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Thank You For Burning?*

Or, The Myth of Fire Suppression: Part I

* Inspired by the movie, "Thank You for Smoking"

By Richard W. Halsey

The following conversation is adapted from one in the movie "Thank You For Smoking" between a cigarette lobbyist and a little girl. The little girl starts it off by telling the lobbyist, "My mommy says smoking kills."

12-year-old Jimmy Hart: "Smokey Bear says all these fires are really hurting the chaparral."

Fuel Centrist: "Oh, is Smokey a forester?"

JH: "No, but there aren't any trees in the chaparral."

FC: "A geographer of some kind?"

JH: "No, but..."

FC: "Well then, he's hardly a credible expert, is he?"

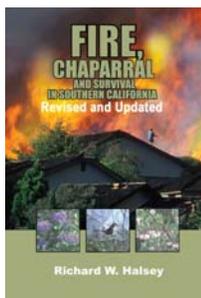
Smokey Bear and wildland firefighters have been maligned long enough in California. It is time for the public, journalists, and agency reps to begin thinking for themselves and stop mindlessly accepting one of the most common group delusions of the last 25 years: *decades of fire suppression in the chaparral are to blame for all the large wildfires in southern California.*

Not only is this perception false, its continual repetition in the media encourages extremely damaging land use

Myth of fire suppression cont' pg. 2



Smokey Bear in chaps protecting the chaparral from too many fires. Clothes for Smokey by Nancy Owens Renner.



Chaparral Event: January 28, 2007

-6:30 PM at the San Diego Natural History Museum-

Please join us for a special evening presentation when we release the completely revised 2nd edition of "Fire, Chaparral, and Survival in Southern California." Includes the 2007 fires. Details on page 12.

Myth of Fire Suppression from pg. 1

practices and demonizes California's most extensive native ecosystem, the chaparral. Where did this myth come from and why is it so pervasive? The parodied movie conversation at the beginning of this article provides a sadly humorous way to uncover at least part of the answer. It suggests how the real truth can be easily obscured by less than objective motivations.

In case you haven't seen it, "Thank You for Smoking" is based on the life of a cigarette industry lobbyist Nick Naylor whose job it is to convince people smoking is safe. Anyone who challenges this notion is ridiculed by Naylor, who is supported by a well-financed cigarette media machine. "Nick Naylor doesn't hide the truth," one of the movie's promotional ads said, "he filters it."

The same can be said about efforts to promote the myth of fire suppression in the chaparral. The truth has been filtered so well that myth has replaced reality.

The most compelling aspect of filtered truth is that it can often sound perfectly reasonable to the average individual. Most people don't have the time or inclination to research statements they hear, so if they fit within some logical frame of reference, they are readily accepted. This is especially so if they fall within an already established belief system. If filtered truths are repeated long enough, they become conventional wisdom.

Money helps too. We'll leave individuals out of this, but there are currently several vested interests that profit from the continual promotion of the fire suppression myth. The first is obviously the fuel management business. If we have caused the wildfire problem by allowing "unnatural" levels of fuel to build up, the "fuel-centric" view says the only way to solve it is to *remove* the fuel. That can be done by letting fires burn (not going to happen in southern California), by logging, or by grinding up the landscape with masticators, drag-chains, or

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Did *logging* really save thousands of homes in October 2007?

In response to the 9th U.S. Circuit Court of Appeals decision to block the Bush administration from conducting any more logging and burning projects in national forests without a proper environmental review, USFS Chief Gail Kimbell said that these projects were "instrumental saving thousands of homes" during the October, 2007 wildfires near San Diego and Lake Arrowhead.

While there is some merit to the observation that *timber area* fuel treatments helped in the Lake Arrowhead and Green Valley Lake areas in the San Bernardino NF, and on Palomar Mountain in the Cleveland NF, they were responsible for protecting *dozens* not "thousands" of homes.

Why the exaggeration? Nearly all of the homes that were threatened or burned in October, 2007 were far from any forest. Even in forested areas, home ignitions were almost entirely the result of embers or low intensity surface fires. Similar to what happened in the South Lake Tahoe fire in June, 2007, most of the fire spread was from house to house, not the result of burning, wildland fuels. Post-fire examinations usually show destroyed homes with surrounding trees still green or only slightly singed.

