

THE PRICE OF FLAME

**FINAL REPORT
OF THE
FIRE SUPPRESSION INTERIM COMMITTEE**

SEPTEMBER 2008

Fire Suppression Interim Committee 2007-2008

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The committee also wishes to thank the hundreds of Montanans who responded to our calls for public comment in writing, by directly contacting us, and through attendance at our meetings. These good citizens educated the committee on firefighting operations and efficient use of fire suppression resources; the impacts of fire suppression operations on private land; and the use of private resources for land management and fire suppression. Their commitment of time and effort to offer hundreds of thoughtful recommendations to improve state and federal forest management and fire suppression policies is appreciated.

Finally, the members thank the local, state, and federal agency staff who participated in committee meetings, assisted our staff in organizing meetings, and provided valuable insight into their roles and responsibilities as the committee pursued the duties assigned to it by the legislature.

INTRODUCTION

It's inevitable, unavoidable, fated. Wildfire in Montana could be included with death and taxes as the only sure things in life. It is, as fire historian Stephen J. Pyne writes, "a natural phenomenon [that is] at once as common as sunflowers and as powerful as tornadoes, an ecological element only partly tamed and partly captive and, like a trained grizzly, ever ready to turn feral."¹ Whether ignited by lightning, a campfire left smoldering, or a spark from a vehicle driven in the tall grass, fires will occur and change the landscapes--the physical, social, and political landscapes--left in their wake. By all accounts, the 2007 fire season was one for the books in terms of fire occurrence, fire behavior, and the costs associated with suppression. Ahorn, Black Cat, Jocko Lakes, Fool Creek, Chippy Creek, Meriwether, to name a few-- all large project fires that drained resources, prompted evacuations, and forced residents, fire professionals, and elected officials to think about fire in a new way. There will be off years in the state's future when the right combination of moisture and storm frequency, with a little luck thrown in, result in fewer and more manageable fires. But on balance, the signs point to longer fire seasons and extreme events like those for which the years 1910, 1988, 2000, 2004, and 2007 are infamous. Fire year 2007, in all its dry, hot, smoky glory, may just be the shape of things to come.

¹ Stephen J. Pyne, *Year of the Fires: the Story of the Great Fires of 1910*, (New York: Viking, 2001), 4.

Chapter One

Creation and Structure of the Fire Suppression Committee

It was still dry, hot, and smoky on August 27, 2007, when Governor Brian Schweitzer called the 60th Legislature into special session to "appropriate money and provide spending authority to pay for the actual and anticipated costs of fire suppression, disaster response, and recovery activities for the 2007 and 2008 fire seasons."²

When the special session convened on September 5, costs for the 2007 season amounted to \$80 million and were climbing. Once cost negotiations among all involved agencies had concluded, the state faced a liability of over \$40 million, more than twice the average amount calculated over a 7-year period.

Although the intent of the special session was to appropriate the state's share of costs associated with the year's fire suppression activity and to set aside some money for 2008, as stewards of taxpayer dollars, lawmakers sought not simply to throw money at the problem but to investigate why costs are escalating and what, if anything, might be done to avoid future such hits to the state's budget. The legislature recognized that the state's general fund has not maintained and would not consistently carry the amount of surplus money that would enable expenditures to the degree that the 2007 fire season warranted.

HB 1 (Appendix A) appropriated \$39 million from the state general fund to the Department of Natural Resources and Conservation (DNRC) "for wildfire suppression and for wildfire disaster response and recovery activities in Montana", and \$3 million from the general fund to the Department of Military Affairs for the same purpose. The bill also created the Fire Suppression Committee and directed it to:

1. investigate firefighting operations in Montana and the management policies affecting the success of those operations;
2. investigate the efficient use of fire suppression resources;
3. investigate the impacts of operations on private land and on the effective use of private resources to fight fires; and
4. investigate 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.

² Call to the 60th Legislature for a Special Session; Aug. 27, 2007; Gov. Brian Schweitzer.

HB 1 included a requirement that the committee travel to five specific locations around the state during the course of its study, and FSC added two communities to the list. Between April and August, the committee met and held public hearings in Hamilton, Lewistown, Miles City, Seeley Lake, Thompson Falls, Libby, and Choteau.

Committee's Approach and Structure -- Subcommittees, Public Comment, Field Hearings

FSC members quickly realized that they faced a steep learning curve when it came to the myriad aspects of wildfire and wildfire suppression in Montana. In order to be effective and conclude the interim with realistic, viable recommendations, they would have to understand the jurisdictional complexities and the roles and responsibilities of the multiple local, state, and federal agencies that are involved.

FSC's first two meetings consisted of panel discussions and instruction on the policies of and the relationship, coordination, and communication among the various entities that count land management and wildfire suppression among their duties. Those entities include the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), the Bureau of Indian Affairs (BIA), the National Park Service (NPS), DNRC, the state Department of Military Affairs (DMA), local fire departments, county commissions, and county law enforcement.

With this background information in hand, the committee formed three subcommittees-- Wildland-Urban Interface, Infrastructure, and Contracting--intending that the smaller groups could more deftly focus on specific subjects and ultimately develop recommendations to present to the full committee. The subcommittee recommendations then would serve as the basis on which public comment would be collected as the committee traveled around the state.

The subcommittees met monthly in Helena during the winter and reached agreement on three sets of recommendations which were approved by the committee as items on which the members wanted to hear public and agency reaction.

Public Comment Blitz

As the subcommittees were beginning their deliberations, FSC launched a campaign to collect as much public input as possible by mail, email, and the committee's website. Notice soliciting comment was sent to all potential interested individuals and organizations and requested that submissions focus on the following:

1. The committee would like specific recommendations on any of the study items listed above as well any other recommendations you may have for fighting fires, suppression of fires or other wildland fire-related issues in Montana.

2. 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?
3. 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.
4. If you provide fire suppression-related contract services during the fire season, please provide us with specific suggestions that may improve the contracting process.

The committee received hundreds of letters, emails, and contributions to a comment form on the website. Staff copied the documents for committee members, scanned all of the documents, and posted them to FSC's website, notifying agency management and staff of the files' location. The input received was summarized, categorized (Appendix B), and also placed on the website. Some of the comments prompted further research and some ideas made their way into the recommendations that the committee considered including in its final report.

Continuation of Work by Committee Members

Although HB 1 required FSC to finalize its recommendations by September 15, 2008, the committee agreed that members may continue to attend relevant meetings, visit fire camps, and gather information as warranted after that date.

Chapter Two Observations, Predictions, Conclusions

Observations

1. The west is prone to wildland fire and Montana is no exception. As wildland fires increase in severity and size, so does the cost of suppression in terms of real dollars and loss of property and natural resources. The professional forestry community has produced a number of documents detailing the reasons behind the increasing severity and costs of fire. They include:
 - a. extended drought in the west;
 - b. increased residential development in the wildland-urban interface, which is defined as the "line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels";
 - c. an increase in the fuel load in the forest from drought, disease, insect infestation, lack of funding for fuels management, and legal gridlock over management of federal forest land;
 - d. an inability--for various reasons--of the U.S. Forest Service to adequately deal with fuel load in the agency's forests resulting from drought, disease, insect infestation, and logging inactivity; and
 - e. lack of adequate resources for local, state, and federal agencies.

2. The items listed in #1 may explain why fires are increasing in severity and cost, but on the Montana landscape there are other factors that add to the complexity of fire suppression. These include:
 - a. diverging fire suppression policies and strategies--such as wildland fire use and mechanized treatment, assessment of values to protect, and approach to structure protection--among federal, state, and local agencies;
 - b. less federal funding for land management activities, due in part to increases in spending on fire suppression;
 - c. lack of resources to fully fund DNRC initial attack operations;
 - d. increasing gas and diesel fuel costs;
 - e. uncertainty over the future of industrial and other private forest lands;
 - f. increasing, and often unfunded, use of local government resources;
 - g. more large project fires, more extreme fire behavior, and expanding wildland-urban interface;
 - h. more competition for national firefighting resources;
 - i. succession planning for fire management personnel due to difficulty hiring and retaining firefighters who serve long enough to gain the experience needed to perform in leadership roles such as incident commander;

- j. widespread effects of poor air quality;
 - k. inconsistent rehabilitation of burned areas and watersheds;
 - l. stress on state, federal, and local wildland firefighters, managers, and resources;
 - m. increased budget pressures on federal agencies to control fire suppression costs, which limits the agencies' ability to manage the forests and reduce the risk to firefighters;
 - n. heightened public expectations of wildland fire agencies for rapid fire suppression and real time information about fire progress and suppression strategies; and
 - o. reduced access to forest resources because of closure of existing roads used for fire suppression.
3. After on-the-ground fire suppression work is completed, finances remain to be settled. This process of cost sharing with federal partners and obtaining FEMA reimbursement is often not completed within the fiscal year in which the fire occurs. This leads to concerns in Montana such as:
- a. the ability for the state to pay for entire costs of certain fires prior to obtaining payment from federal partners;
 - b. the ability of DNRC to maintain department operations until a supplemental appropriation can be approved by the legislature;
 - c. the pressure to settle costs of one fire season as the next season begins; and
 - d. a limited number of individuals who are dedicated to the business aspects of fire suppression (incident business advisors) and increased pressures on those individuals.
4. When all factors are combined, fire suppression and the business aftermath are becoming increasingly difficult to manage and increasingly difficult for the state to fund. The traditional funding mechanism to pay state costs through a supplemental appropriation to DNRC was not viable for the costs associated with the 2007 fire season, resulting in the need for a special legislative session to appropriate the money. This prompted the question of who should pay the state's share into the future. The options are:
- a. landowners in a designated wildland-urban interface;
 - b. landowners who benefit from direct protection services and county cooperative assistance;
 - c. all taxpayers through the state general fund;
 - d. insurance companies and other beneficiaries of fire suppression; or
 - e. some combination of the above.

5. Wildland fires are a part of life in Montana. Given the identified pressures and financial considerations, and pending any changes in federal fire policy, the outcome of future fire seasons is uncertain. The state must examine proposals to make changes to the status quo to positively impact fire suppression activities in the years to come.

Predictions

The Fire Suppression Committee recognizes that because of climactic conditions, rugged terrain, dense vegetation, concern for firefighter safety, and the nature of fire-dependent ecosystems, some fires cannot be extinguished, no matter what suppression strategy may be employed. However, if nothing changes in the wildland fire arena with respect to funding, priorities, climate trends, demographic trends, and policy, the following may be expected to occur.

1. With limited resources and fuel and climactic conditions, it is likely that communities will burn, firefighters will be seriously injured or killed, and hundreds of members of the public will be seriously injured or killed.
2. Stress associated with longer wildland fire seasons will continue to rise, affecting landowners, firefighters, business owners, and local, state, and federal agency staff, as well as other members of the public.
3. With limited resources to fight fires, the costs of fire suppression and the damage to property and natural resources will continue to grow.
4. Small businesses from the tourism industry to the agricultural industry will continue to be impacted as they are unable to be compensated for business losses due to fires.
5. Increasing spending on fire suppression at the federal, state, and local levels will continue to divert funds away from potential fuels reduction projects.
6. Declining dedication of funds for fuels reduction projects and lack of landowner incentives to treat fuels on private land will ensure continued risk of complex wildland-urban interface fires.
7. Development in the wildland-urban interface will continue to increase without adequate controls on land development.
8. The ineffective management of the accumulation of forest fuels on federal lands--due largely to resources being tied up in litigation--will continue to perpetuate a forest health crisis, putting many communities in imminent danger of catastrophic wildfires.

