Wildfire Insurance and Forest Health Task Force

Report to the Governor of Colorado
The Speaker of the House of representatives
and the president of the senate

September 2013

Prepared by:
Kaplan Kirsch Rockwell

Wildfire Insurance and Forest Health Task Force

Report to

The Governor of Colorado,
The Speaker of the House of Representatives
and the President of the Senate

September 30, 2013

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Cover Image: Crown fire in lodgepole pines in the "Y Fire," on the YMCA Snow Mountain Ranch, Grand County, June 2007. Photo: Paul Mintier

Dora
Department of Regulatory Agencies

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Barbara J. Kelley
Executive Director

John W. Hickenlooper
Governor

September 30, 2013

Governor John W. Hickenlooper
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Denver, Colorado 80203

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Speaker of the House of Representatives
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Senator John Morse
President of the Senate
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Honorable Leaders of the State of Colorado:

It is my pleasure to deliver to you the final report of the **Wildfire Insurance and Forest Health Task Force**, created by the Governor on January 30, 2013, pursuant to Executive Order B 2013—002. In the face of the devastating toll on Colorado residents as a result of the 2012 wildfire season, the Task Force was charged to look at how to best protect citizens who live in the wildland-urban interface (WUI) and protect Colorado's landscape, which is a critical element of the state's economic health.

The Task Force was asked to "identify and reach agreement on ways to encourage activities, practices and policies that would reduce the risk of loss in wildland-urban interface areas, and provide greater customer choice and knowledge of insurance options." The Executive Order outlines a series of Guiding Principles, which directed the work of the Task Force. These principles include identifying and supporting state and local activities and partnerships that will promote forest health, reduce loss and protect communities, citizens and first responders; increasing awareness of the fire risks in the WUI; identifying insurance options that incentivize actions, practices and policies that can lead to reduced losses; identifying legislative and regulatory options that promote wise planning and stewardship and reduce loss of life and property; promoting state and local coordination; and exploring public/private partnerships.

To fulfill its mandate, the Task Force first had to identify the scope to the problem in Colorado and determine how to quantify the magnitude of the wildfire risks in the wildland-urban interface; then identify and consider a myriad of ways to address the problems. There is no simple or single solution to the challenges of wildfires in the WUI. Thanks to the diligent and focused work on the part of all the members on difficult and complex issues, we have developed a series of findings and recommendations which can make a significant and sustainable difference in reducing the risk of loss of life and property in future wildfires in the WUI.

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Consumer Protection

We fully appreciate that these recommendations will be further debated, developed, adapted and implemented through legislation, rulemaking and public discourse at all levels of government, and we offer the support and expertise of the task force members as may be needed.

Respectfully submitted,

Barbara J. Kelley
Executive Director
Department of Regulatory Agencies

Acknowledgements

As the Chair of the Task Force, I wish to express my gratitude to the many individuals who made the production of this Report possible. First and foremost, I want to highlight the commitment that each Task Force member made to this process. Task Force members attended countless meetings and working group sessions, provided thoughtful comments, and engaged in spirited discussions over the last eight months. In particular, I want to thank Carol Ekarius for organizing the field trip to the Waldo Canyon burn area and the Hayman Fire recovery areas, which highlighted different aspects of the WUI issue as well as fire recovery efforts. I also want to thank Lisa Dale for her work as the Technical Editor of the Report. In addition, I am indebted to the tireless support of many of the staff members at the Department of Regulatory Agencies (DORA), specifically Michelle Pedersen, Ronald Jack and Patricia Dreilling.

The Task Force was also fortunate to hear from many experts, including Bobbie Baca (DORA, Division of Insurance), Becky Baker (Jefferson County Division of Insurance), John Bissett (JM Weston Homes), Karen Amrhein (National Flood Insurance Program contractor), Rachel Nance (Colorado Association of Realtors), Keith Worley (Pikes Peak Wildfire Prevention Partners), Dr. Lloyd Burton (University of Colorado Denver), Megan Davis (Boulder County) and Bob Harvey (Black Forest Fire Chief).

Finally, I am especially grateful for the participation of the law firm of Kaplan, Kirsch & Rockwell LLP, and, in particular, Catherine van Heuven, who attended many meetings, consulted with task members, and organized and undertook the task of preparing this final Report.

Without the assistance of each of these individuals, the Task Force could not have met its mandate. Thank you!

Barbara J. Kelley
Executive Director, Colorado Department of Regulatory Agencies

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Executive Summary

Governor John Hickenlooper created the Task Force on Wildfire Insurance and Forest Health through Executive Order B 2013-002. The group was asked to identify and reach agreement on ways to encourage activities, practices and policies that would reduce the risk of loss in wildland-urban interface (WUI) areas and provide greater customer choice and knowledge of insurance options.

Increasingly destructive wildfires over the past ten years have caused devastating losses to Colorado and its residents. The two most destructive wildfires in state history have occurred in the last two summers. Combined, the Waldo Canyon Fire and the Black Forest Fire resulted in insurance claims in excess of $750 million, and claimed the lives of 4 people. The U.S. Forest Service and the Department of the Interior spent a combined $206 million on fire suppression in 1991, an amount which surged to $1.7 billion in 2011. The increasing development of homes in the WUI ensures that the pattern of damaging wildfire will continue. A Colorado State University study projects that the state's growth of development in the WUI will increase from 715,500 acres in 2000 to 2,161,400 acres by 2030, a 300 percent increase.

Barriers to Progress

- Lack of funding and resources
- Personal responsibility
- Lack of clarity in messaging
- Political perils
- Enforcement difficulties
- Difficulty in regulating existing homes
- Legal constraints
- Unintended consequences

Many factors underlie the challenge Colorado faces in making people and property located in the WUI safer in the event of a wildfire. Decades of aggressive suppression efforts have transformed the forests, leaving them susceptible to high intensity, destructive fire events. While it is well-established that reducing fuels and wildland vegetation near homes in the WUI is critical to minimizing risks, these efforts are costly and available resources are often diverted to suppression efforts. Another complexity is that individual homeowner actions can only protect individual homes; neighborhood and community safety requires collective action. Research also shows that adapting structures through measures such as building codes, fire-wise building materials and zoning can appreciably reduce risks. However, any proposed solution must also consider existing homes, which may not be captured by new regulatory measures. Factors like these have historically operated as barriers to progress. The Task Force accepted that to break through these barriers, the leaders and citizens of Colorado must make difficult choices requiring complex political trade-offs and behavioral changes.

Working from the Guiding Principles contained the Executive Order, the Task Force identified a series of recommendations designed to create a coordinated system that will require homeowners to share in the burden of the risk and to promote changed behaviors through a combination of legal requirements, increased awareness, and incentives. This system involves the development of uniform standards at the statewide level and defers to local governments for implementation of mitigation and prevention efforts.

The first step is to develop a mapping tool that can identify and quantify wildfire risks to specific properties in the WUI. The Task Force recommends continued development of the existing Colorado Wildfire Risk Assessment Portal (CO-WRAP) to accomplish this task. CO-WRAP already operates as a risk assessment tool to deliver risk information and create awareness about wildfire issues across the state, but to date, the tool is limited in its applicability. Updating the model will require active involvement of all relevant stakeholders, including local governments, insurance providers, real estate agents, appraisers and lenders. Significant data-collection will be part of the effort, particularly to enable the tool to measure changes in mitigation outcomes on a specific property. The updated CO-WRAP model will quantify risks to specific properties in the WUI by assigning a score. These CO-WRAP scores can then be used broadly for disclosure to all relevant stakeholders, such as prospective homeowners, realtors, home builders, lenders, insurance providers and local governments.

Another use for CO-WRAP scores will be in triggering a Wildfire Mitigation Audit for high-risk homes (*e.g.*, homes scoring over a certain CO-WRAP score). The Audits will include on-site visits and will provide more detailed information about risks and mitigation needs for an individual property. These Audits will serve several goals: (1) they will provide disclosure to relevant stakeholders; (2) they will provide information to homeowners about what steps to take to reduce the CO-WRAP score; and (3) they will provide incentives for homeowners to act to reduce wildfire risks to their properties. The Task Force also recognized the need to coordinate with existing stakeholders to develop and disseminate uniform best management practices (BMPs) in order to ensure that homeowners do not receive conflicting or contradictory messages about how best to mitigate homes in the WUI.

Guiding Principles from the Executive Order

- Identify and support state and local activities and partnerships that would promote forest health and reduce the loss from wildland fires and protect communities, first responders and investment from wildfire.
- Protect citizens who live in the WUI
- Protect Colorado's landscape, which is a critical element of the state's economic health
- Increase awareness of the fire risks in the WUI
- Identify insurance options that incentivize actions, practices and policies that can lead to reduced losses and better understanding of coverage by policy holders
- Identify legislation and regulatory options that promote wise planning and stewardship and reduce loss of life and property
- Promote state and local coordination that will foster forest health and reduce wildland fire threats.
- Explore public-private partnership opportunities

In conjunction with the quantification of risk and the development of an Audit system, the Task Force also recommends several state-wide initiatives, including a state-wide model ordinance for private properties in the WUI, a prohibition against inconsistent community building or land-use requirements, and a pilot program for prescribed burns, such as the one now being developed by the Air Pollution Control Division where a “general permit” can be issued to users of prescribed fire, in connection with enhanced public outreach. However, the Task Force recognizes that one-size-fits-all solutions are not appropriate in a state like Colorado with diverse ecosystems and communities. Local solutions are more likely to enhance community buy-in, creating the necessary conditions for meaningful change. Therefore, the Task Force recommends that implementation of state-wide standards occur at the local level.

The Task Force was asked to explore the role of the insurance industry and it found that the recently-enacted Homeowner's Insurance Reform Act addresses many of the property insurance issues raised by homeowners following the Fourmile Canyon, High Park and Waldo Canyon Wildfires. Moving forward, the Task Force recommends extensive outreach and education about the recent law coupled with disclosure of CO-WRAP scores and Wildfire Mitigation Audits to insurance companies. Insurers can then incorporate the risk information into their individual underwriting policies. This method will ensure that uniform information is provided to all insurers without violating antitrust laws. It will also permit insurance companies to maintain their own individual underwriting and inspection processes, which will ensure a continued, robust market with multiple insurers and products.

The Task Force also looked at funding needs, and it recommends assessing a fee on properties in the WUI to help fund mitigation activities. This is consistent with the principle that homeowners in the WUI should take on the risks and associated costs of living in wildfire-prone areas. The fees would likely be assessed by the state and then allocated to counties to support local mitigation priorities. The Task Force also reviewed existing grant programs in the state, and it recommends continued and enhanced funding for wildfire risk mitigation.

Finally, the Task Force recommends building on existing informational and educational programs. Rather than creating a new approach, the first step must include efforts focused on increasing homeowner and stakeholder awareness of financial and technical assistance that is already available in Colorado to support wildfire risk mitigation and disseminating information about the new Homeowners Insurance Reform Act (HB 13-1225).

This house survived the Fourmile Canyon Fire in 2010.
Photo: Colorado State Forest Service

The intent of these recommendations is to create a system that prompts and incentivizes action, not just through legal requirements, but also through better education. Homeowners in the WUI will share in the burden of the costs associated with protecting property in the WUI, and there will be resources available to help, including clear direction on available funding and resources. Homeowners will also receive clear and continuing information about specific risks to their properties and what steps to take to minimize those risks. The system will identify the extent of the WUI, calculate risks for individual properties in high hazard areas, and implement a variety of mitigation and prevention measures at the local level.

The Task Force recognizes that some of its recommendations will be costly and potentially difficult to implement. However, the Task Force accepted that its mission was to identify bold and innovative recommendations to break through the historic barriers. These recommendations can then be further developed, adapted and implemented by the Governor, the Colorado General Assembly, state and local governments, public-private partnerships, and the insurance industry.

"Governments and people have to have the intestinal fortitude to do the right thing, and the right thing is not the easy thing. We're going to have to think differently."

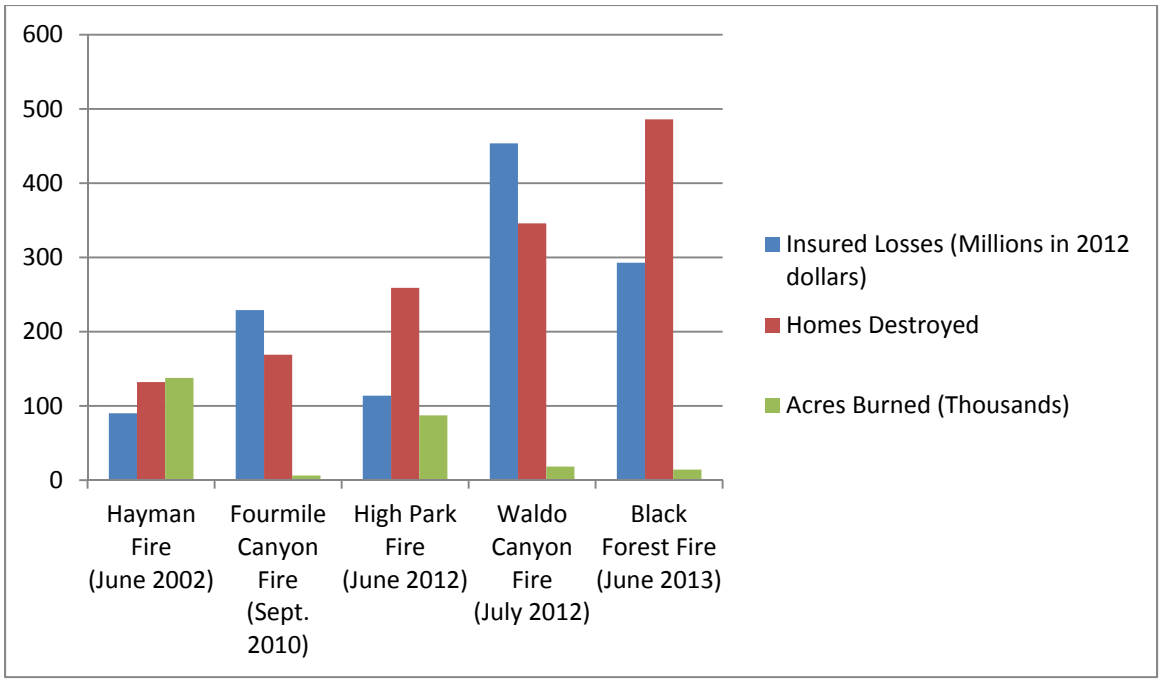
- Deputy State Forester Joe Duda

1. Task Force Establishment, Structure and Guiding Principles

1.1 Establishment and Purpose

Increasingly destructive wildfire seasons over the past ten years have caused devastating losses to Colorado and its residents and the problem is growing. The two most destructive wildfires in state history have occurred in the last two summers. Combined, the Waldo Canyon Fire and the Black Forest Fire resulted in four deaths, burned over 30,000 acres, destroyed over 850 homes, and resulted in over $750 million in insurance claims. The U.S. Forest Service and the Department of the Interior spent a combined $206 million on fire suppression in 1991, $953 million in 2001 and $1.7 billion in 2011. Costs continue to rise for these agencies and others involved in wildfire suppression at the local, state, and federal level.

