

Opposing Scientific Views

Attachment #11

Caring USFS Officials will Always Take the Most Effective Action Available to Reduce the Risk of Homes Burning and Loss of Life should a Wildfire Start Near Homes Located in the WUI.

Not Including Actions that would Implement Dr. Cohen's Fine Fuels Removal Methods Discussed below in the Proposed Action Indicates the Responsible USFS Official is not interested in Saving Lives and Homes.

The USFS has had 18 Years to adopt this Science Developed by one of their Own Employees.

Dr. Cohen's background

Dr. Jack Cohen is a research fire physicist who did his research in the Forest Service's Missoula Fire Sciences Laboratory at the Rocky Mountain Research Station. Dr. Cohen was a Forest Service employee. His research findings clearly show that commercial logging to reduce fuels will not adequately protect homes from wildfire damage in the Wildland Urban Interface (WUI) by itself.

Dr. Cohen's research findings represent best science. Numerous unbiased studies present empirical evidence that shows his fire damage risk reduction methods that remove the fine fuels near the WUI are effective.



The Following Quotes Represent WUI Home Loss Risk Reduction Best Science. Text Highlighted in RED is Especially Pertinent to this WUI Timber Sale.

Fact Sheet: Understanding Fire and Fire Behavior

Fact sheet provided by the Ecological Restoration Institute, Northern Arizona University, 2003

<http://www.emifpa.org/PDF/FactSheetUnderstandingFire.pdf>

Excerpt:

“Homeowners are their own first line of defense. Saving a home from wildfire depends primarily on two factors: roofing material and the quality of the “defensible space” surrounding it.⁸ Research Physical Scientist Jack Cohen noted after visiting homes that survived the Rodeo-Chediski Fire and those that were consumed, that had homeowners followed guidelines for creating defensible space—described as creating an area around a structure where fuels and vegetation are treated, cleared, or reduced to slow the spread of fire—more homes would have survived.”

Congressional testimony before the U.S. House of Representatives Natural Resources Committee, Subcommittee on Oversight and Investigations, September 27, 2017

Oversight Hearing “Exploring Solutions to Reduce Risks of Catastrophic Wildfire and Improve Resilience of National Forests”

Testimony of Dr. Dominick A. DellaSala, Chief Scientist, Geos Institute, Ashland Oregon
<https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=402870>

Excerpt:

“Thus, given expansion of homes in the WUI, the best way to limit damage to homes is to reduce fire risks by working from the home-outward instead of the wildlands-inward (Syphard et al. 2013). For instance, if a fire-brand travels miles ahead and lands on a flammable roof that home is very likely to burn compared to a home that has a fire resistant roof and cleared vegetation within a narrow defensible space of 100-200 feet immediately surrounding the home (Cohen 2000). **Logging outside of this narrow zone does not change home ignition factors.**”

Objectives and considerations for wildland fuel treatment in forested ecosystems of the interior western United States

By Elizabeth D. Reinhardt, Dr. Robert E. Keane, David E. Calkin, and Dr. Jack D. Cohen (all USFS research scientists)

Published in *Forest Ecology And Management*, 2008

https://www.fs.fed.us/rm/pubs_other/rmrs_2008_reinhardt_e001.pdf

Excerpts:

“Many scientists and natural resource agencies suggest extensive fuel treatments to reduce the possibility of severe and intense wildfires that could damage ecosystems, destroy property, and take human life (USDA Forest Service, 2000; GAO, 2003a,b). However, there are a number of misconceptions and misunderstandings about fuel treatments and their use as a panacea for fire hazard reduction across the United States (Finney and Cohen, 2003; Franklin and Agee, 2003).” (Pg.1998)

“Given the right conditions, wildlands will inevitably burn. It is a misconception to think that treating fuels can “fire-proof” important areas. It would be virtually impossible to exclude fire from most temperate terrestrial ecosystems because ignition sources are prevalent and fuels cannot be eliminated. Ignition is rarely affected by fuel treatment.” (Pg.1998)