9. While cooperation among local, state, and federal wildland fire agencies has by most accounts been excellent, greater divergence in fire management policies, strategies, and interpretation of values in need of protection may erode that cooperation and negatively impact suppression efforts in the state.
10. Without a concerted and coordinated effort from insurers to educate policyholders about their wildfire risks and offer incentives for properly mitigating their risks, many homeowners will continue to ignore the advisability of survivable space, placing themselves and firefighters at risk.
11. If market conditions do not improve and other factors do not change, Montana's wood products infrastructure will be defunct within two years and the state will lose the people with the expertise to conduct fuels reduction and hazard mitigation projects.
12. Declining federal assistance will contribute to the need for additional state funding to actively engage in fire suppression.
13. According to a report provided for DNRC and FSC by Headwaters Economics (Appendix C and p. 47), the amount of money needed for fire suppression will continue to grow as additional homes are built in the wildland-urban interface.

Conclusions

The FSC has concluded the following:

1. The forests in Montana are growing more fuel, more trees are dying, and the state is headed toward larger fires. Either we do more logging, more prescribed burns, or other fuel reduction or we have more dangerous fires.
2. Firefighters use all available resources to suppress fires and the only thing that keeps the state budget from going broke is the lack of resource availability.
3. A large number of homeowners do little to protect their homes.
4. The state and local governments cannot conduct evacuations on a scale that would be necessary in the event of a fire year similar to 1910.
5. There will be another fire year similar to 1910 and the state is not prepared for fires of that scale.

6. Even after large burns, the forests still need to be managed (through logging, fuels reduction, prescribed fires, and appropriate wildland fire use fires) long-term to reduce the risk of large and devastating 400-year fires.
7. FSC anticipates a \$200 million fire year liability for the state budget sooner or later. Costs incurred by the state may be reduced if there are fast-moving, large fires that simply burn through thousands of acres before resources are available. Other than that limitation, costs will continue to grow.
8. The state fire suppression agency is going to have to grow by 57.5 FTE and \$4.7 million in the coming years, as local government and volunteer firefighters dwindle in number due to an aging population and other demographic factors and as federal government involvement in fighting fires declines.
9. A significant amount of money should not be dedicated to hazardous fuels reduction unless private property owners are compelled to manage their property to reduce wildfire risk either through enhanced incentives or required measures.

Chapter Three Recommendations

Recommendations for Immediate Implementation

The Fire Suppression Committee is convinced of the potential for catastrophic wildfires to occur in Montana in the near future. Its members therefore recommend the following be implemented as soon as possible.

1. The state and local governments in Montana should prioritize fuels reduction in the wildland-urban interface and implement as many projects as possible with current levels of funding. These entities should also be planning to apply for federal grants and to request fuels reduction funding from the 2009 Legislature.
2. The state's federal landowners should spend more to reduce hazardous fuels in the wildland-urban interface.
3. Steps need to be taken to preserve and sustain the state's wood products industry. The industry, the executive branch, legislators, and other interested parties should be discussing strategies to accomplish this. FSC recommends that the 2009 legislative leadership appoint a select committee or a subcommittee of a standing committee to meet during the session and review legislative options.
4. Insurance companies operating in Montana need to explore offering insurance products for grass and other resources that are destroyed by fire and that are necessary for farming, ranching, and other businesses.
5. Additional suggestions made by FSC to the Office of Budget and Program Planning (Appendix D) for use of a portion of the \$40 million appropriated during the 2007 special session should be implemented.
6. State and local fire and law enforcement officials should review evacuation capabilities and procedures in the event of a catastrophic fire endangering large communities.
7. Federal, state, and local officials must meet before and after every fire season to discuss fire suppression plans and policies and to review decisions that were made regarding policy, land management, cost sharing, and compensation to private entities and local fire and emergency response agencies.
8. State and federal wildfire suppression agency officials must discuss their respective long-term wildfire policies and continue to identify any differences in policies so the state is prepared to deal with the differences during the wildfire season.

General Recommendations to the Montana Legislature

The Montana Legislature in future sessions needs to take action in these areas:

1. short-term state and local funding of state and local fire agencies;
 2. long term funding of state fire agencies;
 3. wildland-urban interface conflicts and developments;
 4. dealing with federal agencies where their lands meet state and local lands and conflicts when fire management and land management conflict;
 5. the responsibility of homeowners and landowners for fire and land management; and
 6. the retention of a viable logging and fuel reduction industry.
- ▶ All six areas need consideration. The committee strongly believes that simply providing funding will not solve the long term problems of fire costs as well as what has been described above in the conclusions. If the legislature only provides funding and does not deal with the other issues, time, money, and effort will have been wasted on this project.
 - ▶ The legislature must also assume that the federal agencies can implement very little change in forest management without change at the national and congressional levels.
 - ▶ If fire and land management agencies, various governmental units, and homeowners and landowners are not making changes, then the legislature will make much less headway in mitigating the predictions made above.
 - ▶ Finally, the legislature must decide if it wants a committee to follow up on all the recommendations made here. Many do not need bills or laws implemented but there should be some entity to determine whether or not the recommendations are being followed up by other agencies and people. There should be a termination date for the next legislative session at the latest.

Specific Recommendations

The tables on pages 12 through 31 contain recommendations that rely on legislation, funding, budget authority, or production of this report for implementation or they are not appropriate for immediate implementation. Recommendations are divided into subject matter categories.

Some of the requested bills may not be introduced if committee members determine they are unnecessary, if they fail to be assigned a sponsor, or if members believe the problems addressed by the proposed legislation have been resolved.

A. Homeowners

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Amend the state fire policy statute (76-13-115) to make it clear that homeowners have responsibility for protecting their homes from wildland fires.	X	LC0479		

B. Wildland-Urban Interface: Land Use Planning, Insurance, Building Standards

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Local agencies and state agencies should study and consider moving toward the Australian concept of evacuations and protection of properties within regions of Montana.				
<p><u>Staff Comment:</u> In Australia, residents in fire safe homes who do not choose to evacuate early are encouraged to stay and shelter in place as the fire front moves over the home. See Appendix E.</p>					
2.	Create and fund pilot project for fuels reduction on state land in the wildland-urban interface -- use private contractors who then can be shifted to fire suppression when needed.	X	LC0477	X	X
<p><u>Staff Comment:</u> An appropriation of \$3 million in HB 2 would be needed to implement the program.</p>					
3.	Require insurance providers to offer discounts for insureds who maintain their homes and property to certain standards within a designated WUI.	X	LC0476		
<p><u>Staff Comment:</u> The standards under development in the rulemaking required to be completed by DNRC and DLI under 76-3-104(8) and 50-60-901, respectively, could be the standards for which incentives must be offered under this proposal.</p>					
4.	Give the State Auditor the authority to review all property insurance policies to make sure that insurance companies have in place an ongoing education, training, or premium incentives aimed at protection of homeowners' properties from wildland fires. This may include educational material, home inspections, or discounts for proper hazard mitigation and fire protection activities.	X	LC0475		
5.	Require insurance companies to notify their insureds of the best practices developed during DNRC rulemaking pursuant to 76-13-104(8) and encourage their implementation.	X	LC0474		

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
<p><u>Staff Comment:</u> Use of best management practices for timber sales and logging are the inspiration for this proposal. Section 76-13-101(2) states: "To achieve the conservation of natural and watershed resources, the legislature encourages the use of best management practices in timber sale planning, associated road construction and reconstruction, timber harvesting, site preparation, and related activities and establishes a process to ensure that information on best management practices is provided to owners and operators engaged in forest practices on private land."</p>					
6.	<p>Send a letter to insurance providers authorized to operate in Montana that FSC encouraging them to educate homeowners who live in the WUI how to properly maintain their property to minimize wildland fire risks.</p>				
7.	<p>Create a Montana Fire Management Easement Program to create an incentive-based voluntary way for landowners who take a series of defined actions to reduce the risk of catastrophic fire and to be compensated for taking those actions.</p> <p>To comply, a landowner must live within a wildland-urban interface area described or identified through a Community Wildfire Protection Plan. To qualify for the program, the landowner must:</p> <p>(a) agree to limit further residential development on the property to a maximum of one additional residence;</p> <p>(b) agree to work with a land trust and a professional forester or designated local fire official to site any new residence based on conservation values and fire protection priorities;</p> <p>(c) participate in a Montana Extension Forestry Forest Stewardship Workshop or work with a professional forester to create a Forest Stewardship Plan for the property;</p> <p>(d) comply with defensible space standards spelled out in the DNRC "Fire Protection Guidelines for Wildland Residential Interface Development";</p> <p>(e) build any new structures using firewise construction materials as adopted by the Montana Department of Labor and Industry. Structures must comply with Uniform Building Codes and Uniform Fire Codes.</p> <p>The enforcement of these construction/residential measures would be initially addressed by DNRC, the Montana Department of Labor and Industry and local fire officials. Land trusts would be responsible for annual monitoring and enforcement duties.</p>	X	LC0473	X	X

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
	A qualifying landowner would be eligible to receive an income tax credit.				
<u>Staff Comment:</u> There may be a need for FTE at DNRC and DLI to provide the enforcement and inspection. Local fire entities may also need funding to assist with these duties.					
8.	Require the Department of Labor and Industry to develop building standards for houses built within the WUI. DLI would have the inspection authority.	X	LC0472	X	
<u>Staff Comment:</u> (1) The rules being developed under 50-60-901 will provide a list of items for local governments to consider during subdivision review when determining whether wildfire hazards in a proposed subdivision can be overcome by construction techniques. (2) This proposal would also need to identify which entity would be responsible for delineating the WUI and require that delineation so everyone knows where this law is effective. The committee may want to consider the proposal applying to "high fire hazard areas" rather than the WUI, however, some entity will still need to be responsible for identifying those areas. (3) The committee may want to consider requiring modification and adoption of the International Urban Wildland Interface Code by DLI. This was among the original proposals considered by the WUI subcommittee.					
9.	Require definition of the WUI on a statewide level so that it is clear to all communities what constitutes a threat.	X	LC0480		
10.	Change the state fire policy statute (76-13-115) to make it clear that homeowners have responsibility for their own home protection from wildland fires.	X	LC0479		
11.	Send a letter to the state fire units and local fire units that urges them to make clear to homeowners and landowners what their capabilities are to fight fires and the types of fires they will attempt to suppress.				
12.	Allow local regulation/enforcement of mitigation measures in the WUI. (a) Authorize a local government to regulate and enforce fire mitigation measures such as vegetation management, use of fire resistant building materials. (b) It would be discretionary for local governments.	X	LC0478		

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
	<p>(c) If a local government chooses to implement this authority, it would be required to designate the area where these regulations would be in effect.</p> <p>(d) There would be no protest provision, but an appeals process and possible variance opportunity.</p> <p>(e) Incentives may encourage local governments to "opt in".</p>				
<u>Staff Comment:</u> Standards required could be those implemented in rule under 76-13-104(8) and under 50-60-901 and 50-60-902, pursuant to SB 51(2007).					
13.	<p>Grant funding for local prevention and mitigation programs.</p> <p>Appropriate money to DNRC from the general fund to use for a grant program. Local governments could apply for funding programs to:</p> <p>(a) help planning offices delineate the WUI;</p> <p>(b) target WUI homeowners with mitigation efforts;</p> <p>(c) establish and maintain prevention programs.</p>	X	LC0482	X	X
<u>Staff Comment:</u> The Western Wildland Urban Interface Grant Program, administered by DNRC, uses State Fire Assistance funding provided by the federal government as part of the National Fire Plan to assist people and communities in mitigating wildfire risk in the WUI. This proposal would use state funds for similar purposes.					
14.	<p>Authorize local governments to form a taxing jurisdiction to pay for fuel reduction projects and tax either through sales or property tax to protect their homes. Authorize local governments to use the revenue from an existing sales tax or any new local option tax for fuel reduction projects around communities.</p>	X	LC0481		
15.	<p>DNRC should provide regular updates of the list of communities at risk for wildfire (available on FSC's website at http://leg.mt.gov/fire) and identification of the top 10 highest-risk communities.</p>				
16.	<p>DNRC should institute a Montana Firewise month in June, during which special programs and educational events directed at property owners in the WUI would occur.</p>				

C. Funding for Fire Protection, Suppression, Fuel Treatment

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	The Appropriations and Finance and Claims committees should review this report, public comments made to FSC about DNRC's fire suppression program, and how the agency has responded to those comments as it reviews DNRC's budget.				
2.	State agencies that own or manage land should develop management plans for properties at risk of wildland fire.			X	
3.	Increase the statutorily-appropriated funding for emergencies and provide that the increase be used only for wildland fire; provide for ongoing fund transfers to the fire suppression account; remove the termination date for the fire suppression account; allow a certain amount in the account to be used for: (a) additional county co-op equipment; (b) fuels mitigation grant programs; (c) rural fire assistance matching grants for counties.	X	LC0503	X	X
4.	Increase the statutorily-appropriated funding for emergencies and provide that the increase be used only for wildland fire; extend the termination date for the fire suppression account and the statutory appropriation of that account.	X	LC0504	X	X
5.	Collection of fire protection funds should be made simpler and the collection problems associated with condominiums should be fixed.	X	LC0483	X	
6.	Remove the requirement in 76-13-207 that the total amount of assessments received by DNRC from landowners not exceed one-third of the amount specified in the appropriation for fire protection costs.	X	LC0502	X	X
<u>Staff Comment:</u> Revenue generated from assessments would continue to rise with increased parceling of forest land.					
7.	Create separate line item in HB 2 for the county co-op program, which should equal one-third of DNRC's fire program.				X
<u>Staff Comment:</u> Based on FY 10-11, that would be about \$800,000.					
8.	Fund acquisition of 25 more engines each year for the next 2 years of the biennium.			X	X

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
9.	Allow tribal fire departments to participate in county co-op program.	X	LC0484	X	X
10.	The Legislative Fiscal Analyst assigned to DNRC should provide the Finance Committee with regular updates on cost sharing agreements.				