As Colorado grows, its urban areas are rapidly expanding into the fire-prone lands in the wildland-urban interface (WUI). According to Headwaters Economics, Colorado already has over 1.1 million acres in the WUI, 80 percent of which remains undeveloped. As more development occurs, the WUI will only grow. A Colorado State University study (D. Theobald and W. Romme, 2007) projects that the state's WUI areas will increase from 715,500 acres in 2000 to 2,161,400 acres in 2030, a 300-percent increase.



Source: Colorado State Forest Service; Rocky Mountain Insurance Industry Association

Citizens, communities, coalitions and local governments have all taken action to address individual, neighborhood and local concerns. However, current efforts are fragmented, sporadic and inconsistent. With so many growing communities now situated in areas adjacent to fire-dependent ecosystems, the challenge facing homeowners, local governments, and the State is complex. Until efforts can be coordinated and directed across political boundaries and property lines, the threat of wildfire damages in the WUI will continue to grow and intensify.

On January 30, 2013, Governor John W. Hickenlooper established the Task Force on Wildfire Insurance and Forest Health (Task Force) to identify and reach agreement on ways to encourage activities, practices and policies across the state that would reduce the risk of loss in WUI areas and provide greater customer choice and knowledge of insurance options. The Governor directed the Task Force to explore the following issues:

1. Environmentally sensitive ways to improve forest health and sustainability in order to limit future wildfire exposure.
2. The availability of firefighting resources and coordination.
3. Ways to maintain and protect water quality and watersheds.
4. Building and other development activities and requirements in the WUI.
5. Maintaining a healthy insurance marketplace to protect against loss from wildfire.

1.2 Task Force Members

As required by the Executive Order, Ms. Barbara J. Kelley, the Executive Director of the Colorado Department of Regulatory Agencies, chaired the Task Force. Eighteen designees from a broad array of affected state, federal and local government entities, industry groups, and non-governmental organizations participated as members.

Task Force Members

Executive Director, Department of Regulatory Agencies
Task Force Chair
Barbara Kelley

Colorado Commissioner of Insurance
James Riesberg / Marguerite Salazar

Division of Homeland Security and Emergency Management
Kevin R. Klein

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Scott Woods

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Non-governmental conservation organization (Coalition for the Upper South Platte)
Carol Ekarius

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Colorado Bankers Association
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Bruce Bowler

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Amie Mayhew

Colorado Counties, Inc.
Douglas B. Monger

Colorado Water Congress
Douglas Kemper

Society of American Foresters
Lyle Laverty

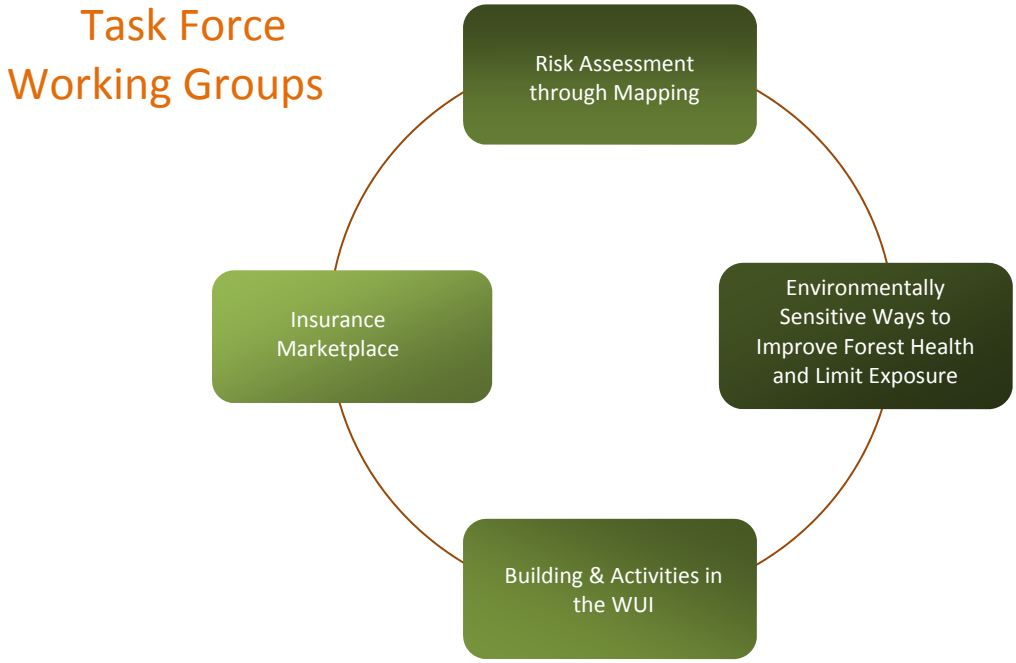
Department of Public Health and Environment: Water Quality Control Division
Dick Parachini

Department of Public Health and Environment: Air Quality Control Commission
Mike Silverstein

1.3 Working Groups and Deliberative Process

The Task Force first convened on February 28, 2013 and met regularly for the following seven months. Collectively, the group examined a wide array of options to address the Governor's charge including: creating tailored insurance products for residents in the WUI; utilizing local government liaisons and local jurisdiction designees in forest management and development decision-making; educating residents in the WUI about risks and mitigation measures; providing training workshops for local jurisdiction representatives; adopting intergovernmental agreements and creating public-private partnerships; and implementing new laws or regulations.

Following the Governor's directions, the Task Force formed the following four Working Groups to consider and evaluate preliminary recommendations on the issues identified in the Executive Order. While the Executive Order creating this Task Force also identified availability of firefighting resources and coordination as a critical issue, the Task Force recognized that the Governor has also created a separate Advisory Committee to the Director of the Division of Fire Prevention and Control on Wildland Fire and Prescribed Fire Matters. As a result, the Task Force focused exclusively on methods and measures to reduce risk. The Task Force members also agreed to address the topic of water quality in the Working Group for Environmentally Sensitive Ways to Improve Forest Health.



Each Working Group met individually to evaluate preliminary recommendations within each topic area, focusing on four elements for each idea: (1) implementation details; (2) costs and funding requirements; (3) required changes to existing law (if any); and (4) required changes to existing regulations (if any). See Section 3.2 for further detail.

The Task Force then met as a full body to discuss the reports and recommendations from each Working Group. Throughout the deliberations of the Task Force, members of the public were invited to attend and provide feedback; as a result, the group was presented with information, research material, and data from a wide variety of experts, first responders and other interested parties.

1.4 Guiding Principles

The Task Force recognized and identified the directives outlined in the Executive Order as Guiding Principles to direct its work and to formulate its recommendations. Each recommendation brought forth by the Task Force meets at least one of these fundamental Guiding Principles.

Guiding Principles from the Executive Order

- Identify and support state and local activities and partnerships that would promote forest health and reduce the loss from wildland fires and protect communities, first responders and investment from wildfire.
- Protect citizens who live in the WUI.
- Protect Colorado's landscape, which is a critical element of the state's economic health.
- Increase awareness of the fire risks in the WUI.
- Identify insurance options that incentivize actions, practices and policies that can lead to reduced losses and better understanding of coverage by policyholders.
- Identify legislation and regulatory options that promote wise planning and stewardship and reduce loss of life and property.
- Promote state and local coordination that will foster forest health and reduce wildland fire threats.
- Explore public-private partnership opportunities.

There is no easy or single solution to the WUI wildfire problem. The next steps will be difficult, and there are many barriers to progress. The seriousness of the wildfire threat is not always evident to current or prospective property owners. Landowners may assume that vegetation management and the loss of trees will cause property values to drop. The mission for the Task Force was to identify bold and innovative recommendations that can be further developed, adapted, and implemented by the Governor, the Colorado General Assembly, the Attorney General, various state agencies, municipal and county governments, public-private partnerships, the insurance industry, local communities as well as individual land and

homeowners. In the end, the leaders and citizens of Colorado must make difficult choices requiring complex political trade-offs and behavioral changes. The Task Force proceeded with the assumption that its recommendations will provide an informed point of accord among the various stakeholders.

It was the intention of the Task Force to issue consensus recommendations whenever possible. Recognizing that there would likely not be agreement on every issue, the Task Force agreed to acknowledge and explain divergent opinions when they exist.

2. Working Group Analysis

2.1 Risk Assessment Mapping

2.1.1 Issue Statement and Key Principles

Colorado needs a standardized method to identify the WUI and wildfire risk for properties across the state. This identification system is a foundation for the entire system of recommendations set forth in this Report. In discussing this issue, the Working Group on Risk Assessment Mapping identified the following key principles:

- The Colorado State Forest Service (CSFS) should be the lead responsible agency for managing state-wide wildfire risk assessment mapping.
- Any wildfire risk mapping efforts must be consistent and regularly updated across the state.
- End-users (*e.g.*, real estate agents, appraisers, insurance agents, lenders, fire-fighters, and local governments) must be involved in the continued development of the model.

2.1.2 Background

The first step that any community undertakes when addressing wildfire risk is to identify the hazard areas. There is a complex array of factors that contribute to wildfire risk, including type and distribution of vegetation, proximity of structures to fire-prone vegetation and other combustible structures, weather patterns, topography, hydrology, average lot size, road construction, and more. Identifying and mapping risk areas is therefore a nuanced process.

Various wildfire risk mapping efforts are already underway across the state. Over 200 Colorado communities have developed Community Wildfire Protection Plans (CWPPs) and have created local risk maps as part of those Plans. Some communities, like Boulder County, have invested significant time and resources to develop highly-evolved systems, while others with fewer resources have relied on less comprehensive summaries. At a state-wide level, CSFS recently developed CO-WRAP, a risk mapping tool that can deliver consistent wildfire risk information for the entire state. Amid all of this important work, what is lacking is consistency and coordination. The following sections provide more detail on existing mapping systems that the Task Force reviewed.

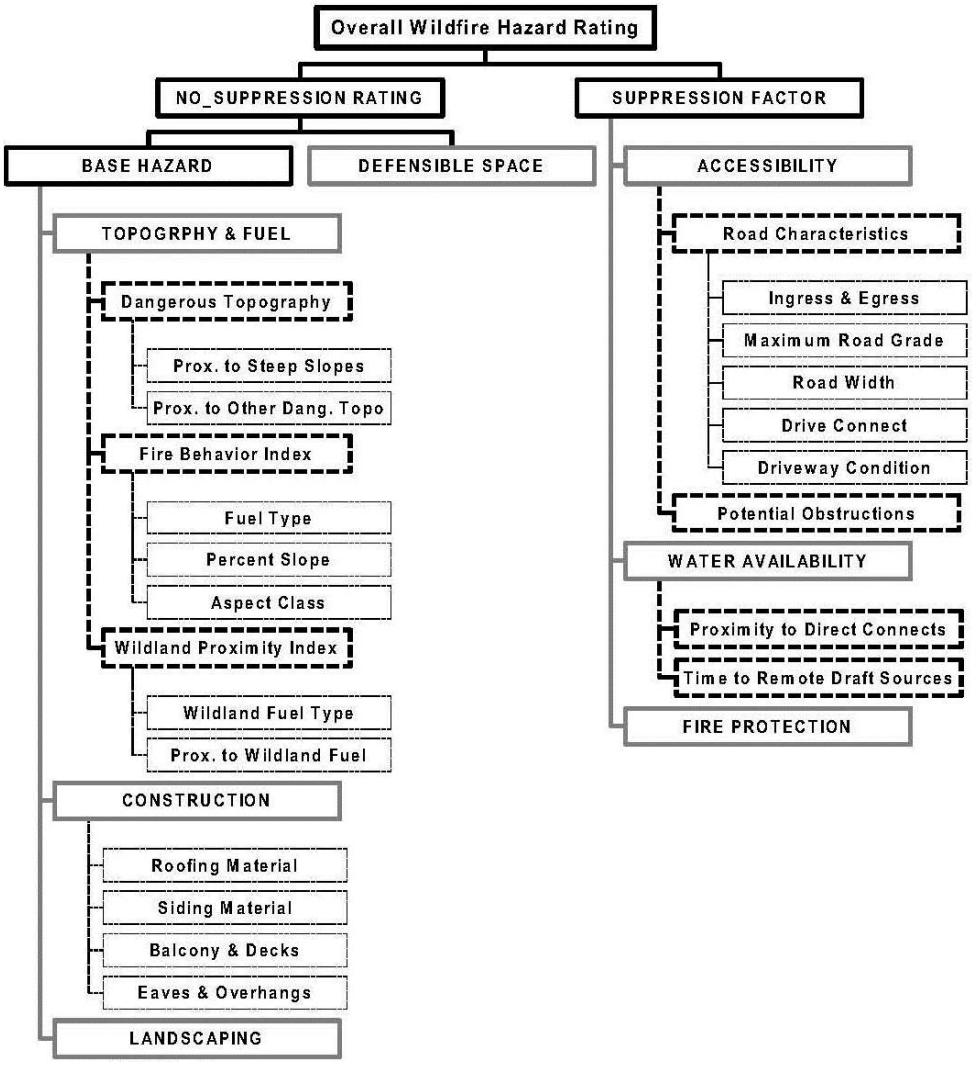
2.1.2.1 Community Wildfire Protection Plans

The Healthy Forests Restoration Act of 2003 (HFRA) created new incentives for communities to engage in comprehensive forest health planning and prioritization of mitigation activities. Under the HFRA, U.S. Forest Service and Bureau of Land Management (BLM) grant funds are available for planning and mitigation projects within the WUI as defined by the statute, which limits the WUI to within ½ mile of a community's boundary or within 1 ½ miles when mitigating circumstances exist. However, the statute permits communities to substitute their own definition for the WUI through a CWPP.