Besides reflecting the general lack of understanding that southern California chaparral wildfires have nothing to do with forests, Kimbell's exaggeration appears to be

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bulldozers. The timber industry is pushing logging, but there is of course one small problem with this in southern California. There aren't enough trees to make it profitable. So the industry has been promoting the "bio-fuel" approach: grind up the chaparral in order to create an alternative energy source. According to one proponent this can be all done "without any harm to the chaparral, really." Really?

The second vested interest is what I will call the "ego-support network." If one's favored hypothesis, reputation, or career is based on the acceptance of the fire suppression myth, there is a tendency to defend it and ignore contrary data. Admitting error and falling on one's own sword has never been particularly popular. However, the pursuit of truth demands it. This illustrates the main difference between thinking scientifically vs. ideologically. In science, data drives the truth. Ideological thought filters it.

Being influenced by one's preferences is difficult to prevent, even for this Chaparralian. In the midst of San Diego County's recent firestorm, a friend in the fire service informed me that the Harris fire had been burning in Mexico for some time before crossing into the US. Well, the notion that a large Mexican fire crossed the border, leading to a devastating fire in southern California was pretty significant. It ran contrary to the popular misconception that Baja fires stay small because they burn themselves out due to a lack of fuel. Such an event would provide a strong piece of evidence that the southern California/Baja fire suppression hypothesis had another significant flaw. For more on this, please see the [Fire and Science](#) page on our website.

Unfortunately, I accepted the information about the Harris fire before double checking the facts and ended up mentioning it during a radio broadcast.

While I'm sure the craziness during the October fires had something to do with my approach to all

this, I was obviously swayed by my own personal perspectives. I rejected the Baja hypothesis long ago after discovering its weaknesses. Discovering additional contradictions would not be surprising to me.

A few days after the fires, I had time to investigate the story. To my dismay, I discovered that not only had the Harris fire started in the US, but once it crossed the border into Mexico it went out. The flames died in Baja mostly because rock and dirt don't carry fire well.

Well, that was embarrassing. I caught myself thinking ideologically, screening what I had heard through a predetermined set of filters, too readily accepting information because it supported my own favored theory.

Obviously most people feel their opinions are correct because they think they have objectively analyzed all the information before them. Of course some of those same people are going to be wrong because they have either analyzed the data subjectively, collected it improperly, or have allowed bias to enter into their decision making processes: filtered truth via ideological analysis.

While it can certainly be annoying to be around someone who is constantly challenging what they hear, such behavior is the essence of scientific thought. There is no question thinking scientifically is often difficult, especially when passion enters the mix. But it's really the only way to find the truth.

After years of accepting the fire suppression myth myself, I changed my mind after realizing the data just didn't support it. I then became intrigued over why it has been so readily accepted, even by folks who should know better. This article is **part one** of a **three part series** to answer this question and help separate the truth from the myth. While there is no question we have unnaturally excluded fires in some forests, such is definitely not the case for many other plant communities. Rather than not

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enough, many ecosystems are being threatened with extinction by *too* many fires. Smokey Bear has gotten a bum rap. It's time to set the story straight.

Part I: Dog-Haired Thickets

The origins of the fire suppression myth can be traced back to the late 1800's when westward expansion brought more human beings, and hence sources of ignition, into a highly flammable environment. Vast piles of logging slash (limbs and other waste from timber operations), hot cinders from trains traveling deep into the backcountry, unattended fires utilized to clear land, and outright carelessness all played a role in adding more fire to the landscape (Pyne 1982). Between 1865 and 1910 large wildfires from the Great Lakes region to California led federal and state governments to form cooperative firefighting agreements and pass regulations attempting to reduce the likelihood of human caused ignitions (Fig. 1). Many of these fires, such as the 1871 Peshtigo fire in Wisconsin which killed an estimated 1,500 people, were directly linked to piles of logging slash. Such slash-related forest fires continued into the early 1900's, primarily due to the resistance of loggers to change their practices (McMahon and Karamanski 2002).