D. Federal Forest and Wildfire Policy; State/Federal/Local Relations

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Allow DNRC, under certain circumstances pertaining to public health and safety, to engage in initial attack on all lands, regardless of jurisdiction, if a fire threatens to move onto state or private land.	X	LC0485		
<u>Staff Comment:</u> DNRC does have an agreement with federal agencies that allow for IA under certain circumstances.					
2.	Require DNRC to establish NEPA coordinating agency status [76-13-702(5)].	X	LC0486	X	X
3.	Appropriate \$200,000 to DNRC for the agency to establish NEPA cooperating and coordinating agency status.	X	LC0487	X	
4.	Resolution in support of the following NACo draft resolution (which was not adopted by NACo): "Adopted policy: The National Association of Counties calls on Congress to enact legislation granting a Governor authority to declare a crisis when the severity of fire danger from fuels on identified federal lands within that state pose a significant threat to public health and safety, or there would be a probable loss of homes and property if wildfires occur. Upon the declaration of a crisis, responsible federal agencies would fast-track a mitigation plan to reduce forest fuels. The mitigation planning would be excluded under the NEPA appeal process. Any claimant filing a court action against the plan would be required to post a damage bond of ten (10) percent of the value of the property that would be protected under the mitigation plan."	X	LC0488		
5.	Amend provisions of 76-13-701 and 76-13-702(7) to allow the state to intervene on any fuel loading conditions that it considers to be a significant threat to public health and safety.	X	LC0489		
6.	Amend the provisions of 77-5-216 to increase the percentage DNRC may exceed sustained yield on trust lands for forest health concerns from 5% to 10%.	X	LC0490		
7.	An appropriate legislative committee should be notified when a transfer of land from a federal agency to the state occurs that will result in more direct protection acreage for DNRC.				
8.	An amount of \$200,000 should be set aside as a line item in the Department of Justice's major litigation budget in HB 2 for the state to participate in certain lawsuits brought against federal agencies for forest management.			X	X

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
<p><u>Staff Comment:</u> SB 293 (2007), sponsored by Sen. Laible, gave DNRC the authority to intervene in litigation or appeals on federal forest management projects that comply with forest management policy and in which local and state interests are clearly involved. This is codified in section 76-13-702.</p>					
9.	<p>Joint legislative resolution to be forwarded to Montana's congressional delegation that the legislature intends federal fire policy be modified so that:</p> <p>(a) there is safe and aggressive initial attack on all federal lands where there is a potential for the fire to move to state or private land;</p> <p>(b) there be active engagement of the state, local government, and landowners in land and fire management operations;</p> <p>(c) the federal government be responsible for costs and resource losses for large fires for which no direct suppression action was taken or where the federal government shifts control actions onto state or private land; and</p> <p>(d) Forest road closures should be limited if closure restricts access for wildfire suppression.</p>	X	LC0491		
10.	<p>Prior to June 30, 2009, DNRC should develop an internal cost review process to ensure adequate review and concurrence on strategy and tactics for wildland fires for which the Wildland Fire Situation Analyses (WFSAs) alternatives indicate potential expenditures of over \$1 million.</p>				
<p><u>Staff Comment:</u> According to the USFS website (http://www.fs.fed.us/fire/wfsa/wildland_situation%20analysis.htm), a WFSAs "is required when the documentation of suppression decisions needs to occur – because one the following conditions have taken place: *Wildland fire escapes initial actions or is expected to exceed initial action. *A wildland fire being managed for resource benefits exceeds prescription parameters in the fire management plan. *A prescribed fire exceeds its prescription and is declared a wildland fire." "The purpose for completing a WFSAs is to convey to an Incident Management Team (IMT) the critical objectives and priorities as defined by an Agency Administrator for a given incident."</p>					
11.	<p>The federal fire agencies and Montana's congressional delegation should review and comment on the information provided to the committee by members of the public and comments made by committee members regarding federal management of wildland fire and federal lands.</p>				
12.	<p>The federal fire agencies should meet with local and state fire agencies and entities of local and</p>				

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
	state government every spring and fall to discuss fire prevention, protection of homes and private property, land and wildfire management, cost sharing, and compensation to private entities and local fire and emergency response agencies. If federal agencies do not initiate the meetings, the local and state agencies and other entities should do so.				

E. Local Government; Volunteer Firefighters

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Provide for special license plates and tax credits for volunteer firefighters.	X	LC0492		
<p><u>Staff Comment:</u> The Montana State Council of Professional Firefighters and the Montana State Fire Chiefs' Association have license plate designs under the Generic Specialty License Plate act.</p>					
2.	Provide tax incentives for volunteer firefighters and their employers	X	LC0493		
3.	Create grant program for volunteer fire departments.	X	LC0494		
4.	Allow leave for state employee volunteer firefighters for incident response.	X	LC0495		
5.	Allow a local government, through enforcement of a community decay ordinance, to engage in fuels treatment on land within the physical boundaries of the local government's jurisdiction but not under the local government's ownership.	X	LC0496		
<p><u>Staff Comment:</u> (1) A June 11, 1993, letter by Attorney General Joe Mazurek specifically addresses county commission authority to regulate land use upon federal or state lands (Appendix F).</p> <p>(2) Community decay is defined in 7-5-2110 and a local government's authority to control community decay is provided in 7-5-2111.</p>					
6.	Allow volunteer firefighters to participate in county government health insurance pool provided there is no fiscal impact to the county.	X	LC0497		
<p><u>Staff Comment:</u> A bill draft to implement the above proposal would likely amend section 2-18-701 to include volunteer firefighters in the definition of "employee". The definition applies only to Title 2, chapter 18, part 7 -- Group Insurance Generally.</p>					

F. Wood Products Infrastructure³

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Provide for a phased-in biomass tax credit, similar to Oregon's law, ORS Chapter 315.141 (Oregon Department of Revenue summary: Appendix G).	X	LC0498		
<u>Staff Comment:</u> The credit would go to the suppliers of biomass, not the purchasers (mills) of the biomass. The mills would receive the supply.					
2.	Amend 69-3-2003, definitions for the Montana Renewable Power Production and Rural Economic Development Act, to allow for a biomass generation facility with more total calculated nameplate capacity than is currently allowed.	X	LC0499		
<u>Staff Comment:</u> Section 69-3-2003(3) and (12) limit the megawatts in total calculated nameplate capacity and the location of the production facility. A biomass generation facility would use biomass collected from fuels reduction projects.					
3.	Revise license and registration fees for logging trucks so that they are the same as those for trucks used for agricultural purposes (61-10-206).	X	LC0505		
4.	Expand exemption on fuel tax for agricultural use to include logging trucks and other logging equipment.	X	LC0506		
5.	Allow oral (open) bidding on DNRC timber sales.	X	LC0507		
6.	Develop forest management plan for Fish, Wildlife and Parks land that includes mitigating beetle kill, wildland fire risk, and impacts to wildlife habitat.	X	LC0508		
7.	FSC encourages more utilization of non-saw log material--such as pulp logs and other residue--made available through state timber sales.				

³Items #3 through #12 in Section F originated in "Montana Wood Products Industry Initiative: Recommendations for Action, September 11, 2008", prepared by the Missoula Area Economic Development Corporation. The Fire Suppression Committee reviewed the document and adopted ten of the 17 Recommendations for Immediate Action.

The FSC has recommended (p. 10) that the 2009 legislative leadership appoint a select committee or a subcommittee of a standing committee to meet during the session and review legislative options for preserving and maintaining the state's ailing wood products industry. If creation of this committee or subcommittee appears likely, items #3 through #12 may not be introduced.

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
8.	Reduce business equipment tax on equipment used to transport, process, and harvest forest products; consider temporary property tax exemption for existing forest products facilities.	X	LC0509		
9.	Index DNRC timber sales to the market.	X	LC0510		
10.	The workers compensation process for the forest products industry should be reviewed to find ways to reduce costs and adopt an apportionment system for workers with prior injuries who file claims and evaluate rates compared to other states.				
11.	State revolving loan fund program to supplements private sources of financing that timber harvesters and wood processors could use to obtain working capital needed to maintain and modernize existing operations.	X	LC0511		
12.	The Forest Service should develop pilot projects for resource recovery that include multi-year timber sales, thinning projects, and removal of dead and dying timber.				

G. Contracting

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Recommend generally that the private contracting community and state, local, federal, and tribal fire suppression agencies maintain open communications and coordinate activities.				
2.	Recommend generally that the Northern Rockies Coordinating Group work with representatives from the private contracting community to increase the over-all efficiency of the equipment inspection process.				
<p><u>Staff Comment:</u> The subcommittee heard testimony that the state and federal fire suppression agencies will eliminate unnecessary inspections and that those agencies have pledged to increase the efficiency of the inspection process for future fire seasons.</p>					
3.	Recommend that the Northern Rockies Coordinating Group work with representatives from the private contracting community where possible to conduct joint training sessions.				
4.	<p>Recommend that Department of Labor coordinate with the Northern Rockies Coordinating Group to ensure that private contractors working on the fire lines are complying with the workers' compensation laws.</p> <p>Recommend that the State Fund and private insurance companies work with the fire suppression contracting community to ensure reasonable workers' compensation insurance rates.</p> <p>Recommend that the FSC write a letter to the Department of Labor and Industry and the State Fund requesting those agencies' involvement in solving these workers' compensation issues.</p>				
5.	Recommend FSC support for the current Northern Rockies Coordinating Group dispatch system that utilizes the closest resource concept that involves local governments, state, federal and private contracting resources that is most cost effective and efficient for the taxpayers and local communities.				
6.	Recommend that the fire suppression contracting community form at most, one or two associations (including the aviation contractors) to represent private contractors across the state and to provide one voice before the legislature and state and federal fire suppression agencies.				
7.	Recommend that the Montana Legislature and the federal fire suppression agencies increase the number of incident business advisors that are deployed on fires throughout Montana in order to improve the efficiency of deploying private contractors and tracking costs.				

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
8.	Recommend FSC support for the best value contracting process.				
9.	Recommend that the FSC send a letter to the Legislative Audit Committee requesting a performance audit of the Department of Natural Resources and Conservation's Aviation Program, including an evaluation of the need for additional helicopter managers.				
10.	DNRC should relay to the contracting section of the Northern Rockies Coordinating Group the concerns that contractors have expressed to the FSC.				