2.1.2.2 Boulder County's Wildfire Hazard Identification and Mitigation System (WHIMS)

Some communities have gone above and beyond the basic CWPP requirement. For example, Boulder County developed the Wildfire Hazard Identification and Mitigation System (WHIMS) almost two decades ago.

WHIMS Model



Source: Boulder County, The WHIMS Manual

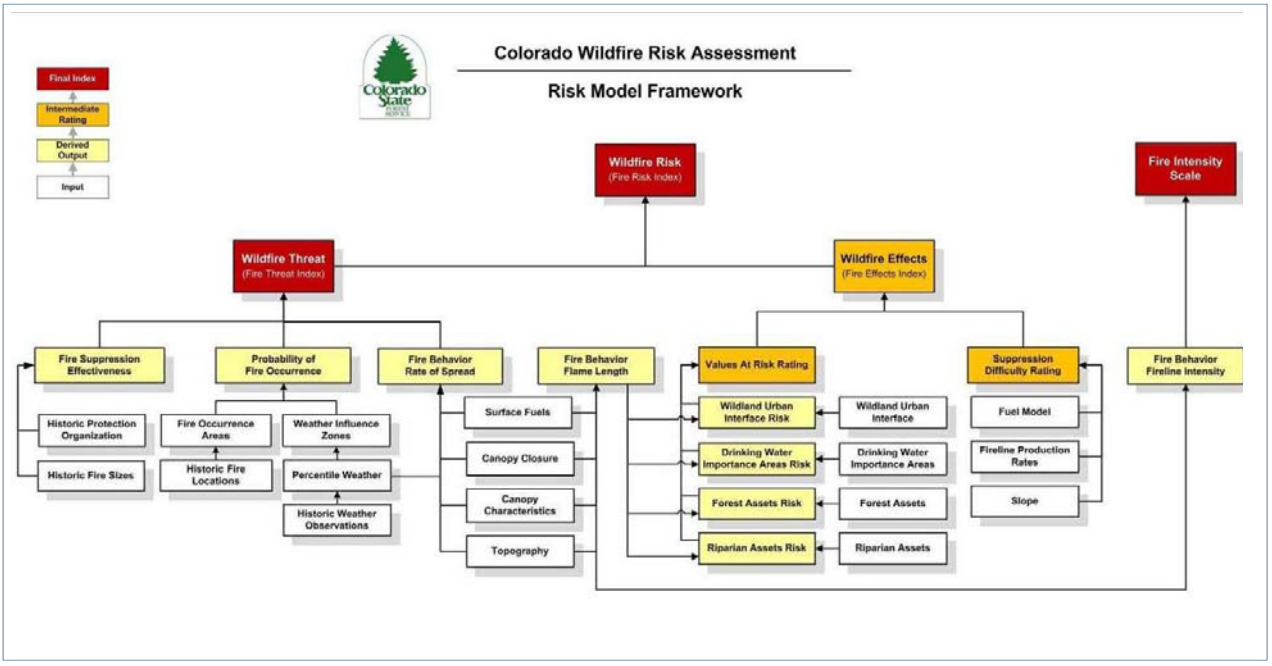
The WHIMS system is designed to collect site-specific fire hazard information, compile the information into a central GIS database, and display the information in maps, tables and other graphical outputs for various end-users. The WHIMS project focuses on evaluating the hazard at the individual parcel/lot level in order to generate information specifically for individual homeowners. To do so, WHIMS combines community involvement with expertise from several natural resources and emergency hazard disciplines using Geographic Information Systems.

The WHIMS model predicts an overall wildfire hazard rating on a scale from 0 through 10 where 0 represents no hazard and 10 represents maximum hazard. This rating is calculated based on seven primary variables: topography and fuels, construction elements, landscaping, defensible space, accessibility, water availability, and fire protection response. In addition, a "what-if-mitigated" overall hazard rating is also calculated, indicating the reduction in hazard that would be possible if mitigation actions were implemented for the site.

2.1.2.3 Colorado Wildfire Risk Assessment Project

In 2012, CSFS established the Colorado Wildfire Risk Assessment Portal (CO-WRAP) to provide a consistent, comparable set of scientific results for wildfire mitigation and prevention planning in Colorado. The website address for the portal is provided in Chapter 4.

CO-WRAP is an interactive web mapping tool tailored to Colorado's needs. It models wildfire risk as a product of wildfire threat (how likely a wildfire is to occur and of what severity) and wildfire effects (the potential impacts to life, property, natural resources, and other values). The model factors in approximately 160 variables, including vegetation, topography, weather patterns, wildfire history, flame intensity and speed, all of which can be used to calculate various aspects of wildfire risk.



Source: CSFS, Colorado Wildfire Risk Assessment Project Final Report (2013)

The current purpose of CO-WRAP is to deliver risk information, create awareness about wildfire issues across the state, and support a broad array of information requirements for various constituent groups, including the public, professional hazard mitigation planners, wildland fire managers, local community groups and government officials. At this time, CO-WRAP is primarily a risk assessment tool used to inform decision-makers. It is easy to access and can deliver tailored information to support the following priorities:

- Identify areas that may require additional tactical planning, specifically related to mitigation projects and community wildfire protection planning;
- Provide information necessary to justify resource, budget and funding requests;
- Allow agencies to work together to better define priorities and improve emergency response, particularly across jurisdictional boundaries;
- Increase communication with residents and the general public to address community priorities and needs;
- Plan for response and suppression resource needs; and
- Plan and prioritize hazardous fuel treatment investment.

However, CO-WRAP is still evolving and is not yet sufficiently developed to operate as a state-wide disclosure tool at the individual parcel level. For example, the model's base vegetation layer relies on LANDFIRE, an interagency satellite-based vegetation data source, which is only accurate at 30 meter (approximately 100 feet) resolution, so the model cannot yet produce site- or property- specific results. The current model can also produce anomalies such as predicting high wildfire risk in urban areas.

CSFS has secured $300,000 in 2014 grant funding from the U.S. Forest Service to continue to develop the CO-WRAP tool. However, an ongoing investment is needed to build CO-WRAP into the disclosure tool envisioned in this Report.

2.1.3 Barriers to Progress

2.1.3.1 Developing the CO-WRAP model will be time-consuming and expensive.

The Task Force agreed that while CO-WRAP is the best starting point for developing a state-wide mapping standard, there is significant work to be done in order to be able to quantify wildfire risks at specific properties.

A critical concern among Task Force members – and potentially the most difficult barrier – is to ensure that the model produces consistent results across the state. To use a Front Range example, a model that assigns the highest risk rating to both an urban area like Cherry Creek and also a forested area like Evergreen would be inaccurate and inequitable. To develop the CO-WRAP model to a point where it can uniformly quantify risks for specific properties, CSFS

will need to tap into a much broader group of end-users, such as insurance agents, real estate agents, lenders, and local government officials.

Updating the model is likely to take about 5 years and cost $600,000 per year. Managing the development workshops with stakeholders and gathering the underlying data for the model will result in additional costs.

2.1.3.2 Maintaining the maps will take time and resources.

Any effort to develop a state-wide risk assessment mapping system must give due regard to the costs of administration and upkeep. This will be a continual process as data will be constantly changing based on factors such as new development, individual mitigation efforts, and wildfire damage assessments. The Task Force predicted that it would often, but not exclusively, fall to counties or local governments to initiate updates and map adjustments, in consultation with CSFS staff.

The administrative costs, including those associated with annual or biennial property hazard assessments and managing an appeal process, could be significant. One significant hurdle to raising funds in Colorado is the Taxpayer's Bill of Rights (TABOR), a provision in the Colorado Constitution that, among other things, requires voter approval for any new taxes, or any increase in tax rates, mill levies, or property transfer taxes. To avoid TABOR implications, any payment must be structured as a "fee" that is paid by those who benefit from the service, where the proceeds of the fee are used to pay for the particular government service. The concept of fees is discussed in more detail under Section 2.3 (Building and Activities in the WUI).

2.1.4 Recommendations

RECOMMENDATION

Develop the CO-WRAP model, in coordination with a broad spectrum of stakeholders, to create a mapping tool with the capability to identify and quantify wildfire risks to specific properties in the WUI.

While CO-WRAP is not yet appropriately tailored to this goal, the Task Force concluded that, with additional funding and significant involvement of likely end-users, CO-WRAP can be developed and enhanced to provide a consistent method for providing site-specific risk assessments throughout the state. A new "WUI Designation" theme can be developed for the existing CO-WRAP model. The new WUI Designation theme should integrate with existing CO-WRAP "themes" to be able define whether or not a specific property is located in the WUI, and to assign a uniform numeric risk value or score to the specific property.

In order to ensure that the model produces useful results, the anticipated users (*e.g*. real estate agents, appraisers, lenders, fire fighters, local governments, and insurers) should be actively involved in enhancing the model, and should participate in the next round of contracting with the software developer.

Once the model update is complete, there should be educational programs to train real estate agents, appraisers, lenders and insurance providers on how to use and interpret the risk assessment end product. This education could be coordinated through existing Continuing Education programs offered within the Division of Real Estate.

CSFS should be the responsible lead agency and should manage and oversee the development of the model. CSFS has already secured $300,000 in federal grant funds for 2014. Additional state and federal funding will be needed to develop CO-WRAP into the assessment tool envisioned in this Report. CSFS estimates that updating the model will cost approximately $600,000 per year for a total of five years plus stakeholder engagement costs. Regular updates will incur additional costs. Task Force members suggested that the wildfire risk rating review could occur biennially, in connection with the County's property tax assessment process, using local knowledge and expertise.

The Colorado Association of Home Builders raised concerns about the potential impact that this recommendation may have on property values and the availability and cost of insurance.

RECOMMENDATION

Disclose the CO-WRAP results to relevant stakeholders.

The CO-WRAP hazard rating can be used as the basis for disclosures to relevant stakeholders, including property owners and potential buyers, realtors, insurance companies, lenders, home-builders, and local governments. In particular, the Task Force recommends that the CO-WRAP score be disclosed in the Colorado Real Estate Contracts, similar to the current disclosures for properties in designated floodplains. It could also be disclosed through the use of a separate WUI Disclosure Form that is given to a prospective purchaser prior to signing an offer. This is discussed in more detail in Section 2.3 (Building and Activities).

These disclosures will help ensure that prospective purchasers are aware of potential wildfire risks as well as the potential financial burden associated with higher insurance premiums and the ongoing maintenance and mitigation obligations for properties in the WUI. The Task Force agreed that such disclosures should be made early in the real estate transaction as a standard contract disclosure, and not at the penultimate moment at closing, in order to ensure that prospective buyers can properly weigh the risks and consequences of owning property in the WUI. As noted above, however, the Colorado Association of Home Builders, raised concerns about the potential impact that this recommendation may have on property values and the availability and cost of insurance.

As discussed in more detail below in Section 2.4 (Insurance), the Task Force recommends that CO-WRAP scores should be provided to insurance companies; however, insurers may or may not use the information as they see fit. In addition, the CO-WRAP scores should be used to trigger Wildfire Mitigation Audits for high-risk homes. This concept is also discussed in greater detail in Section 2.4 (Insurance).

RECOMMENDATION

Create a process to handle appeals and updates for CO-WRAP scores.

Much like the process to challenge a county tax assessment, there will need to be a process to challenge the risk assessment mapping results for a particular property. The Task Force theorized that challenges would arise in one of two ways: (1) a property owner challenges the underlying wildfire risk rating; or (2) a property owner proactively mitigates and applies for an updated wildfire risk rating. While the Task Force theorized that wildfire risk rating reviews will likely occur at the local level, Task Force members recommend that a state agency, such as CSFS, be involved in any appeals process, as this is a state-wide initiative.

2.2 Environmentally Sensitive Ways to Improve Forest Health and Limit Exposure

2.2.1 Issue Statement and Key Principles

Wildfire is a natural part of Colorado's forested environment, but poor forest conditions and continued urban development in fire-dependent ecosystems have led to increasingly destructive wildfires in recent years. While firefighting efforts are, of course, vital, the Governor has created a separate Advisory Committee to the Director of the Division of Fire Prevention and Control on Wildland Fire and Prescribed Fire Matters. This Task Force therefore focused exclusively on methods and measures to reduce risk.

The Working Group on Forest Health identified the following key principles:

- Many forests in Colorado are over-stocked due in part to fire suppression policies over many years that have prevented natural thinning. These forests are especially flammable, and may result in high intensity fires with extensive damage to both the ecosystem and human assets.

- The goals are to create and maintain a resilient forest, and to create and maintain safe conditions for communities located in the WUI and nearby.

- Strategic hazardous fuels reduction combined with implementation of defensible space around homes and structures have been demonstrated to significantly reduce wildfire risk.

