

January 15, 2008

Fire Suppression Committee  
c/o Leanne Heisel  
Legislative Services Division  
P.O. Box 201706  
Helena, Montana 59620-1706

**Re: Request for comments by the Fire Suppression Committee due February 1, 2008**

Dear Ms. Heisel:

I am submitting written comments regarding the format presented in the letter dated December 14, 2007 to interested parties on the work being completed by the Fire Suppression Interim Committee of the Montana Legislature formed from the September 2007 special session.

*Firefighting operations in Montana, including operations on tribal land and private land, by state and federal governments and the management policies affecting the success of those operations.*

- The Montana Department of Natural Resources and Conservation (DNRC) must continue too work on improving and maintaining it's working relationship with all private landowners, other state agencies involved in wildland fire management (Montana Department of Disaster and Emergency Services, Montana Fire Services Training School), tribal lands and federal agencies ( USFS, Bureau of Land Management and US Fish Wildlife and Services).
- DNRC can provide the leadership regarding it's involvement with the Northern Rockies Coordinating Group (NRCG) on daily firefighting operations with the existing interagency operating agreements, directives and other documents that provide the avenue for the agencies to all work together.
- Private landowners must be involved in the future working more with the incident management teams when their ranching operations, rangeland resources and timber resources are going to be affected by fireline construction with heavy equipment, back firing and burnout operations. The decisions that are made without the involvement of the private landowner affects the economic impacts to the natural resources (grass and timber), the ability to support cattle or loss of timber values.

*The efficient use of fire suppression resources, including equipment and firefighters.*

- Within the state of Montana, I believe we have considerable amount of local resources in terms of equipment and firefighters. In my research too find the information, I was not able to get any clear data within DNRC, BLM, USFS, Montana Fire Services Training School and other local government entities of what we have exactly available in the state of Montana.
- If we are to look at better ways to mobilize Montana fire suppression resources that involves equipment and firefighters in Montana, would it not be helpful that we would know within are 56 counties and state agencies on a statewide data base of how many local government wildland engines, water tenders, and other forms of heavy equipment (dozers, graders) from county public works, are available within Montana in the preparedness and mobilization of resources?

*Impacts of operations on private land and on the effective use of private resources to fight fires.*

- Local governments, working with state and federal agencies have work very hard in firefighter safety to insure that the citizens of this state, which includes private landowners, will not be injured or killed on a wildland incident.
- Private landowners at times will take independent action to protect their homes, crops, timber and rangeland. This at time presents a challenge to responding local governments and agency resources that must understand the human factors and local community relationships of the private landowners.
- It is very important when decisions are made by the Incident Commander or Incident Management Teams that they continue to work with the local private landowners in the fire suppression tactics and strategies.

*State and federal forest management policies and how those policies may contribute to an increased number of wildfires, greater safety risk to firefighters, or compromised effectiveness of fire suppression efforts.*

- The Montana Department of Natural Resources and Conservation (DNRC) forestry division through its timber management program on school trust lands continue to move forward to insure the resources are being managed based on the mandates of the school trusts.
- The decisions that are being made between DNRC and other federal agencies regarding areas of wildland fire protection based on agreements and the federal forest management policies needs to be evaluated in the future. The Montana Legislature needs to insure that DNRC will continue to look at the interest of the school trust lands as mandated by the laws of this state, along with those areas of fire protection in which agreements are in place that DNRC can no longer follow or protect based on the current direction of the federal forest management policies.
- The discussion that is currently taking place regarding the concept and concerns of Appropriate Management Response (ARP) strategy, Cost Share Agreements and Structural Protection/ Suppression, as it affects the legislative mandates of DNRC, along with local government on it fire pre-suppression and suppression directives needs to be looked at by the committee. It will affect firefighter safety, private landowner's natural resources adjacent to federal lands, and the long term commitment of fire suppression resources of DNRC, local governments and the mobilization of private contracting resources.
- It is very evident with decades of dying and dead fuel loading in are National Forests due to drought, insect and disease with a virtual non-existent timber sale program because of timber sale appeals and environmental concerns; it will have a long term impact of funding for fire suppression by the legislature and local governments on future extended attack and project fires in protecting homes, private property and school trust lands in the future.