Year	Fire Name	Location	Acres burned	Deaths
1825	Miramichi/Maine	New Brunswick & Maine	3,000,000	160
1846	Yaquina	Oregon	484,000	?
1848	Nestucca	Oregon	320,000	?
1849	Siletz	Oregon	800,000	?
1865	Silverton	Oregon	1,000,000	?
1868	Coos	Oregon	300,000	?
1871	Peshtigo	Wisconsin & Michigan	3,780,000 est.	Up to 1500
1876	Bighorn	Wyoming	500,000	
1881	Thumb	Michigan	1,000,000	282 est.
1889	Poway (San Diego Co.)	California	>60,000 est.	2?
1889	Santiago (Orange Co.)	California	>300,000 est.	?
1894	Hinckley	Minnesota	160,000	418
1894	Wisconsin	Wisconsin	1,400,000 est.	?
1902	Yacoult	Washington & Oregon	1,000,000	38
1903	Adirondack	New York	637,000	
1910	The Great Fire	Idaho & Montana	3,000,000	85
1918	Cloquet-Moose Lake	Minnesota	250,000	450

Fig. 1. Large wildfires between 1825 and 1918.

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Wildfires caused by human activity were certainly not limited to forests. According to an early Forest Service bulletin, the purposeful ignition of chaparral covered hillsides in southern California was also a significant problem. "Some prospectors would burn over the region which they intended to explore. If a hunter wished to start a fire to drive out a wounded deer, no one objected" (Plummer 1911). Although the causes are unknown, in late September, 1889, more than an estimated 360,000 acres burned during two different fires in Orange and San Diego Counties (Barrett 1935). For comparison, the 2003 San Diego County Cedar fire burned 273,246 acres.

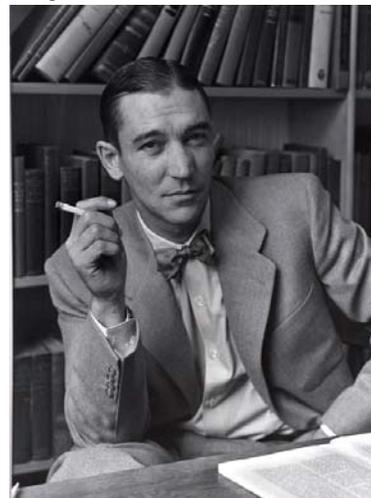
The federal government's desire to protect forests and other valuable watersheds from wildfires was one of the main reasons the first fifteen National Forest Reserves were established by President Benjamin Harrison in 1891, renamed National Forests by the Fulton Amendment in 1907. The amendment also prohibited further designation of national forests land in much of the West without an act of Congress. Just before the new law took effect, however, President Theodore Roosevelt established more than 16 million acres of forest reserve land within six western states, known as the "Midnight Reserves" for the nature of their last minute creation.

The federal government's first significant fire suppression effort occurred in Yellowstone National Park by the U.S. Army during the Bunsen Peak fire in 1886 (Allin 2006). After the Great Fire of 1910, where more than three million acres burned in Idaho and Montana killing eighty-five people, the fledgling United States Forest Service initiated a widespread effort to suppress all wildfires within the National Forest system (Pyne 1982).

Although the wisdom of complete fire suppression was questioned from the very beginning by those who saw some fire in forests as an important natural process (Benedict 1930), the official policy remained relatively unchanged until after the release of the Leopold Report in 1963 (authored by a team of scientist led by A. Starker Leopold). The report cited the creation of so-called "dog-hair thickets", a term that has become a pejorative characterization of *any* dense forest, a product of fire suppression or not.

When the forty-niners poured over the Sierra Nevada into California, those that kept diaries spoke almost to a man of the wide-spaced columns of mature trees that grew on the lower western slope in gigantic magnificence. The ground was a grass parkland, in springtime carpeted with wildflowers. Deer and bears were abundant. Today much of the west slope is a dog-hair thicket of young pines, white fir, incense cedar, and mature brush -- a direct function of overprotection from natural ground fires...Is it possible that the primitive open forest could be restored, at least on a local scale? And if so, how? We cannot offer an answer. But we are posing a question to which there should be an answer of immense concern to the National Park Service. (Leopold et al. 1963)