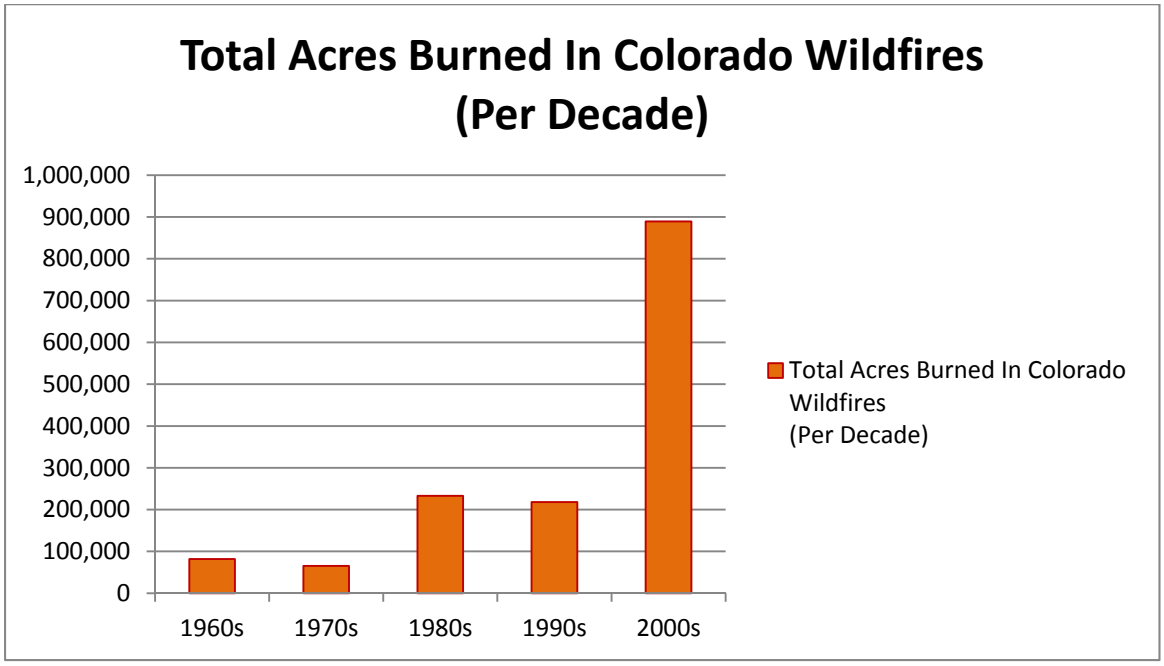
- Active forest management is also essential for protecting Colorado's watersheds: high-severity wildfires can have devastating and long-term impacts on water quantity and quality.

2.2.2 Background

2.2.2.1 Forest Health

Fire is an essential component of Colorado's forested ecosystems. It serves critical ecosystem functions, including replenished soil nutrients, reduced tree diseases and insect pests, and healthy regeneration. Different forest types historically functioned within different "fire regimes" of varying frequencies and intensities. These fires operated to reduce the amount of understory vegetation, which in turn helped to maintain the fire cycle and ecosystem health.

In the past century, however, policies of persistent, aggressive fire suppression have contributed to a transformation of Colorado's forests. Once widely spaced Ponderosa Pine forests, for example, have not had the benefit of frequent, low intensity fires. As a result, they are particularly susceptible to high intensity, destructive fire events. As forest health has declined, the continued expansion of private development in forested areas has meant ongoing fire suppression for the sake of public safety. It has also meant that values at risk are increasing, just as the size and scale of wildfire is also rising. According to CSFS, the annual number of wildfires in the state has increased nearly six-fold, from an average of 457 fires per year in the 1960s to an average of 2,707 fires per year in the 2000s. The annual number of acres burned has increased nearly twelve-fold, from an average of 8,170 acres per year in the 1960s to an average of 97,408 acres in the 2000s. These trends are being exacerbated by climate change, which has increased air temperature, prolonged the fire season, and caused extended periods of drought. According to a recent study published by the Harvard School of Engineering and Applied Sciences, by 2050, wildfire seasons will be about three weeks longer, and will, on average, burn twice as many acres as they do today.



Source: CSFS

The increasing intensity of wildfires also threatens Colorado's watersheds. As noted in the Colorado Forest Action Plan, forests exert a strong influence on the quantity and quality of water within watersheds by protecting soil and preventing erosion, enhancing soil moisture storage and groundwater recharge, reducing flooding, filtering contaminants and maintaining the plant communities that also contribute to this process. If significant precipitation occurs following a high-severity fire, resulting impacts on water systems can include: rapid surface runoff and peak flows; flash floods that mobilize large amounts of suspended sediments, ash and debris; increased transport of materials that can adversely affect water quality for human use; and serious alteration or destruction of aquatic habitat.

In recent years, Colorado has experienced major impacts to municipal water supplies as a result of the flooding, erosion and sediment deposition after the 1996 Buffalo Creek Fire, the 2002 Hayman and Schoonover fires, and most recently, this year's flooding in Manitou Springs as a result of the 2012 Waldo Canyon fire.

Photo: CSFS

As the frequency and intensity of wildfires increases and the number of people living in the WUI continues to grow, the potential for catastrophic loss of life and extensive property damage increases commensurately. From 2002 to 2011, significant fire events destroyed 374 structures. In the two years since, the High Park Fire, the Waldo Canyon Fire, and the Black Forest Fire – each of which succeeded the previous as the most destructive in state history – burned a total of 1109 homes.

2.2.2.2 Prescribed Fire

Prescribed fire has long been used as a management tool in fire-dependent ecosystems. Since so many forests depend on regular intervals of fire, using fire to clear excess vegetation in a controlled environment can be relatively low cost and effective. However, prescribed fire also poses risks. In March 2012, a prescribed burn that was set by the state escaped and became the destructive Lower North Fork wildfire. In the wake of that tragic event, Governor Hickenlooper issued Executive Order D 2012-006, suspending prescribed or controlled fire by State agencies pending review of agency protocols for prescribed or controlled fire. The website address for the Executive Order is provided in Chapter 4 (Selected Resources).

By the following winter, it became clear that one unintended consequence of the ban on prescribed burning was a buildup of fuel piles in forests around the state. Burning piles is considered a form of prescribed fire and thus had been suspended along with more risky landscape-scale or "broadcast" burns. In January 2013, the Governor amended the 2012 Order to permit pile operations. In so doing, the Governor recognized that pile burning remains "the least expensive and most effective method of removing slash." The 2013 Order contains new requirements for pile burning, including the restriction that ignition should only occur on days with adequate snow cover and when the Colorado Air Pollution Control Division has determined that weather conditions are appropriate for burning because good smoke dispersal can be achieved. The 2013 Order also requires that pile burns only occur after proper notification of residents of potentially affected areas and local government officials.

Planned burns of any kind require permits from the Colorado Air Pollution Control Division (or from a designated county/local agency). The purpose and size of a burn determine what kind of smoke permit is required. Prescribed fire permits establish in advance the conditions under which a burn may occur. Permit conditions address such issues as forecasted smoke ventilation, wind direction, ignition end time, distance to residences, and maximum daily acres or number of piles. When weather conditions suggest that smoke will create health hazards for nearby residents, prescribed burns cannot proceed until the permit conditions can be achieved, thereby protecting public health though simultaneously limiting the use of prescribed fire.

2.2.2.3 Forest Health Information and Programs

The Task Force discussed several existing programs and organizations including the following. Relevant website addresses are provided in Chapter 4 (Selected Resources).

- **CSFS and the Colorado Forest Action Plan**

The Colorado State Forest Service provides relevant forestry education and information to thousands of Coloradans every year. CSFS uses the best available science and a variety of other tools to help determine where comprehensive forest management is most needed and beneficial, including the annual forest health aerial survey and forest health report, field observations, partnerships with place-based forestry collaboratives and interagency partnerships.

In December 2009, CSFS added another element to this toolbox by completing the Colorado *Statewide Forest Resource Assessment* and the Colorado *Statewide Forest Resource Strategy*, which were initiated in response to federal requirements in the Forestry Title of the 2008 Farm Bill. Collectively, these documents are referred to as the Colorado Forest Action Plan. The intent of the Forest Action Plan is to provide a science-based foundation to assist state forestry agencies and their partners in identifying areas of greatest need and opportunity for forest management across their states, and developing subsequent long-term implementation strategies.

- **Community Wildfire Protection Plans**

As described earlier in this report, the 2003 Healthy Forests Restoration Act encouraged communities to develop local CWPPs. Colorado now has more than 200 CWPPs. The creation of these plans has brought together diverse local interests to discuss their mutual concerns for public safety, community sustainability and natural resources. The resulting describe specific community risks and values and establish priorities for fuels treatment projects.

- **Fire Adapted Communities**

The Fire Adapted Communities Coalition is a group of partners, including the U.S. Forest Service and the National Fire Protection Association, who work with communities in the WUI as they adapt to living with wildfire. A community becomes “fire adapted” by providing adequate local fire suppression capacity to meet most community protection needs; ensuring that

structures and landscaping are designed, constructed, retrofitted and maintained in a manner that is ignition resistant; implementing local codes, such as building, planning, zoning, and fire prevention codes, which require ignition-resistant home design and building materials; treating and maintaining fuels on land near and inside the community for safety; implementing a community wildfire protection plan; and building other safety features such as buffers between fuels and the community, safe designated evacuation routes, and safe zones in the community when evacuation is not advisable.

- **Firewise Communities/USA**

Colorado's Firewise program is based on a nationwide homeowner education effort. A centerpiece of the program is the "Are You Firewise?" manual which is designed to help homeowners create defensible space around their homes. This "how-to" manual has been widely distributed and facilitated around the state. It is also often used by Colorado insurance companies as a basis for identifying sound mitigation.

- **Front Range Roundtable**

The Front Range Roundtable is a broad coalition of stakeholders that has grown from the original Front Range Fuels Treatment Partnership formed after the Hayman Fire in 2002. The Roundtable includes individuals from state and federal agencies, local governments, conservation organizations, the academic and scientific communities, and industry and user groups, all with a commitment to forest health and wildfire risk mitigation along Colorado's Front Range. The Roundtable's focus area encompasses 10 counties and 1.5 million acres of forest land in need of restoration.

2.2.2.4 Existing Funding Sources to Promote Forest Health

Two competitive grant programs are currently funded by the state: the Forest Restoration Grant Program, which has been funded annually since 2007, and the new Wildfire Risk Reduction Grant Program.

- **Forest Restoration Grant Program**

The Forest Restoration Grant Program is administered by CSFS. It has been funded up to $1 million annually since 2007. This program is a cost-share program that provides funding for up to 60 percent of the total costs for projects that demonstrate a community-based approach to forest restoration. Importantly, projects must address protection of water supplies or related infrastructure, as well as the restoration of forested watersheds. Projects must be located in communities with a CSFS-approved Community Wildfire Protection Plan.

- **Wildfire Risk Grant Reduction Program**

This year, the Colorado General Assembly passed legislation (Senate Bill 13-269) to establish the Wildfire Risk Reduction Grant Program to fund projects that will reduce the risk for damage to property, infrastructure and water supplies, and will limit the likelihood of wildfires spreading

into populated areas. A web link for the bill is provided in Chapter 4 (Selected Resources). The legislature appropriated $9.8 million toward this program, and applicants are required to contribute matching funds. Funds are directed to non-federal lands within Colorado. In August, 2013**,** the Colorado Department of Natural Resources (DNR) made 25 awards totaling just about $4 million, in 16 different counties under this new program.

2.2.3 Barriers to Progress

2.2.3.1 Lack of Funding

The fundamental challenge facing land managers and homeowners is how to remove the millions of acres of hazardous fuels across the state. Much of the material has no market value, and as a result land managers are forced to pay for contractors to clear or thin forest stands. Turning the old timber-sale model on its head, progress on this task is limited by available funds and weak markets for non-traditional wood products.

2.2.3.2 Public Perception and Practical Impediments to Fuels Reduction

Convincing homeowners to mitigate wildfire risk on their property runs into problems beyond funding. Many homeowners are concerned that the aesthetic value of a forested property will be diminished if trees are removed. They may be reluctant to live in an area cleared for defensible space, and they may fear a reduction in real estate values. Even when homeowners support the concept of mitigation measures, they may lack the means to transport the cleared materials away from their individual homes.

2.2.3.3 Prescribed Fire: Air Quality Permitting and Public Concern

Prescribed fire is more affordable at a large scale than mechanical treatment of hazardous fuels. It performs ecosystem functions that can only be met with fire. However, assuming that agencies have met their internal safety requirements and adequate resources are in place for conducting burns, the use of this tool can be restricted by two important factors. First, obtaining the necessary air quality permits can be difficult, thereby limiting burning opportunities. Tasked with protecting public health, the Air Pollution Control Division (APCD) is faced with approving an activity that has known risks for respiratory health. Thus, the permitting process, and compliance with the regulatory conditions contained in permits, can be complex. Second, despite decades of research showing the effectiveness of prescribed burning, many members of the public are wary of its application. High profile coverage of escaped prescribed burns leaves many with the impression that prescribed fire is riskier than it actually is. Also, the public has a perception that all fire is bad and the smell of smoke in the air generates a flurry of public concern. Thus, localized opposition to the use of prescribed fire can be a powerful barrier.

2.2.3.4 Lack of Clarity in Messaging

With so many agencies involved in the various aspects of forest health and homeowner safety, the public can become easily overwhelmed by confusing messages. They may know they need to mitigate their property but may not have clear guidance about how to do it, or where to find technical and financial assistance.

2.2.4 Recommendations

RECOMMENDATION

Continue and enhance state-supported grant funding for wildfire risk mitigation.

Hazardous fuel treatment projects can be effective tools for reducing risk and the Task Force therefore recommends continued funding for mitigation and risk reduction programs. The CSFS Forest Restoration Grant Program is authorized at $2.4 million annually, but actual annual appropriations vary since the fund is tied to Severance Tax revenues. The Wildfire Risk Grant Reduction Program is currently funded at $9.8 million over a 5-year span. Risk reduction programs like these have a significant return on investment, as research shows $10 million for mitigation will save an estimated $100 million in avoided suppression costs. The Task Force recommends not tying funding to a specific CWPP so that homeowners or specific neighborhoods will not be excluded even if they are not yet part of a formalized CWPP. There may be opportunities in the future to tie funding availability to completion of mitigation tasks as recommended throughout this report.

RECOMMENDATION

Create a pilot program for prescribed fire with more flexible air quality permitting options from CDPHE.

The Task Force supports a new approach now being developed by the Air Pollution Control Division where a “general permit” will be issued to users of prescribed fire. This general permit allows for more flexibility in the use of broadcast and pile burns coupled with extensive public notification, education and air quality monitoring. This streamlined approach paves the way for increased prescribed burning while minimizing exposure to smoke and protecting public health. All prescribed burns occur within a state framework of necessary conditions on the ground to maximize safety.