*What do you think will happen in this state with regard to firefighting and suppression in the next ten years if no changes in policy, practice or funding are made?*

- It is becoming very evident with the current drought conditions, bark beetle infestations through out the western united states, high dead fuel loading in are National Forest and the concerns of climate changes in are country, that we

cannot delay the discussion among are community leaders, representatives of are legislature, local governments, private landowners, local environmental groups and private fire contractors how we must look at changes in the wildland fire management policies, practices and funding.

- By doing nothing, we will continue to see the expenditures of taxpayer dollars being spent on large project fires and the frustration in the timber industry, ranching communities and community leaders of are natural resources being lost due to ineffective land management polices, improvements in interagency firefighting mobilization and coordination; along with not evaluating the future review of wildland fire management policies.
- The state legislature and Governor by the recommendations of this committee, send a message too are Congressional Delegation of the existing federal agencies handling of timber resources, the need of better coordinated interagency wildland fire management policies and a timber industry that is struggling to exist in our local communities.

*The committee would like to know what can be done by you or others (agencies, local governments, homeowners, private industry) by next spring and early summer to prepare for the fire season.*

- DNRC working with local governments and private landowners need to strengthen the WUI fire prevention message in 2008 given the current drought conditions of getting the private landowners in the wildland urban interface to start taking individual responsibility of creating defensible spaces around their homes.
- The agencies and local governments start working together with their community leaders, county commissioners, private fire contractors, and private landowners at the local level. What are the barriers that are preventing everyone to work better together on preparedness, planning and involving private landowners as part of the solutions?
- Grass root involvement is the key to any effective community program. The committees efforts of going around this spring and summer is important to listen to the private landowners, along with community leaders of what their concerns and solutions are to improve the working relationships of the local governments, state and federal agencies. **I would encourage the committee to take the time to meet with the landowners in the Billings area to listen to their concerns given the last couple years of large incidents in their area.**

*Specific suggestions that may improve the fire suppression-related contract services and how the improvements can be made on the contracting process.*

- The committee needs to support the efforts being made by the Northern Rockies Coordinating Group (NRCG) through the Northern Rockies Strategic Action Committee (NRSAC) in the efforts to improve the solicitation and contracting of private contracting resources.
- That the state and federal agencies follow the policy and procedures that have been developed when it comes to the mobilization and demobilization of private water handling equipment, heavy equipment, and other resources through best value contracting, and under Emergency Equipment Rental Agreements (EERA).
- State, Federal and local government agencies work with the Montana private contracting associations to pull together on improving the working relationships that can better understand the roles and responsibilities of each entity, dispatching and contracting administration.

**Additional Comments:**

- Homeowners in the WUI must first take the responsibility in protecting their homes and the committee from a legislative stand must emphasis this in their final report.
- The committee supports the efforts being made regarding Community Wildfire Protection Plans (CWPP's), SB 51 and SB 145 within DNRC and DLI.
- DNRC and other federal agencies work with MACO on future legislation on planning tools relating to the WUI.
- The document that outlined the WUI analysis and land ownership research by the Headwaters Economic best set the overview of what this state is facing in the future.
- The impacts to the management and mission of Plum Creek large ownership in Montana will impact DNRC, Federal Agencies and local governments on the level of fire protection, as these lands will become developed in the WUI environment.
- The Fire Funding Options to reduce Cash Flow issues in the Wildland Fire Program of DNRC dated May 24, 2006 prepared by the Legislative Finance Committee and other reports that the committee has received these past three months, show the fire assessment program to fund DNRC must be understood by all stakeholders outside of the legislature.

- Clarification of the assessment process to the private landowners who is being assessed, what services are tied to the assessments, what information should be supplied to landowners justifying the assessments, is their duplication between DNRC and local fire departments and who is really benefiting from the programs.
- Provide the DNRC the support of Incident Business Advisors (IBA) that can assist with the agency administrators, incident management teams, local governments, etc that can help with incident cost tracking and accountability. This is a position in which the agency needs support in future funding to help train, educate and work within the agency, local governments, county commissioners and agency administrators to help with fiscal accountability on large incidents.

Sincerely

*Richard E. Grady*

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cc: Senator John Cobb  
Senator Dave Lewis



**Conservation  
Congress**

January 16, 2008

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c/o Leanne Heisel  
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Helena, MT 59620-1706

Re: Public Comment on Fire Suppression

Dear Committee,

The Conservation Congress appreciates the opportunity to provide public comment on this very important issue. We ask that you carefully consider our comments and incorporate them into your study.