H. Miscellaneous Recommendations

	Recommendation	Bill Draft	Bill Draft #	Include in Legislative Budget Analysis	Include in House Bill 2
1.	Extend time limit on an emergency related to wildfire	X	LC0011		
2.	Request that the Montana Department of Transportation mow and maintain highway rights-of-way under its jurisdiction to minimize wildfire starts from vehicles.				
3.	Require training on mechanized fire suppression and fuels reduction equipment at Fire Services Training School (Title 20, chapter 31).	X	LC0501		
4.	Continue Fire Suppression Committee through the 2009-2010 interim, with a general fund appropriation of \$50,000, to follow up on recommendations contained in this report.	X	LC0500	X	

I. DNRC Budget Recommendations Provided by the Agency (in order of priority)

Priority # and Title	FTE	Annual Cost	One Time Only (OTO) Cost	Description	Projected Annual Savings or Benefits	Assumptions
1. Extend engine crews to 7-day coverage	7.0	\$ 260,000	0	Add or extend seasonal positions on DNRC engines to achieve 7 day full coverage. Operations funds (\$50,000) are included for equipment and fuel.	\$3.0 M	Prevent two 1000+ acre wildfires per year.
<p><u>Staff Comment:</u> The committee requested that the above item be approved by the Governor's Office of Budget and Program Planning (OBPP) for implementation during the 2008 fire season (Appendix D). The approval was provided by OBPP and these positions were created as modified for the 2008 fire season. The executive approved this item for submission into the budget process.</p>						
2. Extend aviation crews to 7 day coverage	6.79	\$ 469,246	0	Staff all helicopters with manager, crew, and fuel truck driver. Operations and capital of \$63,000	\$3.0 M	Prevent two 1000+ acre wildfires per year.
<p><u>Staff Comment:</u> The committee requested that the above item be approved by the Governor's Office of Budget and Program Planning (OBPP) for implementation during the 2008 fire season (Appendix D). The approval was provided by OBPP and these positions were created as modified for the 2008 fire season. The executive approved this item for submission into the budget process.</p>						
3. County Rural Fire Coordinators	2.0	\$187,000	0	Add a Rural Fire Specialist at the Northeastern and Southern Land Offices. Includes \$50,000 in capital and \$20,000 in operations.	Fire safety and improved coordination	
4. Fire Business Specialists	4.0	\$300,000	0	Two additional fire business staff for the Fire and Aviation Management Bureau and four half-time positions in field offices. Includes \$10k operations each.	\$750,000 in prevented expenditures.	Increased fiscal oversight during and after fire season operations, to work as incident business advisors and audit fire bills at fire season end.
<p><u>Staff Comment:</u> The committee requested that the above item be approved by the Governor's Office of Budget and Program Planning (OBPP) for implementation during the 2008 fire season (Appendix D). The item was not approved by OBPP.</p>						
5. Operations Section Supervisor	1.0	\$95,000	0	Operations Section Supervisor to assist Fire and Aviation Management Bureau Chief. Includes \$20k	Firefighter safety and	

Priority # and Title	FTE	Annual Cost	One Time Only (OTO) Cost	Description	Projected Annual Savings or Benefits	Assumptions
				capital and \$10k operations.	coordination of DNRC fire program.	
<p><u>Staff Comment:</u> The committee requested that the above item be approved by the Governor's Office of Budget and Program Planning (OBPP) for implementation during the 2008 fire season (Appendix D). The item was not approved by OBPP. However, through the re-direction of currently approved FTE, the position was filled in July of this year.</p>						
6. Fire Safety Specialist	1.0	\$85,000	0	Safety and investigation specialist for the Fire and Aviation Management Bureau. Includes \$20k capital and \$10k operation.	Firefighter safety	Increased focus on fire line and aviation safety and investigations.
<p><u>Staff Comment:</u> The above item was an action item resulting from a 2007 DNRC aviation safety investigation.</p>						
7. Dispatch Center Staff	4.25	\$160,000	0	Augment existing and add additional dispatch positions at all land offices.	Firefighter safety and equity with federal agencies	Increased representation in interagency dispatch centers to assure distribution of firefighting resources to state and local government fires.
<p><u>Staff Comment:</u> The committee requested that the above item be approved by the Governor's Office of Budget and Program Planning (OBPP) for implementation during the 2008 fire season (Appendix D). The item was not approved by OBPP.</p>						
8. County Engines	0	0	\$1,000,000	One-time additional development of 20 new county co-op engines to augment the Equipment Development Center's annual development of 15 engines.	\$500,000	Prevent one 5,000+ acre fire in eastern Montana each year. Increased safety by removing old equipment from the field.

Priority # and Title	FTE	Annual Cost	One Time Only (OTO) Cost	Description	Projected Annual Savings or Benefits	Assumptions
9. Fuels Mitigation Fund	0	0	\$1,000,000	Cost-share assistance to private landowners within the WUI to reduce fuels around home sites consistent with priorities in Community Wildfire Protection Plans. Estimated treatment of 1500 home sites.	\$500,000	Prevent one 500 acre fire and one home from loss due to wildfire. Reduced extreme fire behavior, losses and cost from fire on treated private lands.
10. Aircraft Hangars	0	0	\$700,000	Construct aircraft hangars in Kalispell and Missoula for DNRC aircraft. (Long Range Planning request)	\$700,000	Security from weather and vandalism and adequate maintenance facility in the field.
<u>Staff Comment:</u> The above item is a Long Range Planning request.						
11. Communication System Support	2.0	\$280,000	0	Two communication technicians to provide service to the current system. Includes purchase of vehicles, training, and operating costs.	Firefighter safety	Increase management of existing radio network to improve system reliability.
12. Type 3 Incident Management Team Development & Support	0	\$300,000	0	Provide support via training, equipment and vehicles.	\$500,000	Prevent one Type 2 IMT deployment per year. Improved success in extended attack, reduced costs and losses.

Priority # and Title	FTE	Annual Cost	One Time Only (OTO) Cost	Description	Projected Annual Savings or Benefits	Assumptions
13. Eastside Capital and Mobile Kitchen	0	\$115,000	0	Increase in one additional truck purchase per year for eastside land offices and provide support of state mobile kitchens.	\$250,000	Prevent one national caterer mobilization per year. Ensure readiness of state mobile kitchens.
14. Federal Excess Property Acquisition Staff	1.0	\$135,000	0	One person to screen federal excess property as well as Department of Defense for parts and equipment.	\$100,000	Cost savings from five federal excess vehicle vs. purchase of new vehicles. Increase capacity for state and local programs through excess equipment procurement.
15. Twenty Person Type 2 Initial Attack Crew	10.0	\$680,000	0	Development of a Type 2 team for DNRC use. Includes vehicles, equipment and training costs.	\$1.5 M	Prevent one 1500 acre fire by enhanced initial attack effectiveness and saving on contract or severity costs.
16. Additional helicopter and crew	4.0	\$112,000	\$325,000	Funding to develop a MT 205 helicopter, hire seasonal pilot and support crew.	\$750,000	Prevent one 1500 acre fire per year by increased initial attack effectiveness.

J. DNRC Budget Recommendations Provided through Public Comment (not prioritized)

Recommendation # and Title	FTE	Annual Cost	One Time Only (OTO) Cost	Description	Projected Annual Savings or Benefits	Assumptions
1. Continued Support of Volunteer Fire and Rural Fire Assistance Grants	0	0	0	Pass through grants from federal sources.	Increased resources	Provides support for training and equipment to rural fire and volunteer fire departments.
<p><u>Staff Comment:</u> The above item is currently funded with federal dollars only. Should the legislature wish to expand the program by adding a state appropriation, the fiscal impact would be that amount.</p>						
2. Helicopter for eastern Montana based in Miles City	4.0	\$112,200	\$325,000	Funding to develop a MT 205 helicopter and hire seasonal pilot and support crew for stationing in Miles City.	\$500,000	Prevent one 5000 acre fire by enhanced initial attack effectiveness.
3. Additional staff in Northeastern and Eastern Land Offices	2.0	\$210,000	\$60,000	Funding to support two additional FTE for increased local support for fire prevention activities and training. OTO funding for vehicles for FTE.	Improved local coordination.	Increased state presence to aid in coordination of local resources with state and federal resources.
4. Eastern Montana Training Coordinator	1.0	\$105,000	\$30,000	Funding to provide a training coordinator for eastern Montana. OTO funding for vehicle.	Improved local coordination, firefighter safety.	Local training for local fire personnel

Chapter Five Areas of Study

Controversy surrounds what the human reaction and response to wildland fire should be, but certain facts about the wide-ranging effects of mammoth burns a century ago, the current interaction among governmental land and wildfire management agencies, how fires are paid for, where people choose to live, and the economics of the fire contracting and wood products industries provide the backdrop for the ongoing crossfire.

Although not articulated in HB 1, the legislature's study assignment to the Fire Suppression Committee necessitated familiarization with a universe of the wildfire-related concepts and an understanding of the diverse perspectives that wildfire and its impacts engenders.

1910: A Perfect Firestorm

Fire is defined in the Random House Dictionary of the English Language as "a state, process, or instance of combustion in which fuel or other material is ignited and combined with oxygen, giving off light, heat, and flame." Fuel, oxygen, and heat are the three elements necessary for combustion to be initiated and sustained. A fire cannot thrive without all three. And when the three elements conspire to the extreme, a fire doesn't just thrive, it rages.

The hellish summer of 1910 provides a grim reference point by which all wildfire seasons in the American West have since been compared. It was the year of the Great Fires and the Big Blowup. "Great" and "big" are not the most vivid adjectives one can use when describing fires of this intensity, but it may be that no other descriptor could do the events justice. "The big fires of 1910 became Great Fires," writes Stephen J. Pyne, "because they grew out of an extraordinary cultural context. Wind, drought, and woods collided with bureaucracies, railroads, political scandal, pioneering, ideas about nature, and reformist zeal".⁴

The Great Fires tore through Idaho and Montana⁵ from early July through early September. Blazes caused by settlers, loggers, prospectors, trains, and dry lightning flared across the Northern Rockies, were tamped down, and flared again as the dry heat of July and August persisted. Crews built hundreds of miles of fire line and set hundreds of backfires. Forest Service ranger and grazing specialist A.H. Abbot's field journal entries⁶ provide a glimpse into the daily grind of the firefighting effort near St. Regis in the days before the Big Blowup:

⁴ Stephen J. Pyne, *Year of the Fires: the Story of the Great Fires of 1910*, (New York: Viking, 2001), 3.

⁵ Numerous fires burned in all of the Western states in 1910, but the largest and most devastating took place in Northern Idaho and Northwestern Montana.

⁶ The journal entries appear as quoted in Pyne's book.

Aug. 3--Worked all day fighting fire at 12 Mile Gulch.
Aug. 4--Fought fire all day 12 Mile Gulch. Got it under control. Approx 3 mile fire line.
Aug. 6--Met Guard Spalding fought fire all day. Got meals and stayed at section house in even.
Aug. 7--Started out to fight fire. Sprained ankle.
Aug. 8--Went back to Beals.
Aug. 9--Piled lumber. Started back with a crew to tunnel 8 fire.
Aug. 10--Went with Crew up to fire. Went back for more men.
Aug. 11--Went to St. Regis for supplies and another crew. Went out for men and took a record crew to Tunnel 8 Fire.
Aug. 12--Got out to fire with men. Started building trails, etc.
Aug. 13--Fought fire.
Aug. 14--Fought fire.
Aug. 15--Fought fire.
Aug. 16--Fought fire.
Aug. 17--Fought fire.
Aug. 18--Fought fire and got it under control.
Aug. 19--Fought fire.