“Treating fuels to facilitate suppression is an example in circular logic. If fuel treatment makes suppression more successful in general, then less area will be burned in the short run and more acreage will tend to burn under extreme conditions, when suppression is ineffective. The inevitable result is that more area is burned in fewer, more unmanageable events with greater consequences. In addition, fire suppression leads to continued fuel accumulation and, in turn, more difficult conditions for suppression. This phenomenon has been described as “the wildland fire paradox” (Brown and Arno, 1991). Rather than creating conditions where fire is easier to suppress, fuel treatments should strive to create conditions where fire can occur without the need for suppression.” (Pg.1998)

“Bessie and Johnson (1995) show weather (fuel moisture and wind) is far more important than fuels in determining fire behavior; reducing fuels may have a limited impact on fire occurrence.” (Pg.1999)

“Treating fuels to reduce fire occurrence, fire size, or amount of burned area is ultimately both futile and counter-productive.” (Pg.1999)

“It may not be necessary or effective to treat fuels in adjacent areas in order to suppress fires before they reach homes; rather, it is the treatment of the fuels immediately proximate to the residences, and the degree to which the residential structures themselves can ignite that determine if the residences are vulnerable.” (Pg.1999)

“Research has shown that a home’s characteristics and its immediate surroundings principally determine the WUI ignition potential during extreme wildfire behavior (Cohen, 2000a,c, 2003, 2004). The area that primarily determines WUI ignition potential is called the home ignition zone (Cohen, 2001). WUI fuel treatments can address the home

ignition zone by removing flammable materials immediately adjacent to residences.”)Pg. 1999)

“Thinning to reduce crown fire potential requires careful evaluation of the tradeoffs in treatment effects on potential surface fire behavior and crown fire behavior (Scott and Reinhardt, 2001). Thinning will often result in increased potential surface fire behavior, for several reasons. First, thinning reduces the moderating effects of the canopy on windspeed, so surface windspeed will increase (Graham et al., 2004). It also results in increased solar radiation on the forest floor, causing drier surface fuels. It may also cause an increase in flammable grassy and shrub fuels over time, due to the reduced tree competition.” (Pg.2000)

“Some viable fuel treatments may actually result in an increased rate of spread under many conditions (Lertzman et al., 1998; Agee et al., 2000). For example, thinning to reduce crown fire potential can result in surface litter becoming drier and more exposed to wind. It can also result in increased growth of grasses and understory shrubs which can foster a rapidly moving surface fire.” (Pg.2000)

“Treating fuels may not improve ecosystem health. Ecosystem restoration treatment and fuel treatment are not synonymous. Some ecosystem restoration treatments reduce fuel hazard, but not all fuel treatments restore ecosystems. Ecosystem restoration treatments are often designed to recreate presettlement fire regimes, stand structures and species compositions while fuel treatment objectives are primarily to reduce fuels to lessen fire behavior or severity—this is known as “hazard Reduction.” Achieving fuel hazard reduction goals in the absence of ecosystem restoration is insufficient (Dombeck et al., 2004; Kauffman, 2004).” (Pg.2000)

“Conversely, some fuel treatments can reduce fuels but create stands that are quite dissimilar from their historical analogs. Examples include mastication treatments that break, chip, or grind canopy and surface woody material into a compressed fuelbed and thinning treatments that remove the fire adapted species and leave shade-tolerant, late successional species.” (Pg.2000)

Wildland-Urban Fire—A different approach

By Dr. Jack Cohen

Published by *Biomass Monitor*, September 20, 2013

<https://thebiomassmonitor.org/2013/09/20/wildland-urban-fire-a-different-approach/>

Excerpts:

“Recent research indicates that the potential for home ignitions during wildfires including those of high intensity principally depends on a home’s fuel characteristics and the heat sources within 100-200 feet adjacent to a home (Cohen 1995; Cohen 2000; Cohen and Butler 1998). This relatively limited area that determines home ignition potential can be called the home ignition zone.”