First, we are including a chart taken from the National Interagency Fire Center (NIFC) web site back in 2002. It clearly shows the 80-year average is 14.1 million acres burned per year. The current mass hysteria surrounding wildfires in Montana and the west is unjustified in our opinion. Wild fires are creating some problems due to mismanagement, but the fact remains fire is an important ecological component on western landscapes. Many ecosystems evolved with fire and require it to remain healthy.

The NIFC chart shows that wild fires declined dramatically in the 1950's – the very time the US Forest Service began actively logging the national forests while beginning its fire suppression activities. We all know that suppressing fires was a tremendous mistake that has resulted in overgrown areas. However, unsustainable logging and the associated road construction that accompanies logging has also exacerbated the problem. Another archaic belief is that logging stops wildfires when the most current scientific literature by fire ecologists suggests it exacerbates the problem. One current example is the Jocko fire in MT last year – that fire ripped through heavily logged tribal and private stands.

Another major problem is more and more people want to live near the forests but don't want to take the responsibility that accompanies the risk of that decision. Our local leaders have dropped the ball and are unwilling to develop zoning laws that would benefit all communities in the Wildland Urban Interface (WUI). Zoning is not communism despite what some people think – it is common sense when dealing with the WUI. The MT Legislature should require zoning in all WUI areas. This would not only protect communities but it would also protect wildlife, water quality, and other natural resources in these areas.

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The Forest Service now has a 'let it burn' policy in wilderness areas – we believe this is correct and should be utilized in any area not in the Wildland Urban Interface. Fires are burning hotter and longer due to the drought, and the lingering drought is due to climate change. We don't believe a 'let it burn' policy will result in all of our forests burning to the ground. Yellowstone National Park remains a positive symbol of what wildfire can accomplish. Many people believed YNP would be ruined forever, and now virtually all ecologists believe it was one of the best things to happen to the Park in the last century. Nature has a way of taking care of itself if we leave it alone. Unfortunately, man has a habit of micro-managing everything to nature's and our detriment.

Under the Bush Administration the Forest Service has used over half of its budget to fight wild fires. The result is that all other management on National Forests is neglected and virtually all departments are being slowly starved of their funding. This is a breathtakingly stupid policy. The state of Montana should work with the Forest Service to restore its funding for non-fire activities.

There is a considerable current literature on the subject of fire-proofing communities in the WUI – most notably by Jack Cohen, former Fire Ecologist with the Forest Service. There are many simple steps people can take to fire-wise their homes in a WUI area. These steps should be compulsory, not volunteer. Our fire fighters should not have to risk their lives for people too stupid or negligent to take steps to protect their own property. In addition, home owners insurance for people who insist on living in dangerous fire areas should pay the highest premium rates, as do those who choose to live on coastal waterways and in hurricane zones. The average taxpayer should not have to pay the bills for other people's foolish choices. The MT Auditor/Insurance Commission could work with insurance companies to determine an equitable policy.

I also believe Montana State Lands has abrogated its responsibilities by participating in unsustainable logging, excessive road construction, and logging in sensitive areas. All current research suggests these activities contribute significantly to out-of-control wild fires. The money accrued from Montana State Lands logging goes to fund education – surely the Legislature can come up with other sources of revenue for funding public education other than ill-fated logging – we have a billion dollars in excess revenue.

There remains a mis-guided perception by the public that burnt trees should be logged because they provide no other value. This is simply ignorant – burnt trees provide a multitude of natural resource values, and again current literature suggests logging after a fire does more harm than good. Logging in areas that have been burned can destroy soil fertility, impact water quality, and inhibit natural regeneration. The public and our policy makers must be educated on these issues in order to intelligently address them.

Roads increase access and access increases human use. There are enough roads on Forest Service lands alone to go to the moon and back 35 times. The Forest Service knows this but doesn't have the funding to close unused and unwanted roads. There remain uneducated people who believe every square inch of public land should be accessible to motorized vehicles – but this leads to many problems including negligent people who start wild fires. Many of the fires in the west last year were started by negligent people. Funding must be accrued to close some of these literally millions of miles of un-needed roads.

