

Fire Suppression, Science, and Personal Opinion

When discussing an idea, it is usually best to ignore personalities and stick to the data. This is how science is supposed to work.

However, there comes a time when a viewpoint becomes so disconnected from the accepted body of scientific knowledge that it distracts from constructive dialogue. At times it can even delay or alter important policy decisions. Such delays create negative consequences for future generations by creating unproductive, "my expert" vs. "your expert" politicized debates in the press. Although each of the experts are assumed to have equally valid viewpoints supported by objective data, one or more are solely interested in promoting their own individual cause or agenda regardless of the facts. Often these causes are pushed by narrow, special interests in a consciously dishonest manner. Or alternatively, the promoter honestly believes his or her own view of the world so strongly that he or she is unable to objectively evaluate contrary data. Instead, everything is seen in light of a favored theory and seemingly obvious contradictions are dismissed (often unconsciously). Consequently, when the cause is continually taken to the popular media instead of being objectively discussed within the framework of science, it becomes impossible to ignore the messenger. This is why a number of well-know fire scientists spoke out in 2006 about Thomas Bonnicksen who was disregarding scientific fact to promote politically motivated policies dealing with wildland fire.

The June 17, 2007, San Bernardino County Sun news article "Forests Need to Burn" was a signal to many of us in the wildland fire and fire science communities that the time has come to directly address Dr. Richard Minnich's promotion of incorrect and potentially damaging notions about wildland fire management.

In his insistence on focusing on only one variable (chaparral age), Dr. Minnich does not appear to have a clear understanding of wildland fire. Wildland fire risk in Southern California is not the fault of the fire service, or the result of old stands of chaparral, it is an inherent part of the landscape. Laying more fire on the ground on a landscape level or allowing fires to run is unacceptable in Southern California for both safety and ecological reasons. The Baja California fire mosaic model originally described by Dr. Minnich in 1983 and elaborated in 1997 is not applicable to Southern California. The best and most efficient way to reduce wildland fire risk is through proper community design, fire-safe building construction, adequate vegetation management around structures and strategically placed fuel treatment projects.

A Closer Examination

As both a biologist specializing in chaparral ecosystems and someone who has taken the time to get to know fire up close and personal, I find much of what Dr. Minnich says to be in direct opposition to reality.

To put these theories in perspective, it is important to understand that Dr. Minnich has been a major critic of the fire service for years and has blamed us for causing the conditions that have allowed large, devastating fires to occur. He has claimed that fire suppression has allowed an "unnatural" level of chaparral fuel to accumulate, leading to unstoppable wildland fires in Southern California. This is based on a paper he wrote in 1983 comparing fires in Baja California with those in Southern California, two radically different environments not suitable for comparison for a number of reasons (different climates, different soil types, different vegetation patterns, and different cultural and land use perspectives).

Research over the past twenty years has clearly shown that large, wildland fires in Southern California are not the result of past fire suppression practices, but rather a function of severe fire weather conditions: drought, low humidity, and Santa Ana winds. If you would like a more detailed analysis of the Baja California mosaic theory, please go to our Fire & Science page on our website at www.californiachaparral.org.

In the Sun article Dr. Minnich was quoted as saying,

"So, right now ... if you go from Santa Ana River and west of Cajon Pass, the fire hazard is nil because it burned in '03. It's three-year-old brush, and nothing is going to carry there for another 20 years - you don't have a problem."

Immediately after the 2003 Old fire in San Bernardino, Dr. Minnich repeated similar perspectives by saying that the area wouldn't burn again in our lifetimes. After the Griffith Park fire in May of 2007 he also said, *"There's 800 acres of Griffith Park which have just burned, and that's the good news. There's no fuel there and those areas are unlikely to burn for years if not decades to come."*

Let's look at the data:

1. On Saturday (June 16, 2007), the day before the Sun article appeared, there were 4 fires in the Cajon Pass area, all of which could have evolved into major incidents under the right weather conditions. One required extensive use of aircraft to control. It is unfortunate the article's reporter did not adequately check out the facts before publishing as news unsubstantiated opinions.
2. On Monday (June 18, 2007), the day after the article, a fire occurred in the Lake Arrowhead in an area that had burned 3 times since 1994.
3. The first 20,000 acres that burned in the 2003 Old fire was a patchwork of fuel that was generally less than ten years old. Most of what burned during the first couple days had burned in the 1980 Panorama fire or subsequent fires. The Old fire also re-burned 1,000 acres that burned during the 2002 Arrowhead fire. And it wasn't a chaparral fire that was responsible for destroying most of the homes burned in San Bernardino during the Old fire, but a grass fire that came roaring

off the mountain. Embers igniting palm fronds and other ornamental vegetation were major contributors to the fire's spread into the city.

4. Many areas in the front country of the San Bernardino Mountains burn repeatedly, sometimes once a year. This is because the fire return interval has been so great that chaparral and coastal sage scrub plant communities have been completely eliminated and have been replaced by highly flammable, fine, weedy fuels. These weedy fuels create conditions that allow fires to return frequently because they quickly accumulate each year and can be ignited easily. To say that these areas present an "abnormally low" fire hazard is a clear misinterpretation of the fire environment.

In another quote, Dr. Minnich says,

"The area that was involved in Esperanza, the stands that burned, a lot of them previously burned in 1974, about 32 years before that, and that's actually rather young chaparral. The fire, even in the Santa Ana wind, was kind of struggling getting through that. ... It managed to consume it. But within the (Esperanza) fire, there were islands of unburned vegetation, which were far older than 32 years, and this structure was in it. The chaparral was at least twice as old ... so it resulted in much more intense fire behavior, in that small area, and that's where these people went into."