“Given that fires adjacent to a home do not ignite it, firebrands can only ignite a home through contact. Thus, the home ignition zone becomes the focus for activities to reduce potential wildland-urban fire destruction. This has implications for reducing home ignition potential before a wildfire as well as implications for emergency wildland-urban fire response strategy and tactics.”

“Wildland fire will always occur in forest and rangeland fire environments and will thus have an impact on people, property and resources. We may have some choice of when and where we have wildland fire, but we do not have the choice of not having wildland fire occurrence. Thus, it is not reasonable to form agency and public expectations for the nonoccurrence of wildland fires, including wildland fires encroaching on communities.”

“Agencies need to recognize that wildland-urban fire strategy and tactics are fundamentally different from their traditional tasks. The principal efforts for reducing ignitions focus on the home ignition zone before the wildfire occurrence. Since homeowners largely own the home ignition zone, agencies must function as partners and facilitators for implementing wildland-urban mitigations.”

Everything you wanted to know about wildland forest fires but were afraid to ask

Published by the Wild Nature Institute, April 9, 2018

<https://phys.org/news/2018-04-wildland-forest.html>

Excerpts:

“According to the (Sierra Nevada, Klamath-Siskiyou), time since fire is not associated with increasing fire risks due to fuel build-up—actually the opposite is true because as these forests mature, they become less flammable. **At regional scales, active management (unspecified forms of logging) has been associated with higher levels of high-severity fires, indicating logging tends to heighten fire risk. Most importantly, thinning efficacy is limited under extreme fire weather, the principal factor governing large fires.**”

“Dr. Timothy Ingalsbee, Director of Fire Fighters United for Safety, Ethics, and Ecology and a co-author of the report said, “Weather-driven wildland fires, the main factor in the largest wildfires, cannot be stopped until the weather changes, yet they incur excessive costs and firefighter risks during ineffective fire suppression. **Funding for widespread thinning and suppression would be better spent helping communities prepare for fire via defensible space.**” “

Reducing the Wildland Fire Threat to Homes: Where and How Much?

By Dr. Jack Cohen

http://www.fs.fed.us/rm/pubs_other/rmrs_1999_cohen_j001.pdf

“Home ignitability also dictates that effective mitigating actions focus on the home and its immediate surroundings rather than on extensive wildland fuel management.” (Pg. 5)

[REDACTED]

http://www.fs.fed.us/rm/pubs_other/rmrs_1997_cohen_j001.pdf

Excerpts:

"The Forest Service, Bush administration and anti-environmental members of Congress are spreading a great deal of misinformation about wildfire, hoping to capitalize on public fire hysteria and minimize public opposition to increased logging and roadbuilding in our national forests," said Jake Kreilick of the National Forest Protection Alliance based in Missoula, Montana. "With virtually all new timber sales couched in terms of 'reducing fuels' or 'restoring forest health,' fire hysteria has emerged as the driving force behind the Forest Service's logging program and the administration's efforts to 'streamline' our nation's environmental laws," Kreilick said."

Saving Homes from Wildfires: Regulating the Home Ignition Zone

By Jack Cohen, Nan Johnson, and Lincoln Walther, AICP

Published in *Zoning News*, May 2001

<http://idahofirewise.org/assets/library/Fire%20Code/Idaho%20Codes%20and%20Ordinances/zoning%20news%20cohen.pdf>

Excerpt:

"A home with its immediate surroundings (about 100-150 feet from the structure) is called the Home Ignition Zone. Many factors about the HIZ determine the potential for ignition during a wildland fire, such as flammable wood roofs and materials like trees, grass, decks, or adjacent structures leading up to a home." (Pg. 1)

COMMERCIAL LOGGING CAUSED WILDFIRES: Bush & Repub. Party "con job"

Published by Portland Independent Media Center, August 23, 2002

<http://portland.indymedia.org/en/2002/08/17464.shtml>

Excerpts:

"The biggest ecological con job in years is being waged by the U.S. Republican party and their timber industry cronies. They are blaming the recent Western wildfires on environmentalists, and assuring the public that commercial logging will reduce the risk of catastrophic wildfires."