Finally, there needs to be a joint state/federal education campaign to inform the general public about the important and needed role fire plays on western landscapes; and that the last 7 years have not come close to burning the 80-year average of acres burned per year. The wildland fire issue has been politicized – it needs to be addressed from a natural resource perspective, for that is what it is – it should not be used as a political pawn to curry political favor with any political party.

As Jack Cohen suggests through his research, communities can learn to live with fire – but they can't end all wildfires. We can't come to a solution until we recognize that fact. In addition, global climate change is playing a role in the exacerbation of wild fires in the Northern Rockies. This must be realized and actions taken accordingly to help reduce the impacts. We are including numerous papers that we have collected over the past 5 years – they are all written by fire ecologists and peer – reviewed. We sincerely hope this committee will read them and seriously consider the recommendations included in them.

Wild fires are likely here to stay and we can learn to live with them while protecting communities, as well as our natural resources. But there must be a will by the people – hopefully the formation of this committee is a beginning towards that end.

Again, we thank you for the opportunity to provide a voice on this important issue affecting Montana and other western states. If you have a mailing list for correspondence we request to be added to it. Thank you.

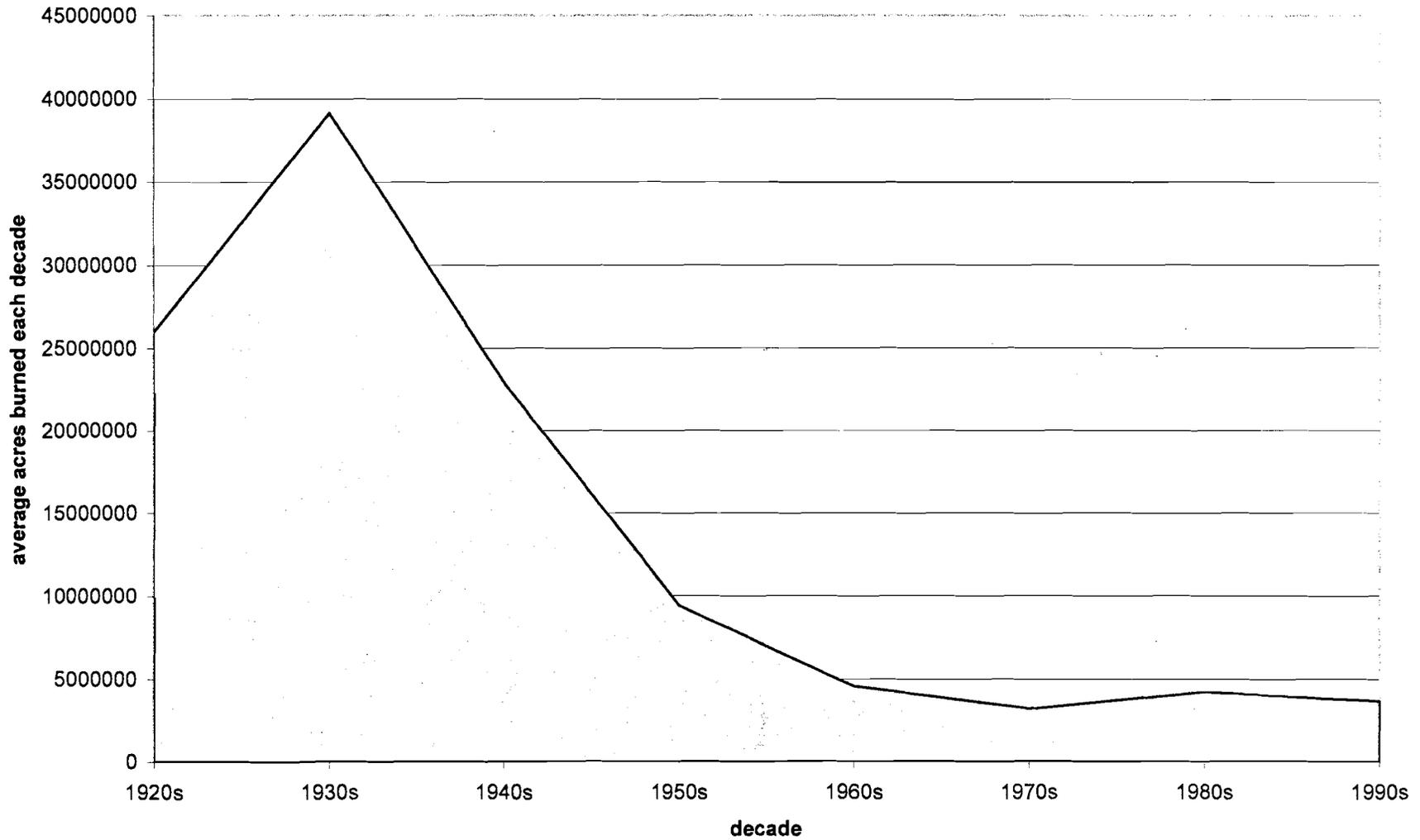
Sincerely,



Denise Boggs, Executive Director

Encl: NIFC Chart  
Wildland-Urban Fire – A Different Approach  
Reducing the Wildland Fire Threat to Homes: Where and How Much?  
Warming and Earlier Spring Increases Western US Forest Wildfire Activity  
Post-Wildfire Logging Hinders Regeneration and Increase Fire Risk  
Collateral Damage: The Environmental Effects of Firefighting