Every chaparral stand is different. Many young, post-fire recovery chaparral stands have plenty of fine fuels to carry a fire. This comes from invasive grasses and some natives such as deerweed. After 10 years, many chaparral stands close their canopies and create perfect fuel beds to carry a fire. The 2006 Esperanza fire started in grassy fuels near the desert floor. The Cabazon area where the Esperanza fire began has burned so many times over the last 30 years it is almost completely covered with cheatgrass. To say that the fire was "*kind of struggling*" to get through 32-year-old chaparral during the Esperanza fire indicates data was not collected from USFS firefighters who were on scene and who really understand fire in the San Bernardino National Forest.

Yes, chaparral systems provide ready fuel and can pose serious threats to poorly designed communities. This is why vegetation clearance recommendations are critical to follow as well as efforts to correct unsafe building designs in fire prone areas.

During a May 9, 2007, FM radio interview on the KCRW program "Which Way LA", host Warren Olney referred to how LA County fire officials had blamed the recent fire in Griffith Park on record low rainfall and drought conditions. He then asked Dr. Minnich "*If there's more to this than just a dry rainy season and low humidity, what should people be concerned with the most?*"

Dr. Minnich responded,

“Well, it depends on what kinds of vegetation you’re working with. If its chaparral, the flammability of it depends on the accumulation of fuel over decades, not how much it grows or how much it’s stressed by one year’s deficiency of rainfall. I was looking at a video of this fire and its pretty mature looking chaparral and its ready to burn and that’s the nature of the beast with this kind of vegetation. It’s the old stands that burn, those areas that haven’t burned in a long time, and not the young ones. And drought really doesn’t have the specific relationship to fires other than to lengthen the individual fire season, which started a little earlier this year.”

The fact that drought and low fuel moistures lead to dangerous fire conditions is one of most significant variables in determining whether or not a wildfire gets out of control. It's not just about fuel, but how dry the fuels become and how fast the winds blow. To ignore such variables is to create a perception that native ecosystems are "the enemy" and the only way to stop wildland fires from burning homes is to eliminate or drastically compromise the natural resources Californians value and wildland firefighters risk their lives to protect.

Warren Olney later asked, *“So in other words, it isn’t so much that it is drier than usual, it’s that there’s more fuel than usual, it would burn under any circumstances?”*

Dr. Minnich replied,

“Well, there was sufficient fuel for the fire to take off and once chaparral gets 30 to 40 years of age throughout Southern California you have a big fire threat. On the positive side, those areas which are grassy hardly had any growth at all so the fire hazard is far less than usual this year.”

Important variables are being ignored. Yes, over time chaparral does accumulate fuel, but it is highly variable depending on type, location, and prior rainfall levels. No one questions the fact that fire intensity is lower in grass than in chaparral. But the issue Dr. Minnich neglects to communicate by focusing on only one variable (chaparral age) is the impact of fine, flashy-fuels (grasses and weeds) on fire risk, firefighter safety, and ecosystem health. The likelihood of an ignition increases with the introduction weeds and grasses. The deadly October 3, 1933 Griffith Park fire was quickly moving through large patches of dried grass when workers tried to outrun the flames. Twenty-nine were killed. Temperatures over 100 degrees F., a long period of drought, Santa Ana winds, and dry, weedy fuels created the dangerous situation, not old chaparral.

Also being ignored is the dramatic impact non-native weeds like cheatgrass and brome are having in the low deserts. In a July 13, 2006, Desert Sun newspaper article Dr. Minnich was quoted as saying that native wildflowers carried the 2006 Sawtooth fire’s sweep across the desert when in fact native wildflowers have little to do with it. He predicted the area would not burn again for *“another century or so, depending on heavy rainfall.”*

Fire size and frequency in desert areas has been increasing rapidly over the last few decades. Cheatgrass has an incredible ability to grow with minimal moisture. It has been responsible for carrying abnormally large fires in the Great Basin over the past 20 years as well as in the Southwest. The same pattern has been occurring in the Mojave Desert. These areas have the potential to burn frequently since cheatgrass and brome grass can create suitable fuel beds to carry flames on an almost a yearly basis.

How have Dr. Minnich's misconceptions impacted public and agency perspectives? During a ranger-led tour of the Griffith Park fire area in June, 2007, tour participants were told, *"Look at this burned area. It is a moonscape and totally unnatural as it is a result of fire suppression. Historical fires burned in small patches."*

What should have the Park's managers done? Maintained a checkerboard of masticated/burned vegetation throughout the Park? Large, intensely burned "moonscapes" are a natural part of the chaparral's crown-fire regime. Fire suppression has nothing to do with it.

This is what concerns many of us in the wildland fire and scientific communities about Dr. Minnich's commentary; he perpetuates harmful misconceptions about fire in the public's mind which can transfer to public policy. These misconceptions not only create a climate of blame, but can encourage poor land planning decisions that can cause serious damage to our natural resources, eliminate opportunities for families to enjoy natural landscapes, and complicate fire management activities.

Old-growth stands of chaparral represent one of California's most unique natural treasures. Very few old-growth stands exist in Southern California anymore due to increased fire frequency. Promoting perspectives that devalue such resources or worse, cause the public and policy makers to think all older chaparral stands should only be seen as dangerous sources of fuel, will further compromise the region's important watersheds, native habitats, and natural recreational areas.

There are a significant number of qualified foresters and experienced wildland firefighters within Southern California who do have the knowledge and experience to provide an accurate assessment of wildfire danger and chaparral ecology. The US Forest Service and the US Geological Survey can offer well qualified fire scientists as well. It is my hope the local media will begin paying closer attention to them and stop giving time to personal opinions that do not reflect our current understanding of wildland fire in Southern California.

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