RECOMMENDATION

Work with stakeholders to identify and disseminate consistent information about best management practices (BMPs) and watershed impacts in the WUI.

The Task Force recommends convening a stakeholder group to coordinate messaging on BMPs for forest management and wildfire prevention. There is no need to reinvent the wheel; rather, the group would capitalize on the wealth of existing efforts. BMPs for watershed and water

quality protection should also be addressed through this process, as local governments may benefit from this information as they make land use decisions. This information is readily-available and scientifically valid.

As the lead technical forestry entity in the state, CSFS should lead this effort. Goals include breaking down the current silos, sharing information, and ultimately identifying and disseminating consistent information for homeowners.

2.3 Building and Activities in the Wildland-Urban Interface (WUI)

2.3.1 Issue Statement and Key Principles

There are a variety of planning tools available to local governments, zoning officials, planners and fire/emergency managers to address community wildfire risk. These tools include comprehensive planning, land use regulation, zoning overlays, building codes and standards, and non-regulatory or voluntary programs such as *Firewise Communities* and CWPPs. Regulations are also implemented on a variety of scales. In Oregon, for example, all land that is zoned Forest Resource by the state is automatically subject to wildfire mitigation requirements to protect adjacent property. While this state-wide approach is one option, regulations can also be implemented at the county, community, neighborhood or subdivision level.

The Task Force agreed on the following key principles:

- Homeowners in the WUI should bear the majority of the responsibility for risk mitigation on their specific properties in the WUI.

- Sustained, comprehensive mitigation efforts can be effective tools for reducing wildfire risk and losses.

- A one-size-fits-all approach does not work, since ecological conditions such as terrain and vegetation type vary widely across the state.

- Local governments should continue to be active partners in any approach that the state adopts, with attention paid to the limited resources those entities may have available for implementation and/or enforcement.

2.3.2 Background

There are decades of research from land use planners, fire scientists, foresters, and others that seek to identify the best approaches to reducing risk from wildfire in the quickly-growing WUI. Recently (2011), the Fire Protection Research Foundation and National Fire Protection Association commissioned a report to investigate how cities and counties use local regulatory codes and ordinances to address wildfire risk. The Report, *Addressing Community Wildfire Risk: A Review and Assessment of Regulatory and Planning Tools*, revealed the following:

- Most land use and building regulations are applied only to new development or major reinvestments in property – not to existing structures. One option for communities wanting to be more aggressive is to apply new standards to existing properties. For example, California requires a 100-foot defensible space buffer for both existing and future structures in very high hazard areas.

- WUI regulations are usually administered and enforced by the fire district or local government building department, despite the fact that the fire marshal and fire department personnel are often not trained to perform these enforcement duties. Therefore, shifting enforcement duty to staff specifically trained for code enforcement sometimes results in better compliance.

- Flexibility in the administration of WUI regulations is critical for maintaining community and political support for wildfire regulations. One-size-fits-all solutions that are unable to respond to the unique wildfire and development circumstances in the community are seldom effective and often create political opposition. For example, in Oregon, state-wide standards are implemented using a phased approach working through county governments.

- The most common WUI compliance problem is the lack of ongoing maintenance of defensible space, sometimes for lack of financial resources.

- Public education and non-regulatory programs that provide direct assistance to homeowners (*e.g.*, debris pick-up) are critical pieces in the overall effectiveness of WUI regulations.

2.3.2.1 Comparison of WUI Regulations in the West

Even more recently, University of Colorado Denver's School of Public Affairs professor Lloyd Burton released a White Paper entitled *Wildfire Mitigation Law in the Mountain States of the American West: A Comparative Assessment*. The research focused on the laws in seven fire-prone states in the Mountain West, including Colorado. It reviewed whether states relied primarily on "soft law" (public education and encouragement to adopt proven wildfire mitigation techniques) or "hard law" (regulatory mandates). In so doing, the white paper identified two distinctly different approaches to wildfire mitigation: (1) the common standard states, which adopt enforceable statewide mitigation standards for all property owners in the WUI; and (2) local option states that empower local governments to decide for themselves whether or not they wish to require property owners in their jurisdiction to mitigate. Common standard states like California and Oregon adopt uniform standards based on the rationale that mitigation efforts will be ineffective unless all property owners in the forested area mitigate. By contrast, local option states, such as Arizona and New Mexico, place a higher premium on values of personal autonomy and local control.

The paper makes the following observations:

California is a common standard state. The Department of Forestry and Fire Protection (CAL Fire) is authorized to establish a fire plan under the Public Resources Code. In order to facilitate that plan, CAL Fire is required to map significant fire hazard areas. In turn, the Office of the State Fire Marshal (OSFM) implements fire prevention programs and regulations, including regulation of buildings and mitigation regulations that are applicable to all lands within the defined "State Responsibility Area." Incorporated communities in the WUI and adjoining SRAs are strongly encouraged to incorporate the OSFM mitigation regulations. If a community wishes to develop its own mitigation regime, it carries the burden of proof of showing that its approach is as effective as the OSFM's at preserving lives and property. As a result, most communities have used the state standards. California also updates its Building Standards Code (which incorporates the state Fire Code) every three years and mandates requirements for new building construction placing emphasis on defensible space and access. Relevant citations and a website address for the California code are provided in Chapter 4 (Selected Resources).

Oregon is also a common standard state. The Oregon State Department of Forestry is responsible for mapping "red zones" (*i.e.*, the WUI). This mapping is conducted at the county level, using a county-appointed classification committee. The State Department of Forestry establishes minimum standards for minimizing or mitigating fire hazards and landowners in high-risk areas must follow those standards or risk fines. The State is authorized to inspect, enforce and levy fines, on the premise that it is the State that is ultimately responsible for mapping the WUI areas of concern. In addition, the statute includes a fuel reduction program for existing landowners. Property owners have two years after receiving the letter of notification to comply with the fuel reduction standards and return the certification card to the state. If the fuel reduction isn't completed and the certification card is not returned, property owners are potentially liable for cost recovery fees of up to $100,000. Citations and a website address for the Oregon Code are also provided in Chapter 4 (Selected Resources).

Nevada and Utah are characterized as "hybrid" states because, though for different reasons, their mitigation requirements contain elements of both common standards and local options.

Colorado is a local option state. There is no state law mandating particular wildfire mitigation practices. Instead, it is city and county governments that are authorized to engage in general land use planning and regulation which can be extended to include wildfire mitigation measures.

2.3.2.2 WUI Regulations in Colorado

Colorado's local option approach has resulted in a variety of different ways to manage wildfire risks in the WUI. Several communities have implemented mandatory WUI regulations in response to wildfire events. For example, in 2012, following the devastating Waldo Canyon Fire, Colorado Springs adopted an ordinance to create WUI mitigation requirements for the Hillside Overlay Zone. A copy of the ordinance is provided as Appendix 3 to this Report. The ordinance requires measures such as monitored smoke alarm systems, fuels management measures and fire resistant roofing materials.

These photographs show the same property, before (above photograph) and after (below photograph) the homeowner created defensible space. Photos: CSFS

Summit County has also adopted proactive measures. It has amended its building code to include Fire Hazard Mitigation Requirements for New Construction (Chapter 36 of the Uniform Building Code). New homes and remodels in an area rated as moderate or high fire hazard risk in unincorporated Summit County must go through a wildfire mitigation inspection process.

In Boulder County, the Land Use Department has included wildfire mitigation measures in the planning review and building permit process since the Black Tiger Fire in 1989. When building a new home, residents must go through a Site Plan Review (SPR) process and implement an approved Wildfire Mitigation Plan. This process and plan include the best site location on the property, effective defensible space, ignition-resistant construction, adequate emergency access, and sufficient water supply. Over time, these requirements have become more stringent as better, science-based data on best management practices has become available. Landowners who go through the SPR process are required to maintain their defensible space over time. Boulder County programs also encourage, but do not require, residents of existing homes to create and maintain a safe home ignition zone. A copy of the relevant provisions of the Boulder Land Use Code is provided as Appendix 4 to this Report.

The Fourmile Canyon Fire provides hard evidence of the success of Boulder County's mitigation requirements. Only 63% of the affected homes that had not gone through the SPR process survived, as compared to 83% of the homes that had gone through the SPR process. It is also clear that as the regulations have evolved based on newer science, so too has the survivability

of the homes. Of the homes affected by the Fourmile Canyon Fire that had gone through SPR process, the rate of survivability is directly proportional to the more stringent regulations:

- 75% of structures that were approved between 1993 and 1994 survived.
- 80% of structures that were approved between 1995 and 1999 survived.
- 100% of homes that were approved between 2000 and 2010 survived.

2.3.2.3 Model Codes and Standards

There is substantial consensus on the two most effective mitigation measures residents can take to reduce the risk of losses related to wildfire: (1) structural mitigation and fire-safe building materials; and (2) the creation of defensible space. A variety of interest groups have developed model codes to address these two issues. For example, the National Fire Protection Association (NFPA) publishes a model Fire Code. NFPA has also published standards for Reducing Structure Ignition Hazards from Wildland Fire and for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas (NFPA 1141 & 1144). The International Code Council (ICC) has also published a model International Wildland-Urban Interface Code. In addition, the National Institute of Technology and Standards (NIST) is currently working to develop national-level codes and standards strategy based on mapping zones of fire exposure severity within a WUI community. The NIST Fire Risk Reduction in Communities Program is seeking to develop model building codes and standards for fires in the WUI by 2014.

Colorado-specific standards have also been developed and disseminated. For example, CSFS has developed guidelines for creating wildfire-defensible zones. (CSU Extension Fact Sheet 6.302). The website address for these guidelines is also provided in Chapter 4.

2.3.3 Barriers to Progress

2.3.3.1 Political Perils

Not all local governments or fire districts have adopted WUI regulations. Sometimes this is the result of an ideological view about the role of government. Other times, governments take no action since implementing and enforcing stricter or new regulations is often costly. In addition, keeping existing requirements intact can be problematic. In recent years, some local governments have rescinded WUI requirements. Breckenridge, for example, repealed a mandatory defensible space ordinance in 2009 in response to pressure from real estate developers and property owners.

2.3.3.2 Enforcement Difficulties

While there are areas now with very strict WUI Code requirements and mitigation ordinances, enforcement and compliance continues to be a challenge for local officials. Individuals can be unwilling or unable to afford the mitigation requirements that are currently in force. Moreover, most local governments lack the resources to provide for meaningful enforcement of mitigation standards.

2.3.3.3 *Homeowners Association (HOA) Impediments*

HOA and other community covenant requirements can also be an impediment to efforts to ensure use of fire-wise building materials and science-based mitigation measures. For example, it is universally accepted that to minimize fire risk, wood shake shingle roofs should be replaced with non-combustible or fire-resistant materials. However, some HOAs still mandate cedar shake roofs.

A highly flammable wood shingle roof.
Photo: CSFS

2.3.3.4 *Existing Homes*

While providing regulatory guidance for new development may be relatively straightforward, it is far more challenging to address mitigation needs on existing homes, in part because of weak loan availability for existing structures. There is a clear need for more programs to encourage mitigation, and resources to assist with related costs for these homes.

2.3.3.5 *Expense*

All recommended or required mitigation measures come with attendant costs – both in terms of personal freedom to manage one's property and also pure financial costs. Local governments are understandably wary of taking on a new financial obligation. And, as noted above in Section 2.1.3.2, depending on how the fee/cost is structured, there may be obligations for a public referendum on any new tax under the Colorado TABOR law.

2.3.4 Recommendations

RECOMMENDATION

Adopt a state-wide model ordinance for properties in the WUI.

The Task Force recommends the adoption of a state-wide, model ordinance for private property in the WUI. This ordinance might address building materials, zoning codes, defensible space requirements, and other similar provisions. There are a variety of ways a state-wide model WUI code could be implemented, including the following:

- One, mandatory, uniform standard throughout the state. Local governments would work with homeowners to implement the state standard.

- Delegate authority to local governments to determine specific priorities based on local conditions and knowledge, with all local guidelines remaining within the bounds of statewide standards.

- Create a voluntary state standard, but incentivize participation by tying state funding to compliance with the state standard.

Additional regulatory components that might be included in a statewide standard include the following:

- Require all new construction in high risk zones to complete defensible space standards on the property before a certificate of occupancy is issued.

- Make a title transfer dependent upon certification the property meets certified defensible space standards. If the property does not meet defensible space standards, a mitigation plan would be prepared, implemented, completed and certified before the property transfer could be completed. However, additional input from the industry stakeholders would be necessary on this potential use.

The Colorado Association of Home Builders, Colorado Municipal League, and Colorado Counties Inc. believe that codes are best developed, implemented and enforced by Local Governments. They believe that the Governor should issue an Executive Order encouraging municipalities to adopt a WUI code and would support the Governor providing a model code as guidance. In addition, they encourage the General Assembly to find funds to help municipalities with the costs involved with adopting and enforcing a WUI code.

RECOMMENDATION

Assess a fee on properties in the WUI to help fund mitigation activities.

Given the guiding principle that homeowners in the WUI should share in the risk of living in wildfire-prone areas and should therefore shoulder much of the associated costs, the Task Force recommends a fee be assessed on those who live in the WUI. The wildfire risk rating could be used to identify homeowners who would be charged. Properties with higher risk scores could be assessed a higher flat fee than those with lower risk scores. The funds would be collected at the state level and distributed to local governments to help offset the costs of mitigation in the WUI.

Fee-based programs are not untested. California recently enacted legislation that requires rural residents to pay an annual $150 fire-fighting fee. The funds are used for prevention and protection services. Idaho, Montana, Oregon and Washington also have fee requirements in place. Some assessments date back decades to years when private timber companies first taxed themselves to pay for fire protection.

Several methods for assessing the property fee exist, including:

- Funds could be raised through a graduated mill levy assessment on properties in the WUI. The mill levy would vary based on the severity of the hazard rating. A variation of this theme is to apply the mill levy state-wide, but properties scoring a 0 risk level would have no additional assessment. This would require local TABOR elections for the mill levy increase.