The Leopold report also acknowledged the significant



A. Starker Leopold.
University of California

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role years of mining, logging, overgrazing, and human-caused wildfires had played in severely altering the landscape. Much of the “dog-haired” nature of the western slope of the Sierra is likely growth made possible by the removal of the forest canopy through intensive logging operations. A similar conclusion has been reached concerning the impact of overgrazing by sheep and repeated burning by sheep herders in California (McKelvey and Johnston 1992). In a 1902 USGS report on the northern Sierra, John B. Leiberg indicated that a “third of the forest had been cut over and that most of the forest had a heavy undergrowth of brush.” Concerning the central Sierra, the USGS stated there was, “widespread damage to soil, water, meadows and forests due to heavy cattle and sheep grazing and decades of repeated fires” (Sudworth 1900). In a particularly vivid description, the Acting Superintendent of Sequoia and General Grant National Parks said, “The soil being denuded of grass is broken up by thousands of sheep tracks, and when the rains come this loose soil is washed down the mountainsides into the valleys, covering up the swamps and meadows, destroying these natural reservoirs” (Vankat 1970).

The historic role played by early settlers and industry in setting the stage for the creation of overgrown forests is frequently forgotten in public debates over fire management. Instead, government agencies, especially the US Forest Service, have taken the brunt of the blame due to their aggressive fire suppression efforts to save lives and property.

While the 1963 Leopold Report had tremendous influence in changing the way land managers viewed fire, it took time for its recommendations to be applied to the landscape. Although the National Park Service (NPS) allowed some burning to occur in Everglades National Park and conducted a few experimental burns in California sequoia groves during the 1950's, it wasn't until 1968 in the Sequoia-Kings Canyon National Park that the NPS initiated a significant effort to allow fire to play a more natural role in ecosystem management. The Forest Service soon followed in 1972 by permitting a lightning-caused fire to burn in the Selway-Bitterroot Wilderness (Carle 2002).

“We were a pretty lonely bunch back then,” Don Despain, Research Ecologist at the USGS Northern Rocky Mountain Science Center, said about public land managers who were letting

selected fires burn without suppression. “Les Gunzel from Saguaro National Monument, Bob Mutch from the Selway Bitterroot Wilderness, and Bruce Kilgore from Everglades National Park, and I got together in Missoula in 1972 to discuss our ideas about how to let fires run naturally. There was a lot of institutional fear and resistance to the idea back then” (pers. communication 2006).

“We were a pretty lonely bunch back then,” said Don Despain. “We got together in Missoula in 1972 to discuss our ideas about how to let fires run naturally. There was a lot of institutional fear and resistance to the idea...”

The success and environmental impact of fire suppression efforts in the West over the past century has varied greatly depending upon the ecosystem involved. In forests dominated by low-severity, surface-fire regimes, fire suppression has led to near total fire exclusion. This includes dry ponderosa pine forests where lightning caused surface-fires burned at 4 – 36 year intervals prior to fire suppression efforts (Swetnam and Baisan 1996). A similar condition has been found to exist on some of the

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ponderosa-Jeffrey pine covered western slopes of the Sierra Nevada (Caprio and Swetnam 1995). Excluding fires from such systems has been shown to be one of the factors responsible for allowing the build up of smaller trees and shrubs which would have been eliminated with more frequent surface fires. The accumulation of vegetation is blamed for increasing the number and size of extensive, stand-replacing crown fires by creating ladder fuels which provide access for flames to enter and ignite the forest canopy (Agee 1993, Covington and Moore 1994, Smith and Arno 1999). This is the type of fuel build-up the 2004 Healthy Forest Restoration Act was supposedly enacted to address.



Lodgepole pine forest in Yellowstone National Park. Although there is a tremendous amount of “fuel” in this dense forest, the condition is perfectly natural. It is not the result of fire exclusion.

In other forest types, natural fire regimes have not been significantly altered by fire suppression activities. Subalpine forests of lodgepole pine in and around Yellowstone National Park have been shaped by naturally occurring, high-severity, stand-replacing crown fires every 300-400 years (Romme 1982). Fire return intervals in excess of 200 years occur in western hemlock-Douglas fir forests in the Pacific Northwest (Agee 1993). However, it is not always easy to determine natural fire regimes based on species mix alone because variations are often found within the same forest type. For example, high-severity, stand-replacing crown fires with mean intervals of 140 - 340 years are the normal pattern for western larch-lodgepole pine forests in the southwestern portion of Glacier National Park. However, six kilometers to the northeast, a mixed-severity fire regime with mean intervals of 25-75 years appears to predominate (Barrett, et al. 1991).

