

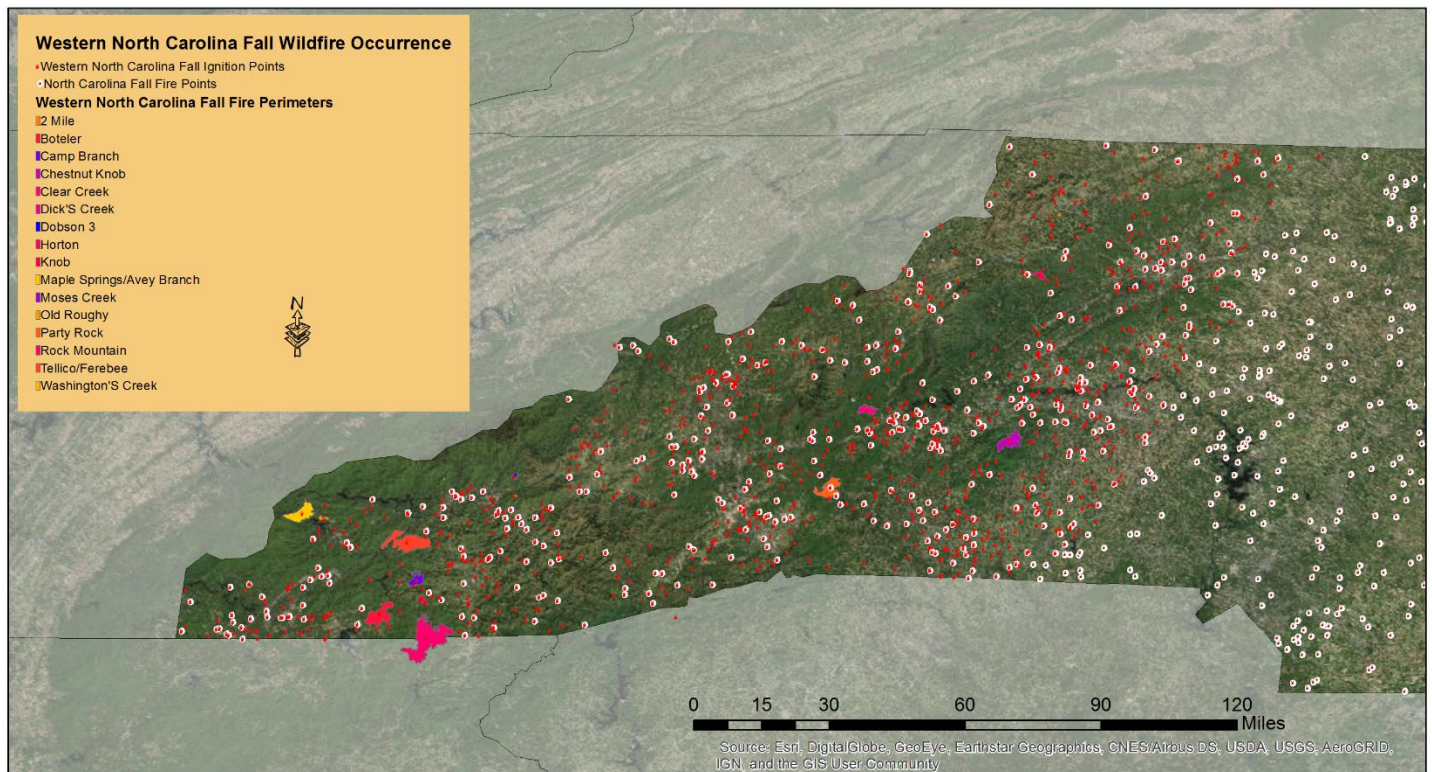
# Fall '16 Fire Season Briefing – Pisgah National Forest, NC

## Extremely Dry Conditions Called for New Approaches and Old Strategies

### Introduction

Shortly after “leaf peeping season” in Western North Carolina comes “fall fire season.” That time of year when the leaves have fallen and the sun is still strong enough to dry the forest floor making our forests more prone to wildfires. Fire season came early to North Carolina and it came on strong. The Dick’s Creek Fire started on October 23<sup>rd</sup> on the Nantahala Ranger District. By Thanksgiving across Western North Carolina there were 383 fires covering 63,139 acres. Western North Carolina experienced extreme drought conditions through the fall of 2016. These widespread drought conditions led to significantly higher fire activity. In this briefing we’ll be focusing on the Grandfather Ranger District and delving into what made this fire season unique, sharing some lessons learned, sharing some of hard decisions land managers and responders face.