**Average Acres Burned: -by Decade (from 2002 NIFC web page)**  
**80 year average is 14.1 million acres burned per year**



# Wildland-Urban Fire—A different approach

**Jack D. Cohen**  
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**Abstract**—Research results indicate that the home and its immediate surroundings within 100-200 feet (30-60 meters) principally determines the home ignition potential during severe wildland-urban fires. Research has also established that fire is an intrinsic ecological process of nearly all North American ecosystems. Together, this understanding forms the basis for a compelling argument for a different approach to addressing the wildland-urban fire problem. It argues for residential compatibility with wildland fire rather than the necessary prevention of fire encroachment on the community.

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Wildland-urban fire occurs when a fire burning in wildland vegetation fuels gets close enough with its flames and/or firebrands (lofted burning embers) to potentially create ignitions of the residential fuels (Butler 1974). Residential fire destruction is the principal problem during wildland-urban fires, but homes that do not ignite do not burn. Recognizing the potential for wildland-urban home ignitions and preventing home ignitions is the principal challenge.

Understanding how homes ignite during wildland-urban fires provides the basis for appropriately assessing the potential for home ignition and thereby effectively mitigating wildland-urban fire ignitions. Fires do not spread by flowing over the landscape and high intensity fires do not engulf objects, as do avalanches and tsunamis. All fires spread by meeting the requirements for combustion—that is, a sufficiency of fuel, heat, and oxygen. In the context of severe wildland-urban fires, oxygen is not a limiting factor so this type of fire spreads according to a sufficiency of fuel and heat. Homes are the fuel and the heat comes from the flames and/or firebrands of the surrounding fires (*fig. 1*). Recent research (*fig. 2*) 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* (*fig. 3*).

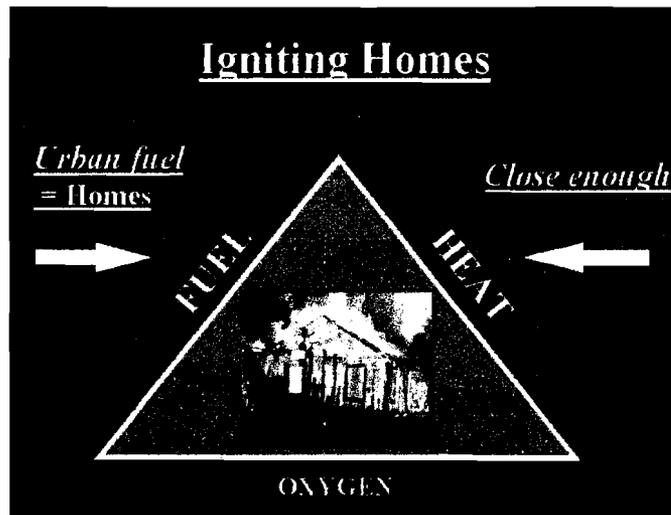


Figure 1—In the context of wildland-urban fires, the homes are the fuel. The heat comes from burning materials adjacent to the home (e.g., vegetation, wood piles, and buildings) and firebrands (lofted burning embers) on the home. How close flames are to the home and whether or not firebrands contact the home determines how much heat the home receives.