"Below are three excellent rebuttals of these lies, which I will quote from and paraphrase here. "Scores of scientists and the federal government's own national fire plan have concluded that the removal of mature trees from forests increases the severity of forest fires. Why then would the Bush administration use the threat of fires to try to increase logging of mature and old-growth trees in our national forests?"

What is the wildland fire threat to homes?

By Dr. Jack Cohen

Thompson Memorial Lecture, School of Forestry, Northern Arizona University, Flagstaff, AZ, 10 April 2000. 13 p.

<http://idahofirewise.org/assets/library/Science%20of%20Fire/Scientific%20Findings/wildland%20fire%20threat%20cohen.PDF>

Excerpts:

“SIAM calculations indicate that large wildland flame fronts (e.g., forest crown fires) will not result in piloted wood ignitions (e.g., the typical variety of exterior wood walls) at distances greater than 40 meters (Cohen and Butler [In press]).” (Pg. 4)

“Case studies of actual W-UI fires provide an independent comparison with SIAM and the crown fire experiments. The actual fires incorporate a wide range of fire exposures. The case studies chosen examine significant factors related to home survival for two fires that destroyed hundreds of homes. The Bel Air fire resulted in 484 homes destroyed (Howard et al. 1973) and the Painted Cave fire destroyed 479 homes (Foote 1994). Analyses of both fires indicate that home ignitions depend on the characteristics of a home and its immediate surroundings. Howard et al. (1973) observed 95 percent survival for homes with nonflammable roofs and a vegetation clearance of 10 to 18 meters. Foote (1994) observed 86 percent survival for homes with nonflammable roofs and a clearance of 10 meters or more.” (Pg. 7)

“The high survival rate for homes with nonflammable roofs and 10-20 meter vegetation clearances included firebrands as an ignition factor, thus indicating that firebrand ignitions also depend on the ignition characteristics of the home and the adjacent flammable materials.” (Pg. 8)

“Wildland fuel reduction beyond the home ignition zone does not necessarily change home ignitability; therefore, wildland fuel reduction does not necessarily mitigate the W-UI fire loss problem.” (Pg. 9)

“Effective landscape fuel reduction does not necessarily prevent W-UI home fire destruction.” (Pg. 10)

“Fire losses depend on home ignitions and home ignitions depend on home ignitability. Thus, home ignitability, being limited to a home and its immediate surroundings, offers us the opportunity to separate the W-UI structure fire loss problem from other landscape-scale fire management issues. This conclusion has significant implications for the actions and responsibilities of homeowners and fire agencies, such as identifying and mapping the potential for W-UI residential fire destruction, identifying appropriate and

effective mitigating actions, and determining who should take responsibility for home ignitability.” (Pg. 10)

“Thus, wildland fuel reduction that is effective for reducing the wildland fire intensity might be insufficient for reducing the destruction of highly ignitable homes. In contrast, a low home ignition potential reduces the chances of fire destruction without extensive wildland fuel reduction. **These findings indicate that the W-UI home fire loss problem is a home ignitability issue largely independent of landscape fuel reduction issues.**” (Pg. 10)

“The extent of the home ignition zone corresponds more to specific home and community ownership than to the landscapes of federal, state and local land management agencies. This suggests a corresponding responsibility for W-UI home fire loss potential residing with homeowners and communities. Thus, the home should not be considered a victim of wildland fire, but rather a potential participant in the continuation of the wildland fire. Home ignitability, i.e., the potential for W-UI home fire loss, is a homeowner and community choice and responsibility.” (Pg. 11)

Logging Impacts

Published by Sierra Forest Legacy, 2012

https://www.sierraforestlegacy.org/FC_FireForestEcology/FFE_LoggingImpacts.php

Excerpt:

“According to the Sierra Nevada Ecosystem Project's (SNEP) report in 1996, “Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity. If not accompanied by adequate reduction of fuels, logging (including salvage of dead and dying trees) increases fire hazard by increasing surface dead fuels and changing the local microclimate. Fire intensity and expected fire spread rates thus increase locally and in areas adjacent to harvest.” This conclusion supports the consensus view of fire ecologists that logging operations greatly increase the fire risk on a forest.”

Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management

By Dr. Jack Cohen and Bret W. Butler

Presented at the 13th Fire and Forest Meteorology Conference. Lorne, Australia, 1996

https://www.fs.fed.us/rm/pubs_other/rmrs_1998_cohen_j001.pdf

Excerpts:

“Model results indicate that ignitions from flame radiation are unlikely to occur from burning vegetation beyond 40 meters of a structure. Thinning vegetation within 40 meters has a significant ignition mitigation effect.” (Pg. 81)

“Vegetation management to prevent ignitions from radiation does not require extensive vegetation removal hundreds of meters from a structure. Our analysis indicated that 40 meters was sufficient for a 20 meter flame height.” (Pg. 86 – Conclusions)

Preventing Disaster Home ignitability in the Wildland-Urban Interface

By Dr. Jack Cohen

Published in the *Journal of Forestry*, March 2000

https://www.fs.fed.us/rm/pubs_other/rmrs_2000_cohen_j002.pdf

Excerpt:

“Miracles aside, the characteristics of the surviving home and its immediate surroundings greatly influenced its survival.” (Pg. 15)

“Using the model results as guidance with the concurrence of experiments and case studies, we can conclude that home ignitions are not likely unless flames and firebrand ignitions occur within 40 meters of the structure. This finding indicates that the spatial scale determining home ignitions corresponds more to specific home and community sites than to the landscape scales of wildland fire management. Thus, the W-UI fire loss problem primarily depends on the home and its immediate site.” (Pg.20)

“The W-UI fire case studies indicated approximately 90 percent survival with a vegetation clearance on the order of 10 to 20 meters for homes with nonflammable roofs. Thus, the case studies support the general flame-to-structure distance range of 10 to 40 meters as found through modeling and experiments.” (Pg.20)

“A change needs to take place in the relationship between homeowners and the fire services. Instead of home-related presuppression and fire protection responsibilities residing solely with fire agencies, homeowners must take the principal responsibility for ensuring adequately low home ignitability.” (Pg.21)

Fourmile Canyon Fire Findings

By Dr. Russell Graham, Dr. Mark Finney, Chuck McHugh, Dr. Jack Cohen, Dave Calkin, Rick Stratton, Larry Bradshaw, and Dr. Ned Nikolov (all are USFS employees who work in fire research)

Published in USDA Forest Service Gen. Tech. Rep. RMRS-GTR-289. 2012

https://www.fs.fed.us/rm/pubs/rmrs_gtr289.pdf

Excerpts:

“No evidence was found that the progression of the Fourmile Canyon Fire was altered by the presence of fuel treatments and the treated areas were probably of limited value to suppression efforts on September 6 (Figure 32).” (pg 56)

“Post-fire satellite imagery clearly showed the absence of moderated burn severity inside treated areas compared to neighboring untreated stands (Figure 45). In some cases, treated stands appeared to burn more intensely than adjacent untreated stands, perhaps because of additional surface fuels present as a result of the thinning and higher wind speeds that can occur in open forests compared to those with denser canopies (Figure 46).” (pg 57)

“Claims of fuel treatment performance around homes by the owners are consistent with the knowledge that the removal of surface fuel plays an important role in changing fire behavior.” (pg 58)

“Existing research on how residential fire disasters occur and how homes ignite during wildfires indicates that given extreme burning conditions, home characteristics in relation to a home’s immediate surroundings (100 ft) principally determine home ignition potential (Howard and others 1973, Foote 1994, Cohen 1995, Cohen 2000a, 2000b; Cohen and Stratton 2003, Cohen 2004, Cohen and Stratton 2008, Cohen 2008). The area of the home and its immediate surroundings is called the *home ignition zone* (HIZ). Commonly home ignition occurs over small distances—a few tens of feet or less. During extreme burning conditions such as crown fires, the flames outside the HIZ (beyond 100 ft) will not ignite a home’s combustible materials. Fires spreading into and firebrand ignited fires within the HIZ must be closer than 100 feet and/or contact the flammable parts (e.g., shake roof, wood siding, wood deck) of a home before direct flame ignition occurs. Home ignitions from firebrands require lofted burning embers from whatever distance and source (e.g., burning vegetation and/or structures) to accumulate on a home’s flammable materials (e.g., litter covered roof, decorative bark, ornamental shrubs) before ignitions can occur. Figure 55 shows a home from the Fourmile Canyon Fire area that had an ignition resistant HIZ and the home survived.” (pg 65)