On August 20, violent winds heralding a cold front raked the region. Fuel, oxygen, and heat were in abundance, the backfires set to combat the blazes became monsters themselves, and for two days the Big Blowup blew up. Horrific stories abound about residents of Wallace, Idaho, fleeing in panic as the wind-driven flames roared down the mountainsides into their village; streams turning red and alkaline, too hot to drink; bats emerging in midday confused by the smoky darkness; fire crews consisting of rangers, the military, lumberjacks, miners, hoboes, and drifters seeking shelter in adits, caves, cabins, and cellars, some suffering dreadful, suffocating deaths. Photos depict mountainsides laid waste by fire and wind, described by one witness as "a charred and smoking mass of melancholy wreckage."⁷ By the time rain began to fall across the region on September 4, more than 80 firefighters were dead, 2,595,635⁸ of national forest land had burned, and the smoke plume tinted the sun as far away as Boston.

Nearly a century later, the physical impact of the Great Fires is still visible in the forest. A highway marker atop Lookout Pass describes the 1910 firestorms and explains to vacationing families who stop to admire the view why a close look at the distant hillside reveals a mosaic of vegetation. The Great Fires also spurred an intensive examination of fire and land management

⁷ Firefighter Joe Halm, as quoted by Sherry Devlin in "Mountains of Fire", a story in a series on the 1910 fires published in 2000 by the *Missoulian*: <http://www.missoulian.com/specials/1910/index.html>.

⁸ This figure does not include the private land, tribal land, national park land, or other public land. Pyne estimates a true count of the acres burned would double that number.

policies. History shows that people had long used fire as a means to drive game in a certain direction or clear land for homes or crops or to encourage growth of useful plants. Now to many, fire had become the enemy--a demonic force to be squelched at all costs.

Policies⁹ have come and gone and come back again, and there are many shades of gray in the ashes, but the basic opposing perspectives of fire as beneficial versus fire as the enemy remain and form the basis of the debates that, in the face of increasingly extreme and costly wildfire seasons, have blown into the legislative arena.

Federal, State, Local Agency Relations

Appropriate Management Response

During the wildland fires of 2007, the term "Appropriate Management Response" (AMR) became the center of a new debate. While the term itself has been around for quite some time, its use came to the forefront when the USFS chose to engage in less than full suppression action on the Ahorn and Meriwether fires, both of which had ignited in wilderness areas.

In a July 2007 document prepared by the USFS entitled "Appropriate Management Response Summary for the Northern Rockies", AMR is defined as "any specific action taken in response to a wildland fire suitable to meet protection OR fire use objectives described in the fire management plan."¹⁰ The document states:

All unplanned wildland fire ignitions require an Appropriate Management Response (AMR). The AMR, which can range from aggressively suppressing a wildland fire to managing an incident as a wildland fire event, is guided by the strategies and objectives outlined in the unit Land and Resource Management Plan reflecting land and resource values, management goals and objectives. The unit Fire Management Plan (FMP) outlines fire management activities and procedures to accomplish those objectives. The objective of a wildland fire use project is to obtain resource benefits, whereas a wildfire is to be extinguished at the most efficient cost.

The Appropriate Management Response is based on an evaluation of risks to firefighter and public safety, land and resource and fire management objectives, resource availability, the circumstances under which the fire occurs, including weather and fuel conditions, protection priorities, values to be protected, and cost effectiveness.

The document stresses that this is not a new concept, is not a "let burn" policy, and is not strictly driven by costs.

⁹ One federal policy referred to at FSC's meetings that has gone by the wayside as suppression strategies have changed is the 10 a.m. Policy, adopted in 1935. The policy reflected a burgeoning federal emphasis on fire control regardless of the circumstances. The 10 a.m. Policy provided that all fires were to be controlled by 10 a.m. after first reported. "Failing [an aggressive initial attack] effort," the policy reads, "the attack each succeeding day will be planned and executed with the aim, without reservation, of obtaining control before ten o'clock the next morning." In 1971, the meaning of the 10 a.m. Policy was changed to require that all fires be extinguished before they reached 10 acres. Perhaps realizing that the change negated the policy's original intent, the Forest Service dumped the 10 a.m. Policy for good in 1978.

¹⁰ Document found at: <http://www.fs.fed.us/r1/fire/nrcg/BulletinBoard/AMRsummary.pdf>

The actions associated with implementing AMR created some confusion on the front lines of the firefighting effort. As part of the agency's review of the 2007 fire season, DNRC documented the problems fire managers and firefighters encountered with AMR. The agency presented the report in draft format to the Infrastructure subcommittee in January and in final format to the FSC in February (Appendix H). The committee in turn asked the USFS to respond to the document, which the USFS did in July 2008 (Appendix I).

The DNRC's AMR document and the USFS's response demonstrate the agencies' divergent approaches to wildland fire and forest management. As directed by statute, the DNRC is a full suppression agency that does not use wildland fire as a forest management tool. The USFS has an array of options under AMR, from full suppression to wildland fire use to accomplish forest management objectives. The committee learned through agency and public testimony that the public is often unable to determine which agency has lead on a particular fire and why certain decisions are being made. The committee requested that both agencies improve their communication with the public before, during, and after each fire season.

Local fire agencies also weighed in on AMR and what implementation means to their operations. A position paper presented to the FSC by the Montana State Fire Chiefs' Association and the Montana County Firewardens Association states that "local fire agencies have concerns that [AMR] is a let it burn policy that directly impacts the communities and towns in Montana."¹¹ The paper maintains that the AMR message is inconsistent in the following ways:

- Safety is our first concern but it will force local and state fire agencies to operate independently.
- Doing a better job of managing fires but let more and larger fires burn.
- Providing point and perimeter protection for communities while removing the funding and suppression tools to do so.
- Holding homeowners accountable for the costs of fires that start on overgrown federal forests, but do no management on those forests.¹²

The paper concludes that AMR "has little to do with the safety of firefighters. It is a mechanism for federal land and financial management and a means for those agencies to transfer the costs of their fires to state and local agencies."¹³

¹¹"Wildland Firefighting and Structure Protection in Montana--Position Paper"; Montana State Fire Chiefs' Association and Montana County Firewardens Association, 2008.

¹²Id.

¹³Id.

Structure Protection

The ability for wildland fire agencies to fight fire in the wildland urban interface (WUI) has become more difficult as people continue to subdivide land to build more homes in the WUI. The committee grappled with the question that hounds fire managers during the wildland fire season: Which agency is responsible for structure protection during a wildland fire incident?

In an attempt to clarify the responsibilities of structure protection, the agency membership of the Northern Rockies Coordinating Group (NRCG) published "Community and Structure Fire Protection" in April of 2008 (Appendix J). In this document, the agencies clearly express that their primary intent is to keep the firefighters and the public safe. Once safety is ensured, the agencies will "aggressively work towards keeping the wildland fire away from structures and communities" but "[p]rotecting structures from fire will not be possible in every situation." Structure protection measures must be cost-effective and, the document provides, "[s]tate and federal agencies will limit the use of tactics such as gelling, wrapping, extensive hazardous fuels modification, and utilization of Type 1 and 2 structure engines."

While the agencies pledge to engage in structure protection as risks and circumstances allow, they also maintain that "[w]ildland fire agencies have no capability or responsibility to do structure fire suppression."

DNRC provided guidelines to its own line officers to further clarify the agency's structure protection responsibilities for the 2008 fire season (Appendix K). FSC reviewed the guidelines and discussed them with DNRC staff at its meeting in Miles City on May 30.

Through the Fire Chiefs' and Firewardens Associations, local fire agencies criticized the NRCG policy as being "just plain wrong" and contrary to DNRC's statutory mission to provide fire protection. Local agencies predicted that implementation would drive a wedge between the state and local fire entities that were supposed to be cooperating to protect Montana citizens and property.

Agency Coordination

The Infrastructure subcommittee studied the coordination required to successfully operate a fire suppression program in Montana. This activity led to the discussion of coordination of forest management issues among interested local stakeholders and agencies. Discussion of both items follows.

Fire Suppression:

The number of entities involved in fire suppression requires intensive coordination year-round. The six-party agreement outlines the ability of the DNRC, USFS, Bureau of Land Management, National Park Service, Bureau of Indian Affairs and the U.S. Fish and Wildlife Service to share resources, including personnel, equipment, supplies, services, and funds. The agreement is

implemented under the auspices of the NRCG. The six party agreement is a 20+ page document and is available at http://www.fs.fed.us/r1/fire/nrcg/Op_plans/05_MT_Coop_Agreement.pdf

The NRCG is the interagency focal point for coordinating the mobilization of resources for wildland fire, wildland fire use, prescribed fire and other all-hazard incidents throughout the Northern Rockies and, when necessary, for assignment elsewhere in the United States. Located in Missoula, Northern Rockies Coordination Center also provides "intelligence and predictive services"-related products to support wildland fire managers and firefighters in Northern Rockies in the decision making process.¹⁴ Agencies participating in the six-party agreement provide financial support to the NRCG.

Local fire forces are made available to the federal agencies through DNRC. Cooperative fire agreements are negotiated with the state to provide for continuity and ensure proper assignment of responsibility in accordance with Montana state law. This prevents the local fire forces from having to negotiate agreements with all federal entities.

Forest Management:

The Infrastructure subcommittee also explored coordination of forest management activities.

Two projects were showcased to the subcommittee. The Montana Forest Restoration Committee is a diverse collaborative working group that has established principles for forest restoration activities that provide for early constructive engagement of wide community interests to facilitate on-the-ground work in a timely manner. The committee is undertaking pilot efforts to test the principles its members have agreed upon. Membership and additional information can be found at: <http://www.montanarestoration.org/home>.

The second effort examined was the Beaverhead-Deerlodge Partnership. This partnership formed to address the perceived shortcomings of the Beaverhead-Deerlodge Forest Management Plan. Partnership members--including the National Wildlife Federation, Montana Trout Unlimited, Pyramid Mountain Lumber, Smurfit-Stone, Montana Wilderness Association, RY Timber, Sun Mountain Lumber, and Roseburg Forest Products--worked with recreation interest groups to create a strategy for forest management. This strategy transformed into a draft congressional proposal, The Beaverhead-Deerlodge Conservation, Restoration and Stewardship Act (BDCRSA). The draft legislation seeks to designate and implement a stewardship plan that would be funded with stewardship dollars that remain within the designated forest. A copy of the BDCRSA is located in the appendix of this report (Appendix L).

¹⁴<http://gacc.nifc.gov/nrcc/index.htm>

A common theme in collaboration discussions was the inability of landowners to assure that neighboring landowners, be they private or public, would manage land in an appropriate fashion. Without such contiguous management, the efforts of some will be negated by the lack of efforts of others.

Representative Vincent outlined his view of the challenges of coordinating among all of the interested parties in written remarks to the committee regarding forest management collaboration in Lincoln County (Appendix M).

The collaboration process and what is considered to be appropriate management, however, are subjects that are as hotly contested as any that surround wildland fire and its impacts. Rep. Vincent's comments were quickly countered in an email to the committee (Appendix N) and in testimony provided at the FSC's meeting in Hamilton by the WildWest Institute, an organization that has participated in forest management groups and that is intensely involved in forest management projects in Montana.

FSC's final recommendations indicate the committee's support for the concept of the state and local governments becoming more involved in federal forest management planning.

Funding Wildland Fire Suppression

The Infrastructure subcommittee studied the business side of fire suppression through review of appropriation history, average costs, and the cost settlement process. Part of this process included the review of the DNRC Forestry Division's budget to gain an understanding of the funding methodology and costs of being prepared for wildland fire.

How it's Done

The DNRC provides wildland fire suppression services for the 5.6 million acres of land under the agency's direct protection. Other entities such as local government, the USFS, and the Bureau of Indian Affairs also provide direct protection services for unincorporated or tribal lands.

To leverage resources, the entities work together to suppress fires. Initial attack services are provided by the direct protection agency. However, if initial attack efforts do not suppress the fire in 24 hours, the fire moves to extended attack status and an incident management team is assigned to the event. Incident Management teams are composed of fire professionals from various state and federal agencies. The incident commander has the responsibility to implement the plan of action. The plan could be direct suppression or wildland fire use, whereby fire is used to manage the landscape. The plan also includes everything from personal services to fire equipment needs to catering.