Despite such differences in fire regimes between and within various types of forests, the viewpoint that fire suppression has been responsible for creating unnatural fuel loads throughout the West often dominates public discourse concerning wildland fire management, regardless of ecosystem type. Media campaigns promoting the desire to thin forests (USFS 1999) and various national legislative actions, such as the 2003 Healthy Forests Restoration Act, have contributed to this phenomenon.

Even where strong evidence has indicated the fire suppression model does not apply, opinions supporting it are frequently expressed through popular news media outlets (Bonnicksen 2006, 2004, Minnich 2003). Entire regions with diverse associations of plant communities and equally complex array of fire regimes, such as the Sierra Nevada Mountains in California, have been portrayed as unnaturally dense, monotypic forests with post-fire suppression vegetation in need of immediate removal (Gruell 2004). The blurring of important differences between fire regimes has even found its way into elementary school texts and Gary Larson's Farside cartoons: “Occasional fires (if certain two-legged vertebrates would just let them run their course) benefit the forest by keeping all that dangerous

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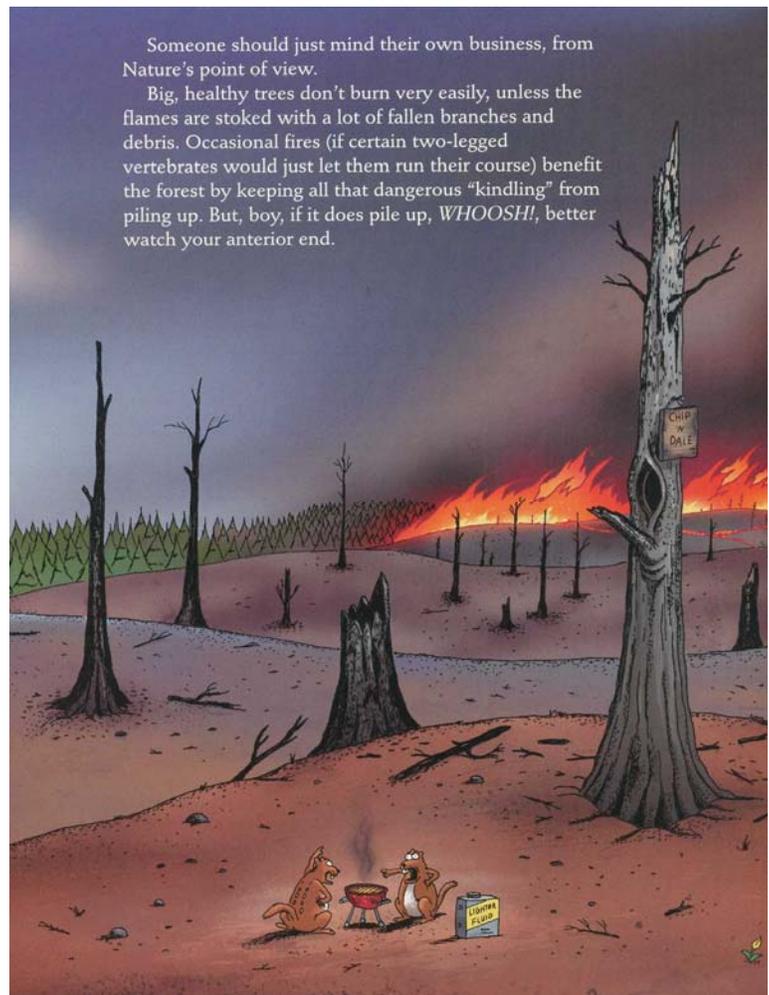
‘kindling’ from piling up” (Larson 1998).

The pervasive focus on increased fuel loads has influenced political dialogue as well, leading to broad generalizations that reinforce a one-size-fits-all fire management policy. Blaming past fire suppression efforts for the “increasing ferocity” of western wildfires, Secretary of the Interior Bruce Babbitt wrote in 1995 that, “the vast majority of western public lands – including rangelands, chaparral, and ponderosa forests – burned historically every 10 to 50 years.”