Why homes are lost to wildfire

By Melissa Mylchreest

Published in *High Country News*, April 4, 2014

<https://www.hcn.org/articles/the-loss-of-homes-to-wildfire-is-as-much-a-sociopolitical-problem-as-it-is-a-physical>

Excerpts:

"Jack Cohen is a research physical fire scientist with the U.S. Forest Service, based at the Missoula Fire Sciences Laboratory. With four decades of experience, he is a preeminent expert on wildfire and home ignitions, and a founder of the Firewise Communities recognition program, a project of the National Fire Protection Association that helps homeowners protect their property against wildfire."

"Years of study have convinced Cohen that the loss of homes to wildfire is as much a sociopolitical problem as it is a physical, on-the-ground problem. Agencies and the public alike approach the issue as a question of fire suppression and control. Cohen, on the other hand, believes that fire is here to stay, and that proper mitigation, awareness and planning can make living with fire a whole lot easier - and safer. HCN contributor Melissa Mylchreest recently spoke with Cohen."

"Dr. Cohen" Really, we need to be educating everybody who lives in (the WUI), or near it, or deals with it. Like Southern California, like Colorado Springs, like Denver. Everyone needs to be aware of how this problem works. Additionally, we're dealing with fire agencies that are very paternalistic and patriarchal. So it doesn't come naturally to involve homeowners. On the other hand, homeowners are expecting to be saved. As a society that has largely gone urbanized, we're more remote from dealing with fire on a personal basis - fewer people smoke, so people aren't even used to a book of matches catching on fire now."



The Wildland-Urban Interface Fire Problem: A Consequence of the Fire Exclusion Paradigm

By Dr. Jack Cohen

Published in *Forest History Today*, Fall 2008

<https://foresthistory.org/wp-content/uploads/2017/01/Cohen.pdf>

Excerpts:

"The wildland fire management approach for preventing WUI fire disasters largely addresses the wildfire outside the home ignition zone rather than a home's ignition potential as determined by the conditions within the home ignition zone. Since 2000, agency fire management policy initiatives have emphasized fire suppression." (Pg. 24)

"Preventing WUI fire disasters requires that the problem be framed in terms of home ignition potential. Because this principally involves the home ignition zone, and the home ignition zone primarily falls within private ownership, the responsibility for preventing home ignitions largely falls within the authority of the property owner. Preventing wildfire disasters thus means fire agencies helping property owners mitigate the vulnerability of their structures. **The continued fire management focus on fire suppression suggests the WUI fire problem persists largely as a consequence of framing the WUI fire problem primarily in terms of the fire exclusion paradigm.**" (Pg. 25)

the challenge of liability issues associated with prescribed burns escaping onto neighboring land. If the problem is identified as reducing the proportion of wildfires entering the WUI, it will take time, significant increase in public and private investment, and a change in social acceptance and liability rules for burning near inhabited areas until the benefits are realized. By contrast, if the problem is identified as home ignition, mitigation of the HIZ is the most cost-effective investment for reducing home destruction, and this can be augmented with other investments ([Fig. 1](#)).