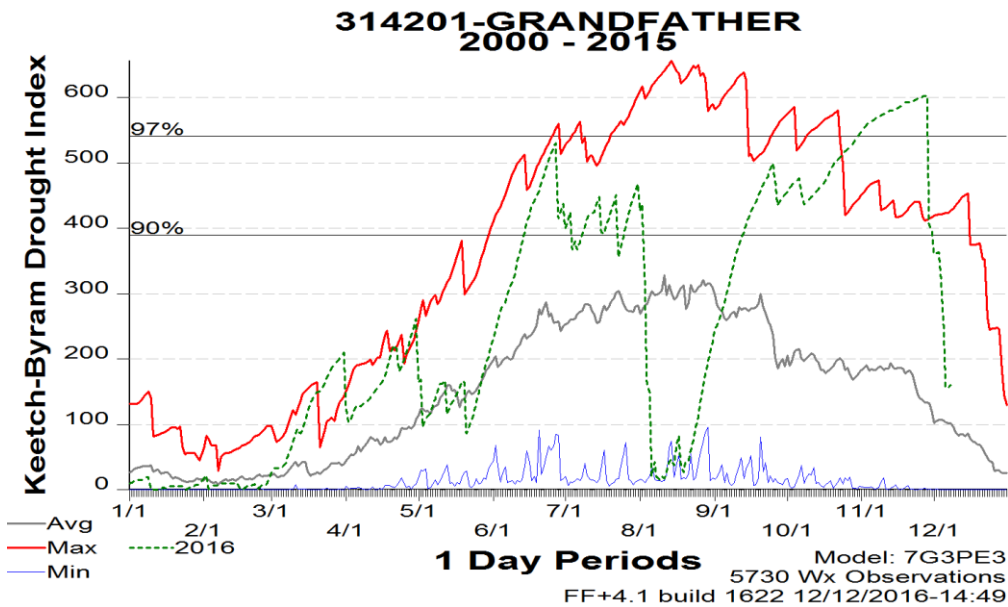
This Fall four wildfires<sup>1</sup> occurred Grandfather Ranger District of the Pisgah National Forest: the Paddy’s Creek Fire (8 acres), the Buck Creek Gap Fire (8 acres), the Piney Mountain Fire (56 acres), and the Clear Creek Fire (3,163 acres). The largest and most complex, Clear Creek Fire, threatening 353 homes, was supported by 23 NC state and local departments, 18 neighboring state natural resource departments and 6 federal agencies.



<sup>1</sup> These four fires escaped “initial attack.” There were actually 19 fires, all human caused, including 15 abandoned campfires one of which escaped its fire ring and was caught at less than on tenth of an acres in size.

## Different Conditions Call for Different Actions

A common measure of drying trends used by firefighters in the eastern US is the Keetch-Byram Drought Index (KDBI). KDBI balances precipitation and soil moisture. It's particularly useful in drought conditions as is evident when wildfires begin consuming larger, heavier debris in the forest. In normal conditions these heavy fuels are rarely consumed. The graph below shows a red line depicting the maximum KDBI and a grey line depicting the average KDBI recorded over a fifteen year period. The dashed green line is 2016.



2016 defined new maximums for KDBI. Severe drying trends, heavy wind events and multiple human caused starts challenged firefighters on the fire line. In a typical year firefighters are able to rely on existing or natural fuel breaks, features like roads, rivers and creeks, to stop a fire's spread. This year fires across WNC saw winds picking up embers and spreading fires a quarter to three quarters of a mile. The Chimney 2 fire in Gatlinburg reported spot fires as far as 1.5 miles from the fire line.

On the Grandfather District the Paddys Creek Fire was on the west side of Highway 105 alongside the Linville Gorge Wilderness Area in an area last prescribe burned in 2014. As firefighters worked to contain the fire at five acres winds picked up. Erratic gusts pushed the fire across the south line dozer line. Winds shifted and began lifting embers up and over Highway 105. "After putting out a couple spot fires in thick brush, I remember standing by the edge of the road, waiting for the next spot fire. I looked around at our firefighters, counted in my head six people at 11:00 at night. I thought, these are the only six people we have to fight a fire tomorrow if this fire gets established on the east side of that road," recalled District ranger Nick Larson. "Our firefighters did great, we caught all those spot fires. Although, I still feel like we got lucky. One more ember and we could have had a fire in Linville Gorge."



The National Forest in North Carolina and the North Carolina Forest Service started tracking these conditions early and often, but how did we respond differently? By the end of September US Forest Service staffs started coordinating with our western United States counterparts to bring additional resources east to bolster our existing wildland fire fighters. Through October conditions continued to worsen. With no rain or lightning in sight, there's really only one ignition source, people.