When fire season is over, the DNRC has the responsibility of processing fire bills. The agency must determine what costs are billable to the federal or local partners, what costs could be

covered under a Federal Emergency Management Act (FEMA) declaration, and the amount of the remaining balance. The remaining balance is ultimately the cost to the state.

Prior to the September 2007 special session, the legislature had not provided up-front appropriation authority for the state share of suppression costs. Instead, DNRC was required to utilize general fund appropriations provided for another reason, such as water resources work, to enable the department to fund as much of the cost as possible until such time the legislature convened to provide supplemental appropriation authority. When DNRC must use appropriations for other purposes, the department is placed in the position to slow the work towards the agency's mission due to the temporary need to divert appropriation authority to cover the cost of fire.

The September 2007 special session provided the appropriation of funds for the 2007 fire season as the agency did not have enough appropriation authority within its total budget to cover fire costs until the legislature convened in regular session on January 5, 2009. The special session resulted in \$42 million in appropriation authority for FY 2008 and the establishment of a fire suppression fund for FY 2009 costs via a general fund transfer of \$40 million.

Cost of Fire

The Legislative Fiscal Division calculates the average by utilizing the previous seven years of data, removing the high and low seasons, and dividing by five. Because of the severity of the last two seasons, including FY 2008, a moderate season was rolled off the seven year stretch and the severe season of FY 2004 was rolled into the average. This season represents the seven year high in all total costs and the state share. The Figure below demonstrates the calculation.

Average Cost of Fire Suppression				
Fiscal Year	Total Cost	Reimbursements	Net Cost to State	
2003	6,710,688	4,684,927	2,025,761	30%
2004	79,579,965	44,582,841	34,997,124	44%
2005	3,969,096	989,945	2,979,151	75%
2006	8,302,312	3,240,042	5,062,270	61%
2007	61,000,318	21,290,928	39,709,390	65%
2008	81,544,805	31,544,805	50,000,000	61%
2009	8,474,127	2,489,460	5,984,667	71%
7 year average	34,443,883	15,190,498	19,253,385	56%
5 year adjusted average	\$ 32,813,482	\$ 12,650,032	\$ 17,746,520	54%

Reimbursements from Other Parties

Cost share agreements document the financial responsibility for incident costs. The agreements are traditionally prepared for multi-jurisdictional incidents where the decision has been made to share resources. The DNRC line officer is responsible for the cost share process including negotiation and oversight on behalf of the state. Cost share agreements can be adjusted as incidents grow or include additional jurisdictions. DNRC's Fire and Aviation Bureau managers review cost share agreements prior to signature if time allows. This was the case for FY 2008 fires, except for Jocko Lakes, Brush Creek, Black Cat and Chippy Creek which due to size and complexity were sent to a cost negotiation team consisting of representatives from DNRC, USFS, and the Bureau of Indian Affairs.

Previously, cost sharing had been based on the number of acres burned in within an agency's direct protection area. However, due to changing wildland fire tactics and the availability of additional data, the 2007 cost negotiation team had available to it five other options for cost settlement:

- you order you pay;
- cost apportionment;
- miles of control line;
- percent of perimeter miles; and
- equal share.

The options are described in the document "Fire Suppression - Cost Settlement Options" (Appendix O).

State Share of Fire Costs

As noted above, the state share has historically been paid from a general fund supplemental appropriation made to DNRC after a fire season has concluded. Over time, numerous attempts by legislators to change the timing or source of funding have failed. HB 3, enacted during the September 2007 special session, created and funded a fire suppression account and placed on it a termination date of June 2009.

The termination provision and dissatisfaction among some members of the committee with the way wildfire suppression has historically been funded prompted the subcommittee to discuss a number of different options. If a certain amount of money was set aside before the wildfire season and no other source of funds was authorized, some members argued, the amount of taxpayer money used would be limited to that amount and everyone would know before fire season how much was available to spend. An after-the-fact appropriation of whatever amount the season ends up costing is viewed by some as a blank check with no limitations. Of course, simply capping the spending would present a number of challenges to the state fire agency, not the least of which is: What happens in an extreme season when the fires last longer than the money? Do DNRC firefighters simply hang up their pulaskis, go home, and hope it rains?

Specific funding options FSC explored include::

- biennial, restricted one-time-only appropriation of \$10 million in HB 2;
- removing the sunset on the fire suppression fund and creating an ongoing funding mechanism; or
- establishing ongoing funding from sources that benefit from fire suppression activities.

The Cost of Being Prepared

To fulfill its statutory direct protection obligation¹⁵, DNRC's Forestry Division is funded with a combination of general fund and fire protection fees. In addition, the department receives federal resources for specific activities such as support for rural and volunteer fire departments as well as fuel reduction. A summary of ten years of appropriation authority is included in the appendix (Appendix P).

The subcommittee reviewed the current staffing and resource patterns of the division as well as future needs of the division given the increasing number of homes being built in the wildland urban interface and the struggles of rural and volunteer fire departments. At the request of FSC's chair, DNRC gave the subcommittee a critical needs list including staffing, equipment, and financial resources that will be necessary to maintain services and enhance firefighter safety in the face of longer, hotter wildfire seasons. The subcommittee and later the full FSC voted to endorse this list. The list is contained in Section I of the recommendations, beginning on page 27. FSC's fiscal staff prepared an analysis of the list (Appendix Q). The analysis discusses the need for, scope of, and potential funding problems associated with the recommendations.

Who Pays What

The DNRC receives general fund and forest protection fees to fund fire protection activities. Section 76-13-213 limits the collection of the fee to one-third of the total appropriation for fire protection. The maximum allowed by statute (Section 76-13-201) is \$45.00 per landowner in a protection district and an additional \$0.25 per acre for every acre in excess of 20 acres. Section 76-13-213 provides that 60 percent of the total fee be collected from small forested land owners, or those owning less than twenty acres. The current rate of \$41.65 and \$0.22 per acre over 20 acres raises approximately \$3.2 million.

The subcommittee reviewed the status of the fee and the limitations of the cap currently contained in statute. The potential alternatives to the fee are contained in Section C of the recommendations (Funding for Fire Protection) in this report. A discussion of the fees, entitled "Fire Protection Fee", is provided in the appendix (Appendix R).

¹⁵There is often confusion between funding for fire suppression and for fire protection. To clarify, fire protection involves preparation, staffing, and resources. Those items appear in DNRC's budget and fire protection fees provide some of the funding. Fire suppression costs are the costs negotiated after a fire is extinguished and are funded by the state general fund.

Local Government and East Meets West

County Cooperative Program/Engine Replacement

The Infrastructure subcommittee reviewed the county co-op program to understand the relationship between DNRC and local fire agencies. DNRC's Equipment Development Center builds Type 6 fire engines for distribution to the counties. These engines are loaned to the counties, maintained by the counties, and inspected by DNRC land office mechanics. These engines are used in both initial and extended attack activities. Other equipment developed for the county fire departments are pumps, water tenders, Types 5,4, and 3 fire trucks, and trailers set up for communications and generators.

Both the Infrastructure subcommittee and the FSC heard public comment on the benefits of this program and many requests to increase the number of engines produced annually to reduce the number of aging and at times, unreliable fire equipment currently in use. Members saw for themselves the differences in aged versus newer equipment at the May 16 meeting in Lewistown, where Fergus County and DNRC displayed a 40-year old truck still being used, a brand new truck, and everything in between.

At the August 20th meeting in Choteau, the committee directed staff to write a memo to Budget Director David Ewer requesting that \$1.25 million from the fire suppression fund be utilized to build an additional 20 Type 6 fire engines (Appendix S). On September 4th, the committee was notified of Director Ewer's decision to allow DNRC to purchase 25 vehicle chassis for redevelopment into Type 6 engines for distribution to the counties (Appendix T).

Volunteer Firefighters

While money and equipment go a long way toward helping local fire agencies maintain and enhance their initial attack capabilities, a deficit that remains and threatens to worsen is the number of firefighters willing and able to serve. Representatives of local fire agencies attended all of the FSC's meetings around the state, but participated in particularly high numbers at the Lewistown and Miles City meetings. Local firefighters told committee members that an aging population, the length of time it takes to become a skilled firefighter, and a reluctance on the part of some employers to allow employees time off to respond to wildfire incidents are all contributing to the staffing shortfall. In response, the committee agreed to back measures to provide incentives for volunteer firefighters and their employers.

Regional Differences

Thanks in part to the committee's visits to Lewistown and Miles City, members learned of the striking differences between eastern and western Montana in land ownership and management, wildfire behavior, and resources that are of value to the public. In Miles City, a local firefighter told the committee about a grass fire he had responded to that was threatening a home. The homeowner told the firefighters that he didn't care about the house; it was insured. He pleaded with firefighters to save his grass, the grazing value of which was much more important.

Appendix U, provided to the committee in Miles City by DNRC's Eastern Land Office area manager, highlight the regional differences from the agency's perspective.

Wildland-Urban Interface (WUI)

Definitions and use of the term

There is general acceptance of the definition of the WUI found in the National Wildfire Coordinating Group's 2005 Glossary of Wildland Fire Terminology:

The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

The 2007 Legislature recognized the need to provide a statutory definition of the WUI as it required DNRC to adopt rules specific to development in these areas and enacted a state fire policy. The definition contained in 76-13-102(16) reads exactly as the above definition. The term as defined for Title 76, chapter 13, parts 1 and 2 of the MCA is used in the following sections.

- **76-13-104. Functions of the department [of Natural Resources and Conservation] -- rulemaking.**

(8) By October 1, 2008, the department shall adopt rules addressing development within the **wildland-urban interface**, including but not limited to:
(a) best practices for development within the **wildland-urban interface**; and
(b) criteria for providing grant and loan assistance to local government entities to encourage adoption of best practices for development within the **wildland-urban interface**.
- **76-13-115. State fire policy.**

The legislature finds and declares that...
(8) development of fire protection guidelines for the **wildland-urban interface** is critical to improving public safety and for reducing risk and loss.

Three sections outside of Title 76, chapter 13, parts 1 and 2 also reference the WUI.

- **76-1-601. Growth policy -- contents.**

(3) a growth policy must include...
(j) an evaluation of the potential for fire and wildland fire in the jurisdictional area, including whether or not there is a need to:
(i) delineate the **wildland-urban interface**; and
(ii) adopt regulations requiring:
(A) defensible space around structures;
(B) adequate ingress and egress to and from structures and developments to facilitate fire suppression activities; and
(C) adequate water supply for fire protection.

- **76-13-702. Duties -- authority.**
To implement the [sustainable management of public forests] policy of 76-13-702, the department of natural resources and conservation:
(3) shall promote forest management activities within and adjacent to the **wildland-urban interface** and promote the implementation of community wildfire protection plans;
- **77-5-215. Definitions.**
(4) "Forest health concerns" means issues that can be addressed through management or harvest of merchantable or nonmerchantable trees and includes:...
(b) **wildland-urban interface** areas where timber harvest or forest management is necessary to prevent catastrophic or other damage to forested lands, livestock, buildings, or other infrastructure;

Prior to the 2007 legislative session, the term "wildland-urban interface" did not appear in the Montana Code Annotated.

The term assumes a more specific meaning as defined in the 2003 Healthy Forests Restoration Act. Congress intended the Act in part to reduce wildfire risk to communities by allowing prioritization of federal funds to fuels reduction near communities. Under the Act, if a community chooses to adopt a Community Wildfire Protection Plan (CWPP), the community may, through an established process, designate the WUI to suit its own needs. If CWPP is not adopted, the WUI is determined as provided in the following definition.

