentrate first on dead and diseased trees, although a couple of large diameter dead trees should be left per acre to serve as snags for wildlife habitat. The objective of thinning is to prevent a crown fire from progressing and to reduce competition for moisture in the soil for tree health. Remember, all this work will not only reduce the potential for a wildfire damaging or destroying your property but will provide for healthy trees that can ward off pests such as the bark beetle or spruce bud worm. Your forest health and the watershed will greatly benefit from thinning.

Hope is on the way!

There appears to be some hope for later in the year. As noted by the National Interagency Fire Center's (NIFC) Predictive Services, "the peak of the fire season in the Southwest is expected to occur by late June, just before the onset of the annual monsoon season which should gradually bring their season to a close." (<https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>)



Kerry Jones of the National Weather Service in Albuquerque concurs with the following forecast: “The latest climate model indications strongly suggest that the North American Monsoon (NAM) may get an early start with a dry beginning to June transitioning to a more active latter half of the month. July and September both look especially promising (i.e. active thunderstorm patterns) with mixed signals for the month of August. Overall, the trend is for average to above average precipitation. A more formal outlook will be posted soon. The La Nina pattern that decimated New Mexico this past winter has officially ended, and we await the prospects of at least a weak El Nino going into the 2nd half of 2018”.

Meanwhile, more information on Firewise can be found at www.firewise.org.

The following is a link to an interactive map that shows current wildfire activity:

<http://www.nfpa.org/public-education/by-topic/wildfire-and-seasonal-fires/wildland-fires/where-are-the-wildfires-burning>

In a future bulletin, I will provide information on the Ready, Set, Go program.

1) BUY, SELL OR TRADE

Are you looking for forestry related equipment to buy (i.e. chipper, splitter, chainsaw, etc.)? Or, do you own forestry related equipment you would like to sell or trade? Forestry related equipment only, please, no homes or land. We would like to help you make the connection with other New Mexico Tree Farmers. Provide us with a description of the equipment, price, photo and contact information and we will post it in the New Mexico Tree Farm Bulletin. If you would like us to help you make the connection, please provide information to Arnie Friedt at arnie.friedt@state.nm.us

2) COMMUNITY CORNER

If your community is having a forestry related public event let us know the details and we would be delighted to promote your event in the New Mexico Tree Farm Bulletin. Give us the event details, Who, What, Where and When with contact information and we will include in our monthly bulletin. If you would like us to help you promote your event, please provide information to Arnie Friedt at arnie.friedt@state.nm.us

3) E-MAIL INSTEAD OF SNAIL MAIL

Would you prefer to receive your Tree Farm Bulletin by e-mail instead of snail mail? If so, contact Doug Boykin at doug.boykin@state.nm.us and provide him with your contact information. By receiving your Tree Farm Bulletin by e-mail our operating costs are reduced. Thank you for considering this option.

4) COMMITTEE MEETING Out-of-towners! It is on a Friday!!!

All Tree Farmers are invited and encouraged to attend our 2nd New Mexico Tree Farm Committee Meeting of the year (three held annually). Please join us at 1:30 pm on Friday, August 10th, 2018 at the New Mexico Department of Game and Fish office located at 3841 Midway Place NE, Albuquerque, NM. Come out and hear what other tree farmers have been up to and share your tree farm accomplishments with the group. We look forward to visiting with you. If you have any questions, please contact Arnie Friedt at arnie.friedt@state.nm.us