By October the US Forest Service (USFS) and NC Forest Service began coordinating a unified message around fire safety. USFS brought in additional staff to patrol the forest, making contact with campers and visitors reminding them about fire safety. By the end of October the USFS began restricting campfires, the NC Forest Service followed suite shortly thereafter with burn bans across WNC. National Forest in North Carolina has never had such a concerted effort on fire prevention and patrol. While human caused fires did continue across Western North Carolina, incidents like abandoned campfires or escaped debris burns were reduced. Pairing fire weather information along with fire restrictions helped share the need for restrictions with the public and ultimately built greater public acceptance.

**NO CAMPFIRES!**



**HIGH FIRE DANGER**

The Clear Creek Fire started on November 20<sup>th</sup> behind several homes in McDowell County. Firefighters and Emergency responders began quickly protecting the homes to the south of the fire and constructing lines to the east. The safety of the public and emergency responders is always the highest priority on any fire, followed by protection of private property and any high values in the fire area. Coordination between the North Carolina Forest Service, Pleasant Gardens Volunteer Fire Department, McDowell County Emergency Management and the US Forest Service allowed everyone to successfully work together to protect all structures threatened by the fire.

With a good plan in place to protect the homes immediately threatened by the fire, attention could shift to planning how to address the north and west flanks of the fire. If it sounds like simply herding a fire into a place where there are less home threatened, that's exactly what firefighters often do. Particularly when rain is in the forecast and favorable weather can lift and disperse the smoke out and away from the communities. Those weather conditions did not exist this year, so the plan was to start constructing fire lines to the north and west, pinching the fire off. The Clear Creek Fire spit embers across those line before it could be completed. The chase was on. Plan B was to hold the fire on the south, construct a new line protecting homes along the State Route 70 corridor and protect homes to the north. This would allow the fire to spread 9,000 acres through the Mackey Mountain Area, some of the most remote, rugged and un-roaded areas on the Grandfather Ranger District. Firefighters herded the fire to a terrible place to fight a fire but to where homes would not be threatened.



Thankfully, the Clear Creek Fire never reached that 9,000-acre potential. The weather shifted leaving an opportunity to directly engage the fire on the on the east shoulder of Mackey Mountain. This was a much welcomed relief to smoke conditions across WNC and a much needed break for emergency responders.

## **Collaborative Forests Landscape Restoration Program**

Of the four significant fires on the Grandfather Ranger District two fell within prescribed burn units and two fell in previously unburned areas. The areas burned by the Paddys Creek Fire and the Buck Creek Gap Fire have both seen prescribed burning under the Grandfather Restoration Project, one of twenty-three projects under the National Collaborative Forests Landscape Restoration Program (CFLRP). This project is focused around restoring fire resilient ecosystems while providing for community protection. It was developed through a collaborative process engaging a wide range of partners to meet a wide range of forest restoration objectives. While a formal fuels effectiveness study is

not planned for this year's fires, it's pretty simple to see the two fires that have been burned in the past were able to be caught small in part because of the investments made by the CFLR project.

An equally important efficiency of the Grandfather CFLR project is the emphasis on collaboration. The CFLR project has a strong backbone of engaging partners, the public, interest groups and cooperating agencies. This collaboration has built relationships across boundaries, so when the fire bell rings, all the players know each other, know the resources and strengths they can bring to the table. It's also improved how the US Forest Service reaches out to the public and partners. With the CFLR project the US Forest Service has increased the information we are sharing on our website, increased social media posts, [an audio tour](#), news articles on district activities, regular [blog posts](#), all of which are leading to more information getting out to the public as well as more opportunity for land managers to hear directly from users. Open and transparent communication is a core value on the Grandfather District. While this hasn't always been a strength of the US Forest Service, programs like CFLRP are strengthening this muscle, and we are putting that muscle to work when people are directly affected by things like wildfire.



## Achieving National Cohesive Strategy Goals

The last time we reflected on **appropriate fire management response** it was in the context of the Bald Knob Wildfire, a lightning caused fire in a remote location just north of Marion, NC. Just as the National Cohesive Strategy allowed for that fire to be managed with minimal line construction and firefighter exposure, this year with firefighter resources stretched thin, prolonged smoke in our communities and extended drought conditions, the same strategies supported aggressive suppression of fires. As described above, the past treatment moved the vegetation closer towards the desired condition of **fire resilient landscapes** for two of our fires.

There is opportunity to do more across the forest to improve conditions in both typical and atypical years. Partners across McDowell County are reducing risk and helping to create **fire adapted communities**. These efforts alongside the Grandfather Restoration Project are demonstrating success in meeting the three goals of the Cohesive Strategy (resilient landscapes, fire adapted communities, and safe and effective wildfire response).

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