- Funds could also be raised through a flat fee on any property in the WUI.

- As part of the process, homeowners might qualify for a rebate or reduction of the fee if they perform proper mitigation on their property and reduce their risk score.

RECOMMENDATION

Prohibit community building or land use requirements that are inconsistent with science-based, Firewise principles.

The Task Force recommends that the state prohibit any community requirement, Homeowners Association (HOA) directive or property-specific covenant control that imposes conditions that would *increase* risks. Examples of such conditions include requirements for shake shingle roofs or landscaping directives that are inconsistent with defensible space concepts.

RECOMMENDATION

Amend the standard form real estate contract to include a WUI disclosure, including the CO-WRAP score.

In concert with the recommendation to use the CO-WRAP wildfire risk data for disclosures, the Task Force recommends that in a residential real estate transaction, when the property is in the WUI, the standard form real estate contract should require the up-front disclosure to prospective property owners of the property's wildfire risk rating. An additional option is creating a separate WUI Disclosure Document.

RECOMMENDATION

Increase homeowner and stakeholder awareness of financial and technical assistance that is already available in Colorado to support wildfire risk mitigation.

The Task Force recommends that stakeholders and community partners work together to help educate existing homeowners and landowners in the WUI about the importance of property mitigation and to inform them about the resources (including both mitigation expertise and also potential avenues of public assistance, such as grants and federal initiatives) that are already available. The State should also work with existing grassroots networks to help educate the general public. For example:

- The Colorado Rebuilds Fire Adapted Communities program, which was implemented in the fall of 2012 with statewide partner buy-in, included bringing in community business partners such as Lowes to hold weekend community workshops in fire impacted areas (Jefferson County, Fort Collins, Colorado Springs).

- *Firewise* has begun targeting youth audiences to engage them in property and financial preparedness efforts such as the May 4, Day of Service.

- For tax years 2009 – 2013, Section 39-22-104(n) of the Colorado Revised Statutes authorizes individuals, trusts and estates to subtract 50% of the costs incurred in performing wildfire mitigation measures, pursuant to relevant qualifications and limitations. However, a 2013 survey of Colorado homeowners conducted by Allstate Insurance Company found that 75% of the surveyed homeowners were unaware of the tax provision. One option that may be more beneficial to homeowners is creating a tax credit that would provide dollar-for-dollar reductions, in lieu of a tax deduction.

- Public-private or fully private funding sources may also be available for wildfire mitigation through the lending community. This may be particularly effective for promoting mitigation at existing homes.

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2.4 Insurance

2.4.1 Issue Statement and Key Principles

Recent wildfire losses have contributed to legislative attention to the role played by the insurance industry. In 2013, the Colorado General Assembly passed the Homeowner's Insurance Reform Act of 2013 (House Bill 13-1225), which ensures that policyholders have enough time and adequate insurance benefits to recover from a devastating total loss of home and property. It also clarifies the responsibilities of policyholders and insurance providers in order to reduce administrative hurdles during the claims process.

While HB 13-1225 is an important step forward, the Task Force also reviewed what role insurance might play as a driving force for financial incentives that prompt individuals to undertake necessary risk mitigation on their property.

The Working Group on Insurance identified the following key principles:

- Colorado needs a competitive market with multiple insurers and products. To ensure this exists, insurance companies must maintain their own individual underwriting and inspection processes with minimal interference from the legislative branch.

- Changing homeowners' behavior is essential. Insurance companies are united in their desire to motivate homeowners in risk zones to mitigate.

2.4.2 Background

2.4.2.1 Insurance Coverage for Wildfires

Homeowners insurance typically covers property losses caused by wildfire. A variety of insurance products are available for homes in the WUI, ranging from basic to deluxe policies. There are hundreds of companies that currently write business in Colorado: in general this means that homeowners insurance is available and affordable for consumers, especially compared to other catastrophe-prone states.

Insurance companies currently consider various factors when calculating the risk of fire (including both wildfire and structure fire), such as the type of construction, materials and features on the home including the roofing material/style, distance to a fire hydrant and a fire station, and whether the neighborhood is protected by a fully staffed and well-equipped fire department. Insurance companies also review the so-called "ISO rating" for particular properties. The Insurance Services Office (ISO) collects information on municipal fire-protection efforts in communities throughout the United States through its Public Protection Classification (PPC) program. ISO is an advisory organization, and insurers may use the ISO rating

Photo: National Interagency Fire Center.

information, modify it, or not use it, as they see fit. By classifying communities' ability to suppress fires, the existence of the ISO-ratings helps both insurers and communities evaluate the relevant public fire-protection services. By securing lower fire insurance premiums for communities with better public protection, the PPC program provides incentives and rewards for communities that choose to improve their firefighting services.

Facing the increasing risks for devastating wildfires, many insurance companies are now asking customers to take precautions to protect their property in order to maintain insurance. More and more, insurance companies are also conducting on-site inspections and notifying policyholders of what they need to do to mitigate wildfire hazards to help save their homes and keep the home insurable. Ultimately, however, each company has its own underwriting policy, and, therefore, cost and ability to obtain insurance will vary based on company policies.

2.4.2.2 Recent Legislation: HB 13-1225

On May 7, 2013, Governor Hickenlooper signed into law the Homeowner's Insurance Reform Act (also referred to as House Bill 13-1225). HB 13-1225 delineates new rights, duties, and obligations of insurers, insurance producers, and consumers with regard to the purchase of homeowner's insurance. A web link for HB 13-1225 is provided in Chapter 4.

The key statutory changes for all homeowners insurance policies include: mandatory replacement coverage offers, provisions regarding policy deadline extensions, requirements for simplified policy language and for increased agent/company education and policyholder communication, and provisions clarifying the terms for documenting contents in the event of total loss. In addition, the new law requires that at least 3 of the 24 hours of continuing education for producers authorized to sell property or personal lines must be for courses in homeowners insurance coverage. Most of these provisions will go into effect on January 1, 2014.

2.4.2.3 Industry Information and Education Efforts

The Task Force reviewed and discussed several existing industry information and education efforts, including the following:

- **The Colorado *Wildfire Ready* Campaign**

The Rocky Mountain Insurance Information Association (RMIIA) and insurance partners developed a public awareness campaign in the spring of 2012 to promote property and insurance preparedness. The campaign continued in 2013 with insurer partners contributing over $78,000 and media partners contributing $165,000 in advertising value and video/ad/digital production.

With the Waldo Canyon and High Park fires fresh in Coloradoans' memories, the 2013 strategy has been to leverage the three main *Wildfire Ready* action messages:

1. Creating a home inventory
2. Taking steps to protect property
3. Reviewing insurance coverage

The centerpiece of the *Wildfire Ready* campaign is the CBS4 Denver "Are You Wildfire Ready?" website and resource center with all other campaign elements driving traffic to the site. The campaign kicked off the 2013 year on May 5 with a primetime 30-second education spot on *60 Minutes* featuring Governor Hickenlooper. When the massive Black Forest Fire erupted in early June, *Wildfire Ready* was already positioned with high-profile outreach, especially in southern Colorado and El Paso County.

- **Insurance Institute for Business and Home Safety**

The Insurance Institute for Business & Home Safety (IBHS) is an organization of insurers and reinsurers. Its goal is to reduce property loss by helping make buildings more resistant against natural disasters and by creating disaster safety plans for homeowners and businesses via its online service (DisasterSafety.org). The organization conducts research on catastrophes and threats to homes and businesses. The Institute has recently been studying the vulnerabilities of buildings subjected to wildfire exposures, and has developed information on which mitigation methods are most effective in reducing the likelihood of wildfire-caused building ignitions in communities located in wildfire-prone areas.

2.4.2.4 Comparison to the National Flood Insurance Program

As part of its discussion on possible insurance models for wildfire risk, the Task Force reviewed and debated the merits of the existing national program for flood insurance. The National Flood Insurance Program (NFIP) was created in 1968 through federal legislation and was designed to provide a less expensive and more equitable alternative to federal disaster assistance. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which works with nearly 90 private insurance companies to offer flood insurance to property owners and renters in identified hazard areas. Under the NFIP, property owners in participating communities can purchase insurance from the government against flooding losses. To participate, the local community must adopt and enforce a floodplain management ordinance designed to reduce future flood risk to new construction in defined Special Flood Hazard Areas (SFHAs). In turn, SFHAs are depicted on Flood Insurance Rate Maps (FIRMs) that are managed by the Mitigation Division at FEMA.

There are aspects of and lessons from the National Flood Insurance Program that apply to the WUI wildfire situation, including both the development and use of risk assessment mapping to identify impacted properties and also encouraging counties, cities and communities to improve readiness. However, there are also significant differences. First and foremost, unlike flood risk, fire (including wildfire) is already covered as part of a standard homeowners insurance policy. As noted above, Colorado has a healthy insurance market, especially when compared to other catastrophe-prone states.

Replicating the NFIP model for wildfire-specific perils would be unwise. A significant concern about creating a WUI-specific product based on the NFIP model is that the only property owners who would likely purchase a WUI-based insurance product are those people living in the highest risk areas, so the fund would not be able to adequately spread the risk to make it affordable (which has been a historic problem with the NFIP program). It is also unlikely that this type of program could maintain adequate funds to pay out catastrophic claims. In addition, the majority of homeowners still don't buy flood coverage unless they are required to do so.

2.4.3 Barriers to Progress

2.4.3.1 Personal Responsibility

Experience suggests that homeowners tend to avoid the insurance process until they have a claim. Therefore, one thrust for action might be designed to incentivize homeowners to pay closer attention and become more actively engaged in the insurance process before disaster strikes. In this way, insurance policies currently provide a risk-sharing mechanism to motivate homeowners in high risk areas to mitigate their property and insurance companies encourage homeowners to invest in appropriate insurance coverage.

2.4.3.2 Legal Constraints

In Colorado, the insurance industry is regulated by the Department of Regulatory Agencies, Division of Insurance. Two legal parameters are relevant here. First, Colorado law does not require a consumer to purchase homeowners insurance. Although mortgage companies will require coverage for homes that are financed, not all homes are financed. Thus, to the extent that insurance coverage is seen as part of the solution, it is critical to remember that insurers cannot, by law, be required to cover all homes in the WUI. Second, insurers cannot share individual methodologies for risk assessment because of state and federal antitrust laws. This potentially limits the reach of state government in applying a standardized approach to underwriting policies in high-risk areas.

2.4.3.3 Unintended Consequences

In part because of the legal criteria described in the above section, any increase in rates for homeowners in the WUI could create a disincentive to purchase insurance. Similarly, minimum uniformity requirements could drive out some companies and limit market availability, not unlike the phenomenon that has occurred in Florida in recent years.

Providing discounts to homeowners who have completed necessary mitigation is another policy approach with potential unintended consequences. From an insurance perspective it is counterintuitive to provide a discount in a high risk area where mitigation is often necessary to maintain insurance coverage. Mandating discounts could cause rates that are inadequate and do not accurately reflect the risk. Many mitigation actions such as creating defensible space need ongoing maintenance; tying an insurance discount to any one-time or temporary measure would be inadequate.

2.4.4 Recommendations

RECOMMENDATION

Develop and require a Wildfire Mitigation Audit for high risk properties in the WUI.

The Task Force recommends creating a state-wide requirement to obtain a Wildfire Mitigation Audit for high risk properties in the WUI. The requirement for the Audit would be tied to the CO-WRAP scores: for example, every property that scores above a 5 on the 1-10 wildfire risk rating scale must obtain an Audit. The Audit could be completed by local fire districts, the State Forest Service, or some other authorized group using consistent standards.

The Wildfire Mitigation Audit could be patterned after the existing system for home energy audits. Home energy audits currently rate the efficiency of a home based on the Home Energy Rating System (HERS) Index, giving prospective buyers and homeowners insight into a home's energy efficiency. Similarly, a Wildfire Mitigation Audit would provide a uniform, state-wide approach for identifying both existing wildfire risks and steps to mitigate those risks. This information would fill a knowledge gap and could serve as an important disclosure tool for existing and prospective homeowners.

The Task Force recommends that Wildfire Mitigation Audits be provided to insurance companies which would then be empowered to factor in the results as part of their individual underwriting policies. This approach would ensure that uniform information is shared while also keeping market forces intact.

Additional possible uses for the Wildfire Mitigation Audit include the following:

- Pattern the Wildfire Mitigation Audit after the Septic System Certification Program implemented by the Tri-County Health Department and make completion of the identified mitigation steps a requirement prior to transferring legal title to the property. Additional input from the title insurance industry would be needed on this potential use of the Wildfire Mitigation Audit.

- For new construction or remodels, require that the Audit be submitted to obtain a building permit; identified mitigation actions could then occur simultaneously.

- Provide Wildfire Mitigation Audits to prospective purchasers of at-risk properties.

Since the Wildfire Mitigation Audit would be built on the CO-WRAP risk assessment score, wherever it is appropriate to disclose the CO-WRAP score, it may also be appropriate to disclose the outcome of the Audit.

RECOMMENDATION

Disseminate information about HB 13-1225.

Extensive outreach and education on HB 13-225 will help Colorado property owners understand the changes in homeowners insurance laws and reinforce the need to protect themselves financially through maintenance of adequate insurance.

A robust educational campaign will demand collaboration between public and private stakeholders, including the Department of Regulatory Agencies, the Colorado Division of Insurance, insurance companies, state and national insurance trade associations, realtors, mortgage lenders, the title insurance industry and other community stakeholders. This recommendation could be implemented in a variety of ways, including:

- Through incorporation of highlights of HB 13-1225 with the National Association of Insurance Commissioners Homeowners Buyers Guide or a Colorado-specific brochure produced by the Division of Insurance.

- By distributing information through newsletters, continuing education courses, special mailers, and business/social media to business partners and constituents. This would expand on efforts already underway, including, but not limited to the bulletins issued by the Division of Real Estate about HB 13-1225.

- Through the continuing education courses required under the new law. (As drafted, HB 13-1225 does not <u>require</u> specific content, but the Division of Insurance could encourage programs addressing the issues of insuring to value and mitigation measures).