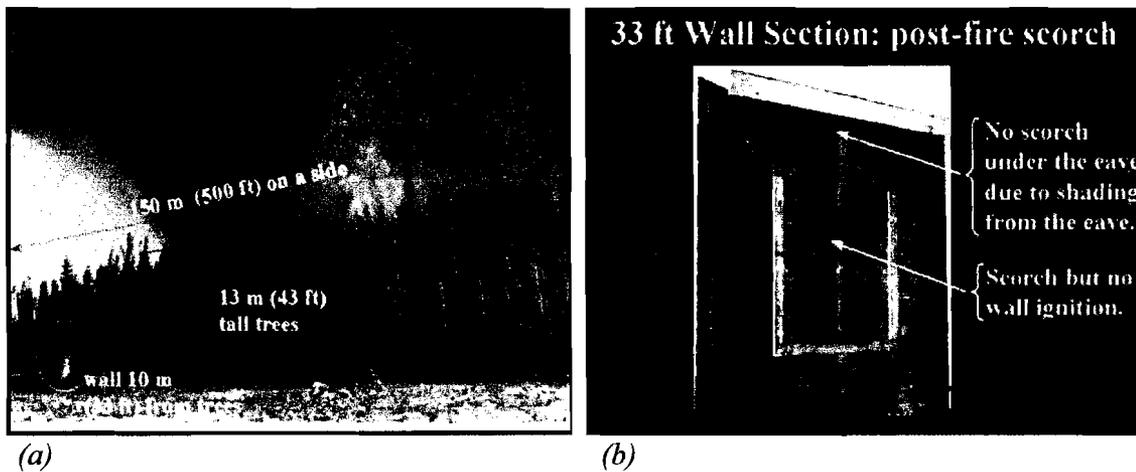
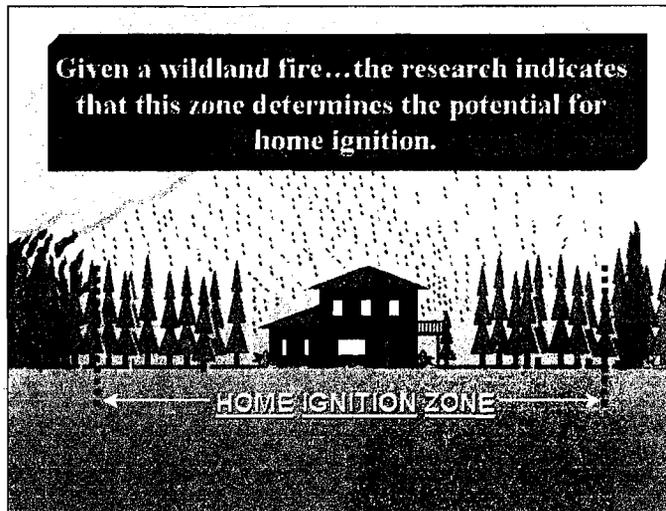


Figure 2—Home ignition research over the last several years has exposed wall sections to crown fires. (a) Wall sections were placed at 33, 66, and 98 feet from the forest edge. (b) Ignition of the 33 ft wall section occurred during 3 out of 7 crown fires. No ignitions or significant scorch occurred on wall sections at 66 ft and 98 ft during any crown fire.



*Figure 3—The **home ignition zone** includes the home and an area surrounding the home within 100 to 200 feet. The potential for ignition depends on the home's exterior materials and design and the amount of heat to the home from the flames within the home ignition zone. Firebrand ignitions also depend on the home ignition zone either by igniting the home directly or igniting adjacent materials that heat the home to ignition.*

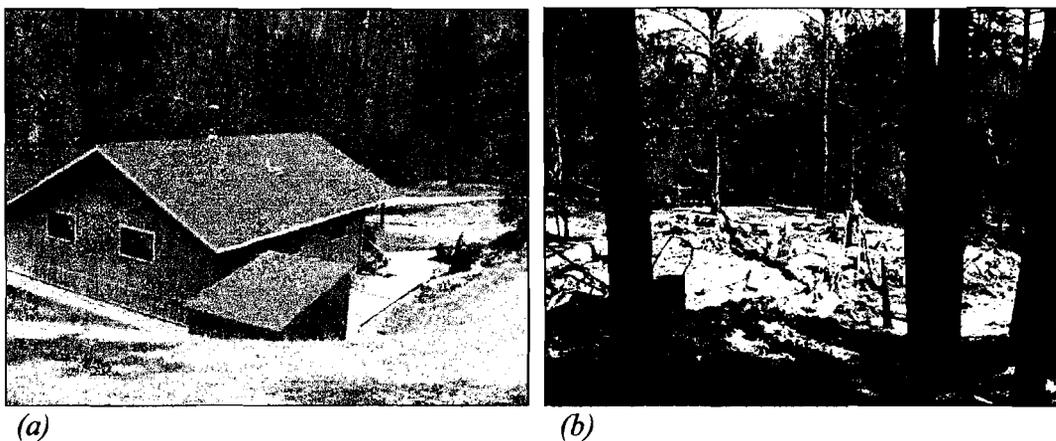
During a wildland-urban fire a home ignites from two possible sources: directly from flames (radiation and convection heating) and/or from firebrands accumulating directly on the home. Even the large flames of high intensity crown fires do not directly ignite homes at distances beyond 200 feet. Given 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.