Babbitt’s statement is inaccurate not only because the numbers are wrong, but it over simplifies the complexity of fire regimes. It also leaves the impression that we need to lay more fire on the ground across the West when in fact a significant number of ecosystems are suffering because of *too* much fire. Of the approximately 356 million acres of federal land in the western United States (west of the Colorado/Kansas border, excluding Alaska and Hawaii), much of it exists in the 123 million acre Great Basin. This is where sagebrush dominates and fires historically returned every 30-100 years (Wright and Bailey 1982). However, with the invasion of invasive weeds such as cheatgrass (*Bromus tectorum*), fire return intervals in some areas have dropped to less than 5 years (Whisenant 1990). Similar reductions in fire return intervals have occurred in the Mojave and Sonoran Deserts (Brooks and Pyke 2001), dramatically reducing biodiversity and threatening the continued existence of many species such as the Joshua tree and the Saguaro cactus. If chaparral burns every ten years, as Babbitt suggested it should by lumping it in with rangelands and forests, it will be replaced by weedy grassland.

Although scientific research has clearly demonstrated the fallacy in lumping all ecosystems into the fire suppression paradigm, the public and many land managers are still operating on the assumption that we need more fire everywhere. Part two of this series will examine this belief system and the impacts it has on land use policies and attitudes about the natural environment.

Cited references on pages 10-11



It doesn't matter the forest type, the popular media typically portrays any intense crown fire as a by-product of past fire suppression. From Larson 1998.



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another example of filtering the truth through an ideological lens.

Since 2003, according to a battalion chief in the USFS, many fuel reduction projects, especially those in chaparral areas, have had minimal environmental or professional review regarding their intended benefits of protecting communities or impacts on the environment. Out of control “fuels targets” with inadequate funding for planning or monitoring are leading to poor land management decisions in several of southern California’s national forests.

This “fuel-centric” perspective (as opposed to examining the *entire* fire environment) was also evident in a report recently issued by the California Department of Forestry and Fire Protection that stated the October 2007 firestorms in San Diego County would have been much worse if the Cedar and Paradise fires hadn’t “thinned” fuel four years ago. Well, maybe. But about 20% of the 2003 Cedar and 50% of the Paradise fire scars re-burned in the 2007 Witch and Pommacha fires (see Fig. 2 below). The Witch

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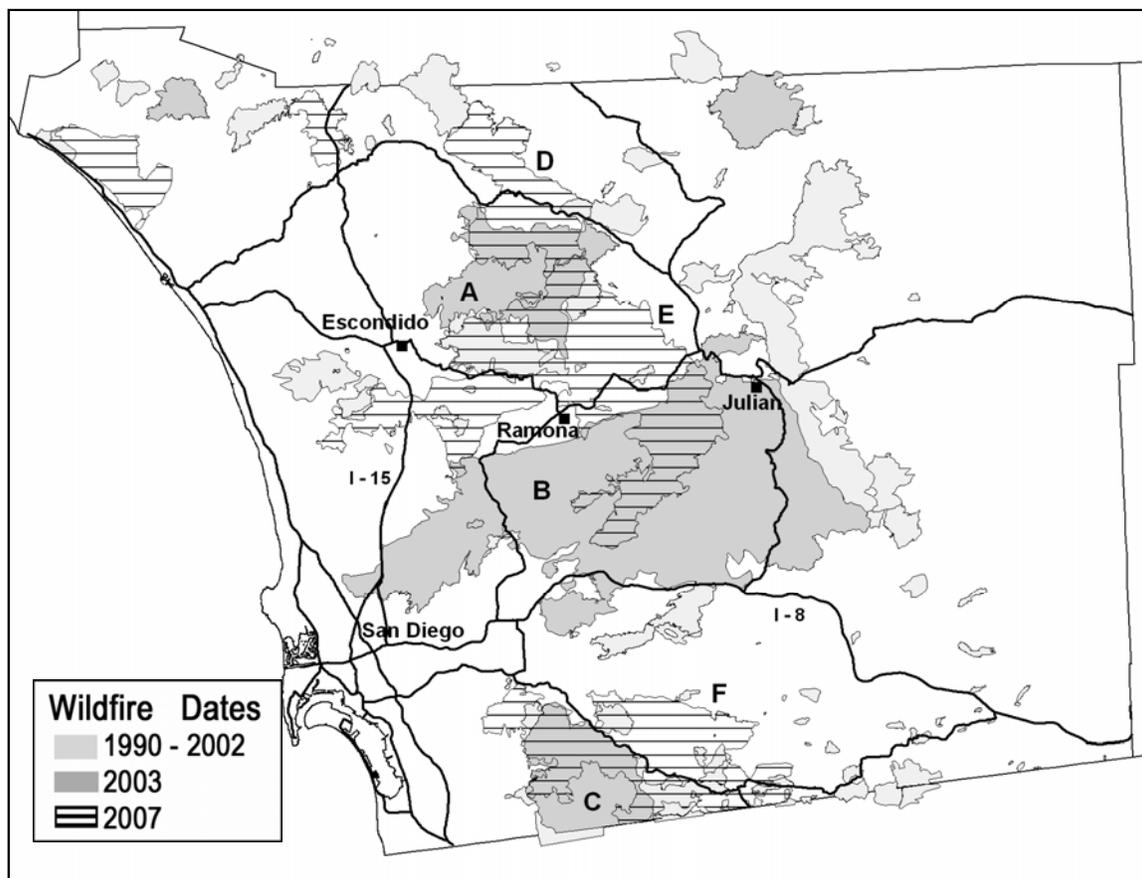