3. Summary of Recommendations

Task Force Mandate:

1. Identify the Problem
- Where is the WUI?
- What is the magnitude of the risk?

2. Address the Problem
- Require WUI homeowners to bear the risk
- Require mitigation
- Increase awareness through education and disclosure
- Provide resources and funding
- Capitalize on existing efforts, resources and knowledge
- Maintain a robust insurance market

3. Consider Unintended Consequences
- Avoid unfunded mandates
- Develop a system to address appeals and updates for the CO-WRAP model.

In this report, the Task Force identifies a series of recommendations that, together, create a system that can identify the extent of the WUI, calculate risks for individual properties in high hazard areas, and facilitate implementation of effective mitigation and prevention measures at the local level. The core principle underlying these recommendations is the need to focus on the responsibility of the homeowner in the WUI.

As a first step, the Task Force recognizes the need to create a uniform methodology across the state for identifying and quantifying risk to specific properties. The CO-WRAP model is already developed as a risk assessment tool, and is the most logical and cost-effective option to develop for this purpose. The model will have to be updated and enhanced in order to provide property-specific information. Comprehensive coordination with all affected stakeholders will be essential. Most importantly, the updated CO-WRAP model will be able to assign a risk score to every property in the WUI.

The CO-WRAP scores should be provided to current and prospective homeowners, realtors, home builders, lenders, insurance providers and local governments. In particular, the Real Estate Commission should amend the standard contract form to disclose the CO-WRAP score to prospective purchasers, along with details about the obligations and expenses associated with purchasing a property in the WUI. Each relevant stakeholder will then have a uniform source of information on the wildfire risks for a specific property.

To ensure viability, an appeals and updating system will need to be put in place, particularly for instances in which the homeowner has performed necessary mitigation and establish the basis for a more current, lower CO-WRAP score.

Homes scoring high – for example, over a "5" on a scale of "1" to "10" – on the CO-WRAP model should be required to conduct Wildfire Mitigation Audits. The Audit results should be provided to insurance companies, thereby empowering them to use this information during the underwriting process.

On a voluntary basis, local governments could also incorporate the Wildfire Mitigation Audit findings in various ways, such as requiring that identified mitigation actions occur before transferring legal title to a property, or before building or remodeling permits are issued.

To ease a homeowner's path through the current maze of guidelines and recommendations for reducing wildfire risk, the Task Force recommends coordination among existing stakeholders to identify and disseminate consistent information about BMPs and watershed impacts in the WUI. There is already a tremendous body of work in this area; the task at hand is to consolidate and share information to develop and disseminate a uniform message to homeowners. There is no need to reinvent the wheel.

The Task Force also recommends adoption of a state-wide model ordinance addressing building materials, zoning codes, defensible space requirements, and other similar provisions for properties in the WUI. This could be developed in various ways, including as a mandatory state-wide standard to be implemented by local governments, or as a voluntary state standard with state funding availability tied to local government participation. Similarly, the Task Force recommends a specific prohibition on any community building or land use requirements that are inconsistent with science-based, Firewise principles.

The Task Force also considered funding needs for mitigation, and recommends that a fee be assessed for properties located in the WUI. Those funds would be collected at the state level and distributed to local governments to help offset the costs of mitigation for properties in the WUI. Continued and enhanced state-supported grant funding for wildfire risk mitigation is also critical to sustain capacity for mitigation activities.

Task Force Recommendations:

- Update CO-WRAP to identify and quantify risk to specific properties in the WUI
- Disclose CO-WRAP scores to stakeholders
- Amend standard real-estate contract form to include disclosure of CO-WRAP score
- Create process for appeals/updates of CO-WRAP scores
- Require Wildfire Mitigation Audits for high risk homes
- Develop and disseminate uniform BMPs
- Implement state-wide model ordinance
- Prohibit inconsistent community building or land use requirements
- Create pilot program for prescribed burns
- Assess a fee on properties in the WUI
- Continue and enhance state grant funding
- Increase awareness of financial assistance and technical support
- Disseminate information about HB 13-1225

Task Force Recommendations: Implications for Homeowners in the WUI

1. Obligations
- Obtain CO-WRAP score and Wildfire Mitigation Audit (if high risk)
- Comply with building and land use codes
- Pay property fee

2. Incentives for Mitigation
- State funding for mitigation
- Tax incentives
- Desire to lower insurance premiums and avoid Wildfire Mitigation Audit

3. Available Information
- Uniform best management practices
- Existing resources and funding options
- Homeowners Insurance Reform Act (HB 13-1225)

Another way the state can support fuels reduction is through effective use of prescribed fire. The Task Force supports the new approach now being developed by the Air Pollution Control Division of the Department of Public Health and Environment. The new "general permit" will be tested on a pilot basis, and is expected to improve flexibility for conducting prescribed burns while providing for extensive public notification, education and air quality monitoring.

In concert, the state should undertake efforts to increase awareness about the importance of property mitigation and to inform homeowners and landowners about the resources that are available, including tax incentives, community programs, public/private partnerships and the existing insurance reform legislation.

3.1 Process

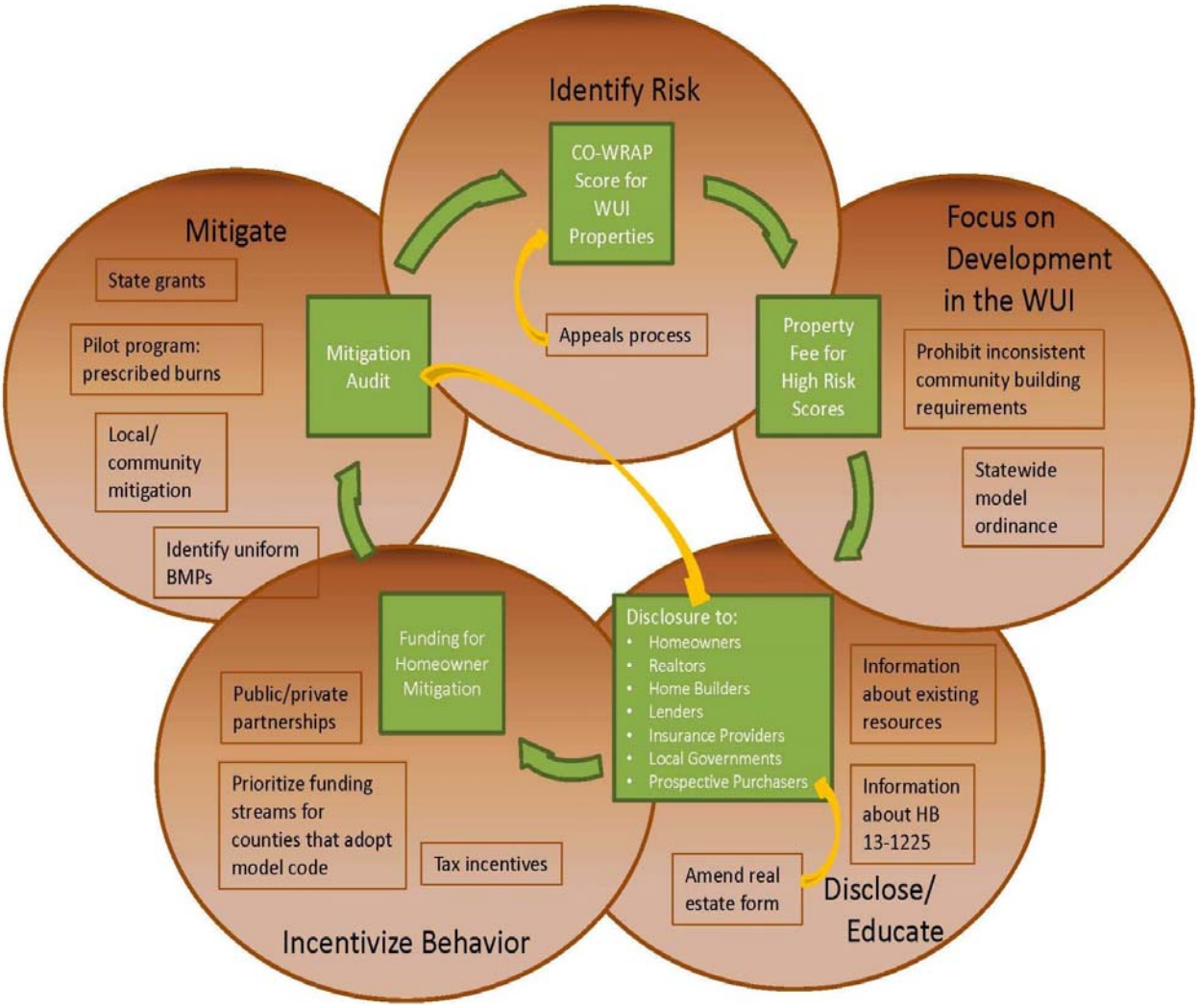
The system envisioned by the Task Force will create not just legal obligations but also an interrelated network of incentives to help shift homeowners' behaviors in the WUI. At the center of the recommendations is the core recognition of the need to focus on the responsibility of individual homeowners in the WUI. These homeowners will be given property-specific wildfire risk ratings and possibly also be asked to conduct Wildfire Mitigation Audits if their risks are significant. They will be assessed a fee to share the burden of the costs associated with living in the WUI. The wildfire risk-rating will be shared broadly with affected stakeholders, which will both disclose the attendant property risks to interested parties, and also serve as an incentive for homeowner mitigation. Homeowners will also be made aware of existing resources (both financial and technical) to aid in home mitigation. Collectively, these factors should also work together to encourage mitigation and wildfire risk reduction, which will lower a homeowner's risk score.

At a broader level, the recommendations also focus on five critical factors identified by the Task Force: (1) the need to identify property-specific risks; (2) the need to focus specifically on development in the WUI (both by assessing fees just on WUI properties and also by identifying regulations and standards specific to the WUI); (3) the

importance of disclosure and education; (4) the need for voluntary incentives, including state funding and tax provisions; and (5) the basic need to conduct mitigation, not just at the individual property level, but also through other coordinated measures, such as local/community efforts, prescribed burns, and coordinated messages about BMPs.

Ultimately, homeowners will receive clear information about best management practices and available resources for mitigation. They will be notified on a continuing basis about the risk ranking for their property and about mitigation steps that can reduce that risk. Throughout this process, systematic transparency will benefit the many stakeholders with an interest in fewer damaging fires across the state.

Contemplated Process



3.2 Implementation Options

Recognizing that its recommendations will be further debated, developed, adapted, and implemented by the Governor, the General Assembly, state agencies, municipal and county governments, and local communities, the Task Force also discussed the implementation options and cost considerations (if any) for each of its recommendations. A brief summary is provided below.

Task Force Recommendations	Change to Laws	Change to Regs.	Exec. Order	Voluntary / Guidelines	Costs?
Develop CO-WRAP to identify and quantify wildfire risk in the WUI	✗	✗	✗	✗	✓
Disclose CO-WRAP scores to stakeholders	✗	✓	✗	✗	✓
Create process to appeal/update CO-WRAP scores	✗	✓	✗	✗	✓
Continue/enhance state funding for risk mitigation	✓	✗	✗	✗	✓
Pilot program for prescribed burns	✗	✓	✓	✗	✓
Coordinate and disseminate uniform BMPs	✗	✗	✗	✓	✓
Adopt a state-wide model ordinance	✓	✗	✗	✓	✓
Assess a fee on properties in the WUI to help fund mitigation activities	✓	✓	✗	✗	✓
Prohibit inconsistent building / land use requirements	✓	✓	✓	✓	✗
Amend standard real estate contract form	✓	✓	✗	✗	✗
Increase homeowner/stakeholder awareness of available financial and technical assistance	✗	✗	✗	✓	✓
Wildfire Mitigation Audit	✓	✓	✓	✗	✓
Disseminate information on HB 13-1225	✗	✗	✗	✓	✗

4. Selected Resources

4.1 Appendices

1. Executive Order B 2013-002	*Creating the Task Force on Wildfire Insurance and Forest Health*	A-1
2. Executive Order B 2013-008	*Amending Executive Order B 2013-002, Creating the Task Force on Wildfire Insurance and Forest Health*	A-4
3. Colorado Springs Ordinance 12-111	*Amending the International Fire Code*	A-6
4. Boulder County Land Use Code	*Selected Excerpts*	A-13
5. Colorado State Forest Service	*Home Fire Protection in the WUI*	A-21

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4.3 External Sources

4.3.1 Colorado

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Executive Order D 2012 – 006: *Suspending Prescribed or Controlled Fire Pending Review of Protocols*	http://www.colorado.gov/cs/Satellite?c=Page&childpagename=GovHickenlooper%2FCBONLayout&cid=1251637689655&pagename=CBONWrapper
HB 13-1225: *The Homeowner's Insurance Reform Act of 2013*	http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont3/B95B7D8CF123429187257AEE005702F7?Open&file=1225_enr.pdf
HB 12-1283: *Amending the Colorado Disaster Emergency Act*	http://www.leg.state.co.us/clics/clics2012a/csl.nsf/fsbillcont3/94F59E2AF3B48FA387257981007F4449?open&file=1283_enr.pdf
SB 13-269: *Creating the Wildfire Risk Reduction Grant Program*	http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont3/75CCF750CEFF249E87257B17005849D1?Open&file=269_enr.pdf
Boulder County: *Wildfire Mitigation Plan*	http://www.bouldercounty.org/doc/forest/w02wildfiremitigationplan.pdf
Colorado Community Wildfire Protection Plans (CWPPs)	http://csfs.colostate.edu/pages/CommunityWildfireProtectionPlans.html
Colorado Department of Public Health and Environment Air Pollution Control Division (APCD) – Open Burning and Prescribed Fires	http://www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251594943171
Colorado State Forest Service (CSFS)	http://csfs.colostate.edu/
CSFS, *Protecting Your Home from Wildfire: Creating Wildfire Defensible Zones,* Quick Guide Series FIRE 2012-01 (formerly CSU Extension Fact Sheet 6.302)	http://csfs.colostate.edu/pdfs/FIRE2012_1_DspaceQuickGuide.pdf
Colorado Wildfire Risk Assessment Portal (CO-WRAP)	http://www.coloradowildfirerisk.com/
Fire Adapted Communities (FAC)	http://www.fireadapted.org/
Firewise Communities	http://www.firewise.org/