One might argue that preventing the occurrence of wildfires would prevent wildland-urban fire destruction. However, our current understanding indicates that wildland fire is an intrinsic ecological process in nearly all North American ecosystems (Arno and Brown 1989; Wright and Bailey 1982). 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 non-occurrence of wildland fires, including wildland fires encroaching on communities.

Recognizing the inevitability of wildland fire occurrence coupled with how homes ignite during wildland fires suggests a mitigation approach specific to wildland-urban fire. Given a wildland-urban fire, the home ignition zone principally determines the potential for home ignitions. This suggests a management approach that focuses on preventing home ignitions. That is, we reduce a community's vulnerability to wildland fire rather than attempting the elimination of wildland fire encroachment. This implies an approach of community compatibility with wildland fire.

Wildland-urban fire emergency strategy and tactics differ from either the standard wildland or the standard urban fire suppression practices. Wildland fire suppression largely attempts to keep a fire from spreading beyond its current location. That is, keeping the wildfire away from a valued area protects the values at risk. Urban fire suppression initially addresses life safety (principally building occupants) and then fire containment within a portion of the structure and/or prevents adjacent structure involvement. Neither of the wildland nor the urban suppression practices typically provide for home ignition potential reduction given an encroaching wildfire.

Wildland-urban strategy and tactics assume the wildfire may pass through the residential area without wildfire containment. The wildland-urban strategy and tactics principally focus on preparing the home for the wildfire by reducing the potential for home ignition within the home ignition zone. Because of time constraints, most preparation has to occur before a wildfire occurs. Major changes to the home ignition zone (the home and its immediate surroundings) such as replacing a flammable roof and removal of vegetation such as forest thinning cannot occur during the approach of a wildfire. Removal of firewood piles, dead leaves, conifer needles, dead grass, etc. from on and next to the home should also occur seasonally before severe fire conditions (*fig. 4*). The ignition potential of the home ignition zone largely influences the effectiveness of protection during a wildfire. Given low ignition potential and enough time, homeowners and/or wildland-urban suppression resources can make significant reductions in the little things that influence ignition potential before wildfire encroachment. Then, if possible, homeowners and/or wildland-urban firefighting resources can suppress small fires that threaten the structure during and after the wildfire approach.



*Figure 4—The home ignition zone principally determines the home ignition potential. (a) This ignition resistant home survived an intense crown to its front (background) and a crown fire of lesser intensity to its side and back. The immediate area next to the home was sprinkled but no suppression action occurred (Montana 2000). (b) This highly ignitable home did not survive a low intensity surface fire (unburned wood rail fence and non-scorched trees in the background). A continuous pine needle fuel bed extended to, through and on this home and its neighbors. No suppression action occurred at this home (Los Alamos 2000).*

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. During the wildfire, wildland-urban protection activities continue to focus on the home ignition zone for the prevention of home ignitions. Even with ignition resistant homes, protection effectiveness relies on an understanding of how homes ignite during wildland fires along with recognizing operational and logistical fire suppression limitations. These differences suggest the need for wildland-urban fire specialists both before a wildfire and during a wildfire. Before the wildfire, the wildland-urban fire specialist uses home ignition expertise to identify vulnerable residential areas and facilitate community efforts to reduce home ignitability. During wildfires, the specialists work with homeowners and multi-agency wildland-urban fire protection teams to identify and implement effective actions for reducing home destruction during wildfires.

The above article is based on technical information that can be found at [www.firelab.org](http://www.firelab.org)

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