- (16) WILDLAND-URBAN INTERFACE. -- The term "wildland-urban interface" means--
- (A) an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or
 - (B) in the case of any area for which a community wildfire protection plan is not in effect--
 - (i) an area extending ½-mile from the boundary of an at-risk community;
 - (ii) an area within 1½ miles of the boundary of an at-risk community, including any land that--
 - (I) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;
 - (II) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or

(III) is in condition class 3^[16], as documented by the Secretary in the project-specific environmental analysis; and
(iii) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.

Neither the state nor the federal use of the term is for the purpose of imposing regulation on property owners who live within the WUI. The WUI subcommittee and FSC considered various proposals to:

- require certain vegetation management and building standards for residents of a defined WUI;
- give local governments specific authority to regulate development and require certain standards within a designated WUI;
- require insurance companies to offer premium incentives for property owners within a designated WUI;
- require insurance companies to educate property owners within a designated WUI about best practices for building on and maintaining property that reduce the risk of fire.

FSC also considered proposals for providing incentives to property owners who maintain their structures and property in a manner that reduces the risk of wildfire.

Implementation of either kind of law (regulatory or incentive-based) would have to include as a key component identification of the WUI beyond the definition provided in 76-13-102(16), which does not include discussion of relative wildfire risks associated with different landscapes and vegetation types. Whatever entity becomes ultimately responsible for delineation of the WUI, that process must occur--and the entity must consider as a factor the potential for wildfire in these areas--so that every property owner knows whether his or her property lies within or outside of the area to which the regulation or incentive applies.

Through development of CWPPs, which are community-driven, many counties have defined where the WUI is within their jurisdictional boundaries. Again, however, those communities were contemplating prioritization of federal fuels reduction funds, not potential regulation, when identifying the WUI.

¹⁶ Condition class 3 is described in the USDA Forest Service's Rocky Mountain Research Station April 2002 report: *Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management as:* "Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.

Much of the WUI debate has centered around whether use of fire-safe building materials, managing vegetation, and providing adequate access and water should be voluntary on the part of the property owners and communities or whether a state or local government should require and enforce certain standards for people who live in certain areas.

The WUI and Local Governments

Opinions also diverge on whether or not local governments already have all of the statutory authority and non-statutory tools they need to mitigate wildfire hazards in the WUI. A staff paper presented to the WUI subcommittee in January 2008 focuses on this debate (Appendix V). And even with no government mandates, motivated communities can affect changes that will make a difference to property owners and forest health and promote a relatively safe coexistence with the random whims of nature.

One Community's Approach

In the summer of 1984, Helena-area residents watched the eerie orange glow produced by the flames of the North Hills fire night after night. The silver lining of that orange glow for people living in Lewis and Clark, Broadwater, and Jefferson Counties was that the fire prompted a group of concerned citizens to form the Tri-County Fire Working Group (Tri-County). Membership in Tri-County includes citizens, representatives of local, state, and federal government agencies, contractors, and fire departments. At one of FSC's first meetings, Tri-County demonstrated the wildfire hazard mapping project the group has undertaken for interface areas in the three counties.

Originally a fire prevention education organization, Tri-County has evolved into a valuable hazard identification and risk mitigation entity that many landowners in the WUI have come to rely upon for advice and on-the-ground mitigation assistance. The Regional Community Wildfire Protection Plan (CWPP) developed by Tri-County states that the group "found that with the money available for hazard mitigation in general, and with the generous match provided by numerous members and landowners it was able to step out of the role of talking about fire prevention and mitigation to a very proactive position of wildland fuel hazard reduction projects."

For the CWPP, Tri-County defined the WUI as "the area within four miles from communities that possess a population density exceeding 250 people per square mile." A fuel hazard layer and a fire ignition layer--based on analysis of twenty years of natural and human caused fire starts--placed over the WUI layer ultimately results in a fire risk map for the area that ranks parcels on a risk scale of one to 12. The CWPP also explores various methods of fire hazard reduction and treatment options. This kind of information helps property owners help themselves and their neighbors and encourages the kind of personal responsibility that FSC members heard repeatedly exists only intermittently in areas of the state certain to be affected by wildfire.

Other States

As was evident during the fall of 2007 and summer of 2008 when dozens of wildfires burned through California, prompting evacuations, destroying homes, and costing taxpayers billions of dollars in suppression efforts and lost property, Montana's not alone in struggling with how to handle development in areas prone to wildfire. Western states have implemented a variety of means to deal with the WUI, as represented in a March 2006 staff report to the Environmental Quality Council and a November 2007 memo produced by the Legislative Audit Division. (Appendices X and X)

Wildland-Urban Interface Cost Study

It has long been assumed and anecdotally supported by fire suppression agencies that fire suppression in wildland areas costs less than suppression where homes and other structures are involved. Certainly the tactics are different. As the WUI subcommittee delved deeper into how fire suppression costs might be controlled and debated whether regulating development in the WUI was a reasonable proposal, members wanted more data on which to base their decisions.

In January, Headwaters Economics (HE), a nonprofit research group headquartered in Bozeman, presented its findings to the WUI subcommittee on its study of the potential for future development on fire prone lands in the west. Key findings of that study, as provided to the subcommittee and as they appear on HE's website,¹⁷ are:

- Only 14% of forested western private land adjacent to public land is currently developed for residential use. Based on current growth trends, there is tremendous potential for future development on the remaining 86%.
- Given the skyrocketing cost of fighting wildfires in recent years (on average \$1.3 billion each year between 2000-2005), this potential development would create an unmanageable financial burden for taxpayers.
- If homes were built in 50% of the forested areas where private land borders public land, annual firefighting costs could range from \$2.3 billion to \$4.3 billion per year. By way of comparison, the U.S. Forest Service's annual budget is approximately \$4.5 billion.
- One in five homes in the wildland urban interface is a second home or cabin, compared to one in twenty-five homes on other western private lands.
- Residential lots built near wildlands take up more than six times the space of homes built in other places. On average, 3.2 acres per person are consumed for housing in the wildland urban interface, compared to 0.5 acres on other western private lands.

¹⁷www.headwaterseconomics.com

After hearing this report, the WUI subcommittee recommended and FSC agreed to authorize the use of a portion of the committee's budget for DNRC to contract with HE to take a detailed look at whether and how much residential development adds to the cost of wildfire suppression.

HE's presented its findings to FSC at its August meeting in Choteau. As reported and as the information appears on HE's website and in Appendix C, the key findings are:

- Firefighting costs are highly correlated with the number of homes threatened by a fire.
- The pattern of development (dense vs. spread out) is an important contributing factor.
- When large forest fires burn near homes, costs related to housing usually exceed \$1 million per fire.
- As few as 150 additional homes threatened by fire can result in a \$13 million increase in suppression costs in a single year.
- For all agencies involved in fire suppression in Montana, the estimated annual costs related to home protection for 2006 and 2007 were approximately \$55 million and \$36 million, respectively.
- If current development trends continue, fires seasons similar to 2006 and 2007 could cost \$15 to \$23 million more by 2025, bringing total fire suppression costs associated with homes to between \$51 and \$79 million dollars. Adjusted for inflation, future costs could be as high as \$124 million in 2025.
- A conservative estimate is that 25% of all costs of protecting homes from wildfires within Montana are paid for by the state. Therefore, Montana's costs for home protection in 2006 and 2007 are estimated to have been \$13.9 million and \$9.2 million, respectively.
- By 2025, Montana's future costs, adjusted for inflation, could be as high as \$31 million.

The findings and report methodology were disputed by the Montana Forest Owners Association (MFOA) in testimony before FSC at its final meeting on September 12. MFOA's policy position can be found in the exhibits of that meeting or on the organization's website.¹⁸ HE has responded to MFOA's assertions in what is likely to be an ongoing discussion, particularly if legislation to regulate development in the WUI moves forward.

Wood Products Infrastructure

The wood products industry is in steady decline, with mill closings and layoffs occurring on a regular basis. Panelists and citizens providing testimony at all of FSC's meetings in western Montana told the members that loss of the state's wood products infrastructure would be

¹⁸www.forestsmontana.com

devastating not only to the state's overall economic health and the economic health of thousands of families, but also to efforts to mitigate wildfire hazards. Much of FSC's meeting in Libby focused on the wood products industry, its history in the area, its precipitous decline, and the reasons for that decline. Those who spoke to the committee in Hamilton and Libby made passionate arguments from all sides of the debate (conservation, industry, and governmental agency) about who--or what--is to blame for the state of the industry.

The Montana Wood Products Industry Initiative sums it up this way:

Montana's forest products industry is facing an unprecedented situation involving downturns in the construction and housing components of the national economy, record high energy prices, limited timber inventory on private lands, and reduced availability of timber from National Forests

Through its recommendations (see Section F of the recommendations), many of which originated in the Montana Wood Products Industry Initiative, FSC recognizes that whatever factors played a role in the downturn, measures must be taken to preserve the industry's infrastructure.

Contracting

Overview of Contracting Subcommittee Activities

As a result of a number of panel discussions among the various firefighting agencies, extensive public comment, and extensive comments from private firefighting contractors, the FSC appointed a standing Contracting subcommittee to analyze the role of private firefighting contractors in fire suppression across the state. The members of the subcommittee included Representative Jim Keane and Senator Ken Hansen, although a number of FSC members attended subcommittee meetings.

The subcommittee met two times during the interim. Members of the subcommittee also attended numerous fire suppression contracting training programs, fire suppression contracting meetings, and tours. Subcommittee members were also actively involved with various state and federal agencies, resolving coordination issues among those agencies related to fire suppression contracting. The subcommittee members were so proactive in attempting to resolve various contracting problems, that one could easily characterize the subcommittee members as the "Legislative Fire Suppression Contracting Problem Suppressors", when it came to engaging the respective parties one on one and resolving private fire suppression contracting and agency coordination issues.

The subcommittee's first meeting consisted of an informational overview on the fire suppression contracting process and extensive public comment from private contractors and other members of the public. The directed purpose of this first meeting, outside of educational orientation, was

to solicit specific suggestions and solutions from the firefighting agencies, the contracting community and the public.

The subcommittee's second and final meeting included a presentation on aviation contracting, an update on the private contractor inspection process, an overview of workers' compensation issues, and the adoption of subcommittee recommendations.

Private Fire Suppression Contracting in Montana

Dramatic changes over time have occurred in terms of how, and to what extent, local, state, federal, and tribal agencies use contracted fire suppression services. In 1984, the governmental fire suppression resources applied to fires accounted for 75% the total resources and private contractors made up the remaining 25%.¹⁹ In 2004, the resource split was 50% government resources and 50% private contracting resources.²⁰ In 2007, private contracting resource made up 60% and government resources accounted for 40%.²¹ Declining federal land management agency resources over the years have resulted in the increased use of private fire suppression contracting services. This trend is likely to continue in the future.

In Northern Rockies Coordinating Region during 2007, there were 1,191 dispatches for contracted services, total days out amounted to 16,246 days, length of contractors incident assignments averaged about 14 days, and the average total number of contractor days that a contractor was out in the field for the season was 40 days.²² The total cost for private fire suppression contracting services for water handling activities that occurred primarily in Montana in 2007 amounted to \$28.5 million.²³ This excludes a number of other private contracting fire suppression services such as aviation fire suppression services.

Starting in 2006, as a result of federal and state audits, congressional and state legislative oversight, and declining state and federal resources, the Northern Rockies regional fire suppression agencies moved away from the historic standard fixed rate for service contracts to a competitive bidding process known as best value contracting.²⁴ In the Northern Rockies region, best value is defined as a procurement and contracting process which allows awarding

¹⁹Tim Murphy, NRCG Contractor Coordinator

²⁰Id.

²¹Id.

²²Northern Rockies Wildfire Contractors Association, Position Paper, March 4, 2008. See http://leg.mt.gov/css/Committees/Interim/2007_2008/fire_suppression/meeting_documents/March4materials.asp

²³Id.