Front Range Fuels Treatment Partnership Roundtable	http://frontrangeroundtable.org/
National Fire Protection Association (NFPA)	https://www.nfpa.org/
National Institute of Technology and Standards (NIST) Fire Research Division	http://www.nist.gov/el/fire_research/
Rocky Mountain Insurance Information Association (RMIIA)	http://www.rmiia.org/index.asp
Insurance Institute for Business & Home Safety (IBHS)	http://www.disastersafety.org/

4.3.2 Other States

California Government Code, Tit. 5, Chapter 6.8: *Very High Fire Hazard Severity Zones*	http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=gov
California Public Resources Code, Div. 4, Part 2: *Protection of Forest, Range and Forage Lands*	http://www.leginfo.ca.gov/.html/prc_table_of_contents.html
Idaho Code Ann. Tit. 31, Chapter 14: *Fire Protection District*	http://legislature.idaho.gov/idstat/Title31/T31CH14.htm
Montana House Bill 354 (2013): *Fire Suppression Account*	http://legiscan.com/MT/text/HB354/id/826729
Oregon Revised Statutes, Chapter 477: *Fire Protection of Forests and Vegetation*	http://www.leg.state.or.us/ors/477.html
Rev. **Washington** Code, Title 52: *Fire Protection Districts*	http://apps.leg.wa.gov/rcw/default.aspx?Cite=52

Appendix 1

Executive Order B 2013-002

STATE OF COLORADO

OFFICE OF THE GOVERNOR

136 State Capitol Building
Denver, Colorado 80203
Phone (303) 866 - 2471
Fax (303) 866 - 2003

John W. Hickenlooper
Governor

D 2013-002

EXECUTIVE ORDER

Amending Executive Order D 2012-006, Regarding Suspending Prescribed or Controlled Fire Pending Review of Protocols

Pursuant to the authority vested in the Governor of the State of Colorado and, in particular, pursuant to Article IV, Section 2 of the Colorado Constitution, I, John W. Hickenlooper, Governor of the State of Colorado, hereby issue this Executive Order amending Executive Order D 2012-006.

I. Background and Purpose

On March 28, 2012, pursuant to Article IV, Section 13, C.R.S. § 23-31-308, based on a finding of extreme fire danger, we issued Executive Order D 2012-006 suspending prescribed or controlled fire on state or private lands pending review of agency protocols for prescribed or controlled fire. The suspension applied to all state lands as well as state agencies that apply prescribed or controlled fire on non-state lands under contracts or agreements with other entities. At the time, Colorado was experiencing unseasonably high temperatures and dry conditions which led to a number of wildfires across the State.

Although weather conditions across Colorado have changed over the recent months, for those Colorado residents living in the wildland-urban interface, there is still concern of disastrous wildfire. Slash and burn pile operations in this area will reduce the risk of devastating wildfires, in addition to helping firefighters control such outbreak when they do occur. These fuel treatment activities not only reduce wildfire potential, but work to increase the heath of forests, by thinning forest strands and eliminating weak and diseased trees. Weaker trees that remain in the forest are prone to insect attacks and disease.

In order to best serve the residents on the wildland-urban interface and promote the health and wellbeing of our forests, slash pile burning remains the least expensive and most effective

method of removing slash. This procedure is conducted with caution and consideration, as projects are planed months and sometimes years in advance. This Division of Fire Prevention and Control will work to ensure continued safety and protection for residents on the wildland-urban interface, while promoting the health and longevity of our State's natural forests through properly regulated pile burnings.

II. Declaration and Directives

A. Executive Order D 2012-006 (State-wide suspension on prescribed or controlled fires) is hereby amended to allow for the resumption of slash pile burnings under controlled conditions.

B. Slash pile burn operations conducted by state agencies or on state lands shall follow the new guidelines and procedures established by the Division of Fire Prevention and Control to ensure that all such burns are conducted in a safe and effective manner.

C. The Division of Fire Prevention and Control shall observe the following minimum guidelines for prescribed pile fires:

1. Ignition of piles shall occur only on days when there is adequate snow cover and the Colorado Air Pollution Control Division has determined that weather conditions are appropriate for burning because good smoke dispersal can be achieved;
2. Piles shall be ignited as early in the morning as possible and operations will cease before sunset;
3. Fire suppression resources shall be on site when piles are burned; and
4. Pile burns shall occur only after proper notification of residents of potentially affected areas and local government officials.

III. Duration

This Executive Order shall remain in effect until rescinded or modified by Executive Order. In all other respects, Executive Order D 2012-006 shall remain in full force and effect as originally promulgated.

GIVEN under my hand and the Executive Seal of the State of Colorado this thirtieth day of January, 2013.

John W. Hickenlooper
Governor

STATE OF COLORADO

OFFICE OF THE GOVERNOR

136 State Capitol Building
Denver, Colorado 80203
Phone (303) 866 - 2471
Fax (303) 866 - 2003

John W. Hickenlooper
Governor

D 2012-006

EXECUTIVE ORDER

Suspending Prescribed or Controlled Fire Pending Review of Protocols

Pursuant to the authority vested in the Governor of the State of Colorado and, in particular, pursuant to Colorado Constitution, article IV, section 13 and C.R.S. § 23-31-308, Joseph A. Garcia, Lieutenant Governor of the State of Colorado, hereby issues this Executive Order suspending prescribed or controlled fire by State agencies pending review of agency protocols for prescribed or controlled fire.

I. Background and Purpose

Many areas of Colorado have been experiencing above average temperatures and dry conditions. As a result, the National Weather Service has issued a number of Red Flag warnings for the Front Range and other portions of the state. Already this year, Colorado has experienced several wildfires.

On March 25, 2012, the Lower North Fork Fire may have been started by a prescribed or controlled fire. As of this issuance of this order, the Lower North Fork Fire had burned approximately several thousand acres, resulted in the deaths of two people, and destroyed several homes.

To help respond to the Lower North Fork Fire, on March 27, Lt. Governor Joseph Garcia issued Executive Oder D 2012-005 that activated the National Guard and activated the State Emergency Operations Plan.

Prescribed or controlled fire is a tool used to reduce the overabundance of vegetation and dense stands of trees—in other words, the fuels—that can lead to intense, catastrophic wildfires. However, it must only be used under the right conditions and under responsible management.

As a result, given that a prescribed or controlled fire may have been the cause of the Lower North Fork Fire, the State should suspend further use of this land and fire management tool to make sure that we have the procedures and protocols in place so that these conditions and management requirements are understood and strictly followed.

II. Declaration and Directives

A. I hearby order all State agencies to suspend prescribed or controlled fire on State or private lands pending review of agency protocols for prescribed or controlled fire. This suspension applies to all State lands as well as State agencies that apply prescribed or controlled fire on non-State lands under contracts or agreements with other entities.

B. For purposes of this order, "prescribed or controlled fire" is defined as the controlled application of fire in accordance with a written plan for wildland fuels under specified environmental conditions while following appropriate precautionary measures that ensure that the fire is confined to a predetermined area to accomplish planned fire or land-management objectives.

C. For purposes of this order, "prescribed or controlled fire" does not apply to agricultural burning, however, extreme care and caution in agricultural burning is strongly encouraged. For purposes of this order, "agricultural burning" is defined as open burning of cover vegetation for the purposes of preparing the soil for crop production, weed control, maintenance of water conveyance structures related to agricultural operations, and other agricultural cultivation purposes.

III. Duration

This Executive Order shall expire upon review of State agencies' prescribed or controlled fire protocols or upon rescission by subsequent Executive Order.

IV. Lieutenant Governor

I am executing this Executive Order pursuant to the Colorado Constitution, article IV, section 13(5) as Governor John W. Hickenlooper is currently traveling outside of the State of Colorado.

GIVEN under my hand and the Executive Seal of the State of Colorado this twenty-eighth day of March, 2012.

Joseph A. Garcia
Lieutenant Governor

CITY ATTY'S OFFICE
CODE CHANGE REVIEW
ATTY INIT CSM
DATE 12 / 5 / 12

ORDINANCE NO. 12-111

AN ORDINANCE AMENDING SECTION 105 (AMENDMENTS TO THE INTERNATIONAL FIRE CODE) OF PART 1 (FIRE PREVENTION CODE) OF ARTICLE 4 (FIRE PREVENTION) OF CHAPTER 8 (PUBLIC SAFETY) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED, PERTAINING TO AMENDMENT TO THE INTERNATIONAL FIRE CODE

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF COLORADO SPRINGS:

Section 1. That Section 105 (Amendments to the International Fire Code) of Part 1 (Fire Prevention Code) of Article 4 (Fire Prevention) of Chapter 8 (Public Safety) of the Code of the City of Colorado Springs 2001, as amended, is repealed and reordained to read as follows:

Appendix K Add a new Appendix K to read as follows:

APPENDIX K
WILDLAND URBAN INTERFACE MITIGATION REQUIREMENTS FOR THE HILLSIDE OVERLAY ZONE

SECTION K101

K101.1 Scope. Wildfire Mitigation: Wildfire risk reduction techniques shall include monitored smoke alarm systems, sprinkler systems, fire resistant roofing materials which are class A (excluding solid wood roofing products) for all residential occupancies, a minimum class B on all other occupancies, fire resistive construction materials, and fuels management measures. Within the Hillside Overlay Zone, fuels management measures shall be utilized within the safety zone of applicable new building construction. "Fuels management" is defined as the modification of landscaping and ornamental vegetation within the safety zone. Fuels management requirements, as set forth below, are intended to protect structures from wildfire as well as to reduce fire from spreading to the wildland. The "safety zone" is defined as the area within thirty feet (30') of the

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ITEM NO. 7

main structure or significant accessory structures, not to extend beyond the property line. As it is the City's desire to provide an environment safe from wildfire while maintaining the aesthetic qualities of the native hillside, the following wildfire risk reduction standards shall be required for all new building construction or reconstruction in the Hillside Overlay Zone, regardless of development plan approval date or initial construction plan approval, unless specifically exempted within this ordinance, and in accord with Section 7.3.504 of the Code of the City of Colorado Springs, as amended. Nothing in this ordinance herein is intended to be retroactive to existing homes not under the provisions of the Hillside Ordinance at the time of original construction.

SECTION K102 FUELS MANAGEMENT REQUIREMENTS

K102.1 Fuels Management. All lots with homes constructed or reconstructed after the adoption of this ordinance, within the Hillside Overlay Zone, regardless of development plan approval date, shall be subject to the following fuels management requirements:

K102.1.1 Safety Zone. Brush patches or clusters such as Gambel oak, Mountain mahogany, Rocky Mountain maple, chokecherry, etc. may be left, or planted, or allowed to grow in the safety zone, but shall be separated by clear areas of ten feet (10') or more of noncombustible materials or grass mowed to not more than four inches (4") in height.

K102.1.2 Clearance to Main Structure. No combustible brush, trees or shrubs such as Gambel oak, conifers, junipers and yews shall be allowed to be left, or planted, or allowed to grow within fifteen feet (15') of the main structure or significant accessory structure such as sheds, decks, and pergolas. The trunks of deciduous trees may be allowed to be planted up to 10 foot (10') from structures when approved by the *Fire Code Official*.

> ***Exception:*** When approved by the *Fire Code Official*, small brush patches such as Gambel oak, Mountain mahogany, Rocky Mountain maple, chokecherry, etc. not exceeding one hundred square feet (100 sq. ft.) in size or trees, no larger than fifteen linear feet (15') in any direction, may be allowed to encroach into this zone. Vegetation must be maintained in accord with the applicable Colorado Springs Community Wildfire Protection Plan.

K102.1.3 Pruning of Limbs. Large trees shall not be allowed to have limbs overlap smaller trees or brush which creates ladder fuels, and shall be pruned of limbs to a height of up to ten feet (10') above the ground while maintaining a minimum of 70% of the crown. Certain tree clusters may be allowed if sufficient clear area is provided and approved by the *Fire Code Official*.

K102.1.4 Clearance of Tree Branches to Structures or Appurtenances. Character tree branches shall not extend over or under the roof or eaves, and the canopy or drip-line shall not be within fifteen feet (15') of a deck or similar combustible projection, wood burning appliance or chimney unless approved by the *Fire Code Official*. Character trees shall be defined as existing, mature overstory trees that are unique to the site: ie. species specific or large diameter (>12 inches) or wildlife essential (nesting habitat).

SECTION K103 FIRE PROTECTION SYSTEMS

K103.1 Scope. Fire protection system requirements for hillside homes shall only apply to the conditions listed below as specifically addressed within Section 7.3.504(E)(4) of the Code of the City of Colorado Springs. Fire protection system requirements do not apply to any home that is not subject to the requirements of the original Hillside Ordinance regardless of original construction or rebuild date.

K103.2 Fire Protection Systems. Homes upon lots within the Hillside Overlay Zone illustrated on development plans approved on or after April 1, 1993, shall be required to install a monitored fire alarm system or a fire sprinkler system when the lot lies beyond one thousand feet (1,000') along a cul-de-sac or lies beyond roadways with grades in excess of ten percent (10%) if roadways are the primary vehicular points of access to the home. Additionally, development plans which contain streets or lots which meet these criteria shall contain the following statement:

> *At a minimum, a monitored fire alarm system or alternatively, a fire sprinkler system is required for residences built upon the following lot(s). The Colorado Springs Fire Department shall review all building plans, determine system requirements and issue appropriate permits. A visual piping inspection must be secured through the Fire Department prior to requesting the framing inspection for fire sprinkler installations. Final inspection and approval of either system must be secured through the Fire Department prior to final inspection by the Building Department and/or occupancy of the residence. Current and subsequent homeowners shall maintain and keep in service required monitored fire alarm and/or fire sprinkler systems in accordance with applicable codes and standards.*

SECTION K104 ROOF COVERINGS

K104.1 Fire Resistive Roofing Materials. After