Wildfire Protection in the Wildland-Urban Interface

Congressional Research Service Report, January 30, 2014

<https://www.everycrsreport.com/reports/RS21880.html>

Excerpts:

“A structure's characteristics and landscaping significantly affect its chance of surviving a wildfire. Evidence from models, experiments, and case studies demonstrates that structural characteristics, especially the roofing materials, largely determine whether a home burns in a wildfire. Homes of brick or adobe with non-flammable roofs (e.g., tile, slate, metal) are far less likely to burn than homes with wood siding and flammable roofs (e.g., wood shingles).¹⁴ Burnable materials (such as trees, shrubs, grass, pine needles, woodpiles, wood decks, and wooden deck furniture) within 40 meters (131 feet) of the structure also strongly influence whether the structure burns in a wildfire.¹⁵

“Furthermore, the structure and landscape characteristics are more important than the intensity of the fire in determining whether a house burns. The Hayman Fire, in Colorado in June 2002, burned 132 houses—70 houses (53%) were surrounded by crown fire, while 62 houses (47%) were surrounded by surface fire.¹⁶ In addition, 662 homes (83% of all homes within the fire perimeter) survived the fire, even though 35% of the area was severely burned and 16% was moderately burned.¹⁷ This suggests that at least some of the structures survived despite a crown fire around them.”

“At a minimum, most would agree on the need for an area of *defensible space* around homes that needs to be cleared of burnable materials—at least 10 meters (33 feet) and possibly as much as 40 meters (131 feet). One observer recommended that protecting communities should include intensive treatment to reduce fuels and burnable materials in the *home ignition zone*, up to 200 meters (655 feet) around structures, with less intensive fuel treatment in the *community protection zone*, generally up to 500 meters (1,640 feet, or about a third of a mile) from structures.¹⁹

[illegible]

By Richard Hutto, professor emeritus of biology and wildlife biology with the Division of Biological Sciences at the University of Montana

Published in the *Missoulian* newspaper, August 16, 2017

http://missoulian.com/opinion/columnists/fires-necessary-to-sustain-ecological-integrity/article_648a3bf0-dfc7-51e9-984c-ebf66f9f36c4.html

“Finally, Racicot is mistaken if he believes that “there’s something we can do to minimize, and in many instances even eliminate... the wholesale destruction of natural resources critically important to all of us.” Sorry, Racicot, a large volume of fire research shows, unequivocally, that timber harvest does little to minimize or stop the wind-driven fires during the hot, dry years that typically burn most of our forest lands periodically. Just walk through the old Plum Creek land that burned to a crisp during the 2007 Jocko Lakes fire near Seeley Lake to see for yourself how those fires burned through even the most heavily harvested lands.”

“Even if we could mitigate or prevent severe fire, would really we want to do that anywhere but in or immediately adjacent to our developed communities? The only person who would say that wildfires cause the “wholesale destruction of natural resources” is one who has absolutely no ecological literacy. We need more informed leadership if we are to adopt forest management practices and working forests that are truly conservation-oriented.”

By George Wuerthner, forest ecologist and author

Published in the *Missoulian* newspaper, September 5, 2017

http://missoulian.com/opinion/columnists/fuel-reductions-ineffective-mandate-fire-wise-protections/article_64841590-c42e-5fd0-80ae-b8a025f94bbe.html

“Recently, Secretary of the Interior Ryan Zinke, along with Agriculture Secretary Sonny Perdue, U.S. Sen. Steve Daines and U.S. Rep. Greg Gianforte, visited the Lolo fire near Missoula. All proclaimed that more forest “management” (logging) would preclude large fires like Montana and other states have experienced in recent years.”

“The problem is the knowledge of forest ecology of most politicians as well as far too many agency personnel is about as sophisticated as the medical profession of a hundred years ago when the most common treatment for the disease was to bleed the bad blood from a patient.”

“In fact, the science, suggests that forest management tends to increase fire severity.

Concluding Comments

Nearly all Forest Service projects that claim to lessen the risks to homeowners living in the WUI propose to commercially remove hazardous fuels. **Without exception** the NEPA documents that analyze these fuels reduction treatments conveniently do not mention Dr. Cohen’s methods because the Purpose & Need is to “reduce fuels” and not reduce the fire damage risk to structures in the WUI as it should be.

Reducing hazardous fuels might be an alternative way to lessen the risks to homeowners living in the WUI. It definitely should not be a goal or objective unto itself and should never appear in the Purpose & Need. Which is more important – human lives or fuels?