Fig. 2. 2003 and 2007 San Diego County Fire Overlap Map. 2003 Paradise fire (A), Cedar fire (B), Otay fire (C). 2007 fires labeled to the right of their perimeters. Pommacha fire (D), Witch Creek fire (E), and Harris fire (F). Note significant overlap between the 2007 and 2003 fires. From the 2008 printing of “Fire, Chaparral, and Survival in Southern California.”

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was headed right down the San Diego River drainage into the communities of Harbison Canyon/Crest, both devastated in the 2003 fires. The Witch fire stopped before reaching them. Why? The winds changed. If the winds had maintained their intensity the communities would have been hammered again.

Was the fire within the drainage less intense because the fuel was lighter due to the Cedar fire four years before? Certainly. Were there more opportunities to control it because of the lighter fuels? Absolutely. However, by issuing a statement focusing solely on fuels, the agency left the public with the false impression that native vegetation is the only important variable in reducing fire risk. The loss of many homes with excessive “clearance” distances during the 2007 fires provides evidence that a “fuel-centric” approach is not particularly helpful. Instead, all of us should focus our efforts and scarce fire management dollars on promoting proper community planning, fire-safe developments, community education, and appropriate vegetation management: Location, Design, and Vegetation Management, in that order.

How to reduce fire risk is not a one answer question.



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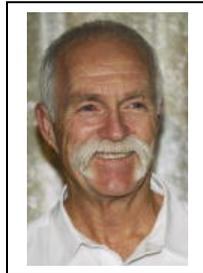
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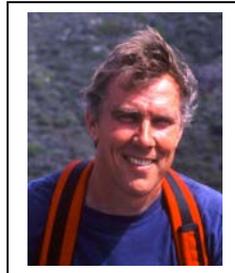
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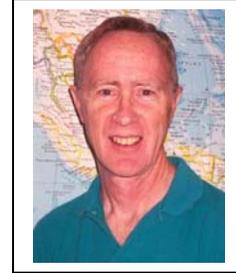
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Pat Abbott



Rick Halsey



Phil Pryde

Join three local experts for a fascinating discussion about how geology, fire, and climate change are influencing life in Southern California. With the recent landslide in La Jolla, wildfires in San Diego's wildlands, and record drought conditions causing dramatic changes in local habitats, it becomes imperative for all of us to develop a better understanding of the natural landscape in which we live.

In conjunction with the presentation, the new edition of Richard Halsey's book, *Fire, Chaparral, and Survival in Southern California* will be released.

Also available during the presentation: *The Rise and Fall of San Diego*, by Pat Abbott and *San Diego: An Introduction to the Region*, by Phil Pryde.

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