²⁴For a good overall review of best value contracting facts and statistics, see NRCG Montana Legislature Fire Committee PowerPoint presentation at http://leg.mt.gov/css/Committees/Interim/2007_2008/fire_suppression/meeting_documents/March4materials.asp

contracts based on cost effectiveness and impartial consideration of various factors such as pricing, experience, training, and past performance of personnel and capabilities and condition of equipment, thereby providing the greatest overall benefit in response to the requirements.²⁵ Best value contracting also influences the priority for dispatching contracting resources in many cases.

In 2007, the best value contracting competitive bidding for engines, water tenders, and heavy equipment in the Northern Rockies saved state and federal agencies \$1,031,176.²⁶

As might be expected, when there is a transition from one contracting process to another, a number of glitches arise. The subcommittee heard hours of testimony regarding best value contracting.²⁷

Subcommittee Identified Contracting Issues

Extensive public comment and subcommittee deliberations led the subcommittee to formally conclude that there were specific contracting matters in need of attention, including:

- coordination and communication among and between the private contracting community and local, state, federal, and tribal fire suppression agencies;
- overall efficiency of the contractor equipment inspection process;
- coordination of training programs between governmental entities and private contractors;
- private contractor workers' compensation insurance rates and compliance;
- dispatching of closest private contracting resources;
- organization of the private contracting community;
- business management resources allocated to incidents;
- best value contracting; and

²⁵Northern Rockies Strategic Action Committee for Private Fire Suppression Resources, 2/23/05.

²⁶Tim Murphy compilation, see footnote #13.

²⁷See the minutes from the March 4, 2008 and March 27, 2008 Contracting Subcommittee meetings.

- review of the DNRC Aviation Program.²⁸

The subcommittee ended up making formal recommendations to the full FSC at the March 28, 2008 FSC meeting (see subcommittee recommendations on page 24 of this report). Those recommendations were approved by the FSC to be put out for public comment and finally approved by the FSC at its September 11, 2008, meeting.

In addition to the items discussed above, individual subcommittee members identified the need to utilize mechanized fuel reduction private contracting services on both state and federal lands within the state in a proactive manner.

Subcommittee Member Actions During the Interim

The marching orders from Chairman Cobb to FSC members at the beginning of the interim was: if the committee members could act as a facilitators to resolve fire suppression problems during the interim, then those committee members should be as proactive as possible. In addition to the full FSC membership, the Contracting subcommittee members took this message to heart and spent a lot of time during the interim in the field; in agency offices; at private contractor training programs and association meetings; and in maintenance shops, engine shops, and aviation hangers talking to people about resolving fire suppression contracting issues that the subcommittee had identified.

During the interim, subcommittee members:

- specifically requested that state and federal fire suppression agency staff sit down with private contractors and coordinate activities and maintain open lines of communication;
- met with Department of Labor (DOL) staff to ensure that DOL would be out in the field coordinating with fire suppression agencies to ensure that all private fire suppression contractors were in compliance with the workers' compensation laws;
- met with the Director of the State Fund to ensure that representatives from the State Fund attend private contractor association meeting to discuss ways to keep workers' compensation rates low and to coordinate database information regarding insured contractors with the DOL;

²⁸See the minutes from the March 27, 2008 Contracting subcommittee meeting.

- met with the Northern Rockies Coordinating Group contracting coordinator to discuss improving the best value contracting process generally and as it relates to dispatching closest private contracting resources;
- attended a mechanized fire suppression training and encourage the Forest Service and the DNRC to utilize mechanized fire suppression and fuel reduction private contracting resources;
- met with Legislative Audit staff to discuss the feasibility of requesting a performance audit on the DNRC aviation program; and
- attended private contractor association meetings to discuss legislative activities and issues.

Conclusion

The importance of private contracting for fire suppression services cannot be understated. Reliance on private contracting services will continue to increase in the foreseeable future. Ultimately, the goal is to ensure that the contracting process and dispatch systems operate in a safe, competent, productive, and cost-effective manner for the citizens of Montana.

Biomass

Wood Methanol Production - Submitted by Sen. Rick Laible

This report is a follow up summary of the presentation we had at the Hamilton Fire Suppression Meeting in April by Dr. Kristiina Vogt from the University of Washington. The first half of the summary came from Dr. Vogt, and the second half is about Montana, and our opportunities for biofuels.

There are several global issues that, at first glance seem unrelated. These issues include: higher incidences of catastrophic forest fires, global climate change, the need for increased energy sources, the global peaking of oil and gas supplies, the need to develop substitutes for fossil fuel energies, developing sustainable rural economies, decreasing poverty, and the loss of productive lands. In the past, each of these issues was treated as a separate problem in which solutions were derived by focusing on only one individual problem at a time. Today these global issues are being formally linked because the combustion of fossil fuels to produce energy, the main ingredient fueling industrialization, is now causally linked to climate change and emission of greenhouse gases. Fossil fuel combustion is a major contributor to CO₂ emissions and these levels are increasing as more countries become industrialized. It is therefore logical to develop strategies that shift our reliance from fossil fuels to alternative energy resources that are carbon neutral and can help reduce our total emissions of CO₂. Mitigating climate change is driving the development of technologies to convert renewable resources in biofuels that can be substituted for fossil fuels.

Even though renewable resources are used to produce biofuels, some of these biofuels may not be climate friendly or carbon neutral when fossil fuels are

consumed in their production. For example, if fossil fuels are used to increase the growth rates of crops or used to transport them to the markets, these biofuels may mitigate less CO₂ emissions, but in actuality are not carbon neutral. Residual wood biomass has the lowest net CO₂ equivalent emissions compared to most food crops used to produce biofuels (ethanol from corn, wheat, sugar beets, etc.). Some of the concerns with food crop biofuels is that the production of ethanol uses almost as much energy as it generates. In addition the use of food based biofuel production also has led to significant worldwide food price increases.

The energy crisis is also raising concerns about the environmental and social impacts of our dependence on energy derived from fossil fuels. Even if new energy supplies are developed, those energy supplies will have to be accepted by the stakeholder groups and satisfy their criteria for both sustainable management and environmental friendliness. The social, economic or environmental impacts of producing the different biofuels will ultimately determine which biofuel will become a possible fuel substitute.

In another example demonstrating the need for biofuels to be environmentally friendly, the European Union recently decided that it will not import palm oil from Malaysia and Indonesia for biodiesel production because of the deforestation concerns. This loss of forest is detrimental to the survival of the local people that are dependent on those forest for their primary source of energy (i.e., fuelwood). This forest loss is also occurring at a time when fuelwood supplies are inadequate to meet the energy needs in many developing countries.

The future acceptance of biofuel production from biomass hinges on whether it can provide significant environmental and societal benefits. Since systematic assessments of the environmental benefits of using biomass to produce biofuels are sparse, especially from forests, the goal is to assess the amounts of methanol production possible from agriculture and forest materials/products.

Converting available biomass from municipal, agricultural and forest wastes to bio-methanol can result in significant environmental and economic benefits. Keeping these benefits in mind, one plausible scenario is the potential to produce energy by using bio-methanol in five of the western United States. In this scenario, the bio-methanol produced is from different biomass sources and used as a substitute for fossil fuels in energy production. In the U.S. West, forest materials are the dominate biomass waste source and could, with the addition of other biomass waste replace an amount equivalent to almost all of the fuels required by motor vehicles in these states.

As members of the Fire Suppression Committee our goals were to find solutions to the costs of fire suppression within our state, but as is typical when you embark upon one journey, there will be many stops along the way. Our committee was formed, not because of the health risks of smoke within our valleys, or to the risk to our communities, but to the cost of fighting these fires. If the Federal government paid for all of our Fire Suppression costs and fire

suppression costs didn't impact the state in excess of \$ 40.0 million a year, we would not have had a special session.

Almost all of the information above, regarding biofuels, we already know. In short, bio-fuels from food sources, cellulous fibers, or municipal landfills will decrease our demand for fossil fuels, so what in fact does this have to do with fire suppression. We reduce our dependency on fossil fuels by converting biofuels (corn, wheat, et. al) to ethanol, but first of all it doesn't work unless we subsidize the process. Secondly, it takes almost as much energy to grow the crops, and then process into fuel as the ethanol created, not to mention the amount of water required in the process.

Our National Forests in the western states are dangerously over fueled and under the current guidelines and funding the agency is unable to manage our forests. It's not that the Forest Service doesn't want to manage the forests, they just don't have the resources and this is where methanol production from our over fueled forests comes into play. Thinning our forests to healthy coverage of trees will reduce the risk of future fires, provide cellulous fiber for the creation of methanol and reduce the carbon emissions as a result.

The technology for biomass utilization to methanol as proven, would allow for the processing of methanol (165 gallons per 1 dry ton of fiber) and doesn't require the construction of large refining facilities. Small mobile units can process the fibrous materials in the forest complex, and distribute the finished fuel locally.

If this technology is proven, economically feasible then why isn't it being done? First of all the methanol producers don't have a lobbyist group to access subsidies like the farmers, oil producers and I doubt there will be a section in the "farm bill" for methanol producers. Secondly, funding will be required to put the first mobile processing units into production and of course a distribution system will need to be interfaced. The last hurdle, the Forest Service will have to manage the National Forests to provide access to the dangerous fuel loads within our forests.

So consider this scenario. The Forest Service, or DNRC does a timber sale, sells the merchantable timber, sells the small diameter ladder fuels, and converts the slash piles into methanol. Results, money in the general fund, jobs in our community, forests in a healthy condition, fire risks have been reduced, less carbon emissions, and we have lessened our dependence on foreign oil.

In 2007, China became the world's largest methanol producer and consumer, so this can be done, we just need the will to do it. Or will it take \$ 7.00 gallon fuel before we act.

In addition to the methanol potential discussed by Sen. Laible above, FSC members examined other aspects of biomass created as a result of forest management projects. These included the Fuels for Schools program, proposal of a biomass tax credit, and the role biomass might play in helping retain the state's wood products infrastructure as the bottom falls out of the industry.

CONCLUSION

As the 2008 wildland fire season progressed, some joked that if Montanans want to avoid catastrophic wildfires in the future, they should encourage the legislature to appoint a committee to study the subject every summer--it worked in 2008. As the subcommittees finished their work in the spring, most members were prepared to accept DNRC's invitation to visit fire camps as the season heated up and see for themselves the complex business operations that spring up when wildfires blow up. Some members did visit a handful of fires, but the massive, weeks-long events that cost millions and prompted the committee's creation never did materialize. Through their observations, dire predictions, and recommendations, however, the members of FSC have articulated their conviction that more extreme and dangerous wildfire incidents lie in the state's future. Montana's citizens, fire professionals, and elected officials can't make it snow, nor can they slow the wind on a hot July day or arrest the pine beetle epidemic. But the members of FSC trust that the information and recommendations contained here will be seriously considered by all to whom they are directed. The things all Montanans value, for various reasons--trees, grass, water, wildlife, human life, may depend on it.

APPENDICES

1. HB 1
2. DNRC AMR brief, FS response
3. DNRC structure protection interpretation (Miles City)
4. DNRC engine replacement handout (Miles City)
5. Letters sent by the committee and any responses received
6. Summary of public comment received
7. Australia "Stay or Go" article (cited in the WUI section)
8. Memo from Todd Everts on air quality and DEQ
9. Cobb letter to FS Region One Forester Tidwell (cited in the section about federal/state relations); Tidwell response
10. FSC letter to Plum Creek (cited in the section about the logging/milling industry)
11. FSC letter to tourism industry
12. Cost sharing report - Barb (cited in the section about funding)
13. Verbatim testimony from Loren Rose at Seeley Lake meeting (cited in the section about logging/milling industry)
14. Letter to OBPP regarding fire season 2008 use of \$40 million appropriation and response (cited in recommendations for immediate implementation and in DNRC Budget Recommendations)
15. AG Mazurek's letter regarding county commission authority on federal and state land.
16. List of communities' risk level
17. Heisel WUI paper on current options
18. Other states WUI report and Audit memo
19. Joe Murray's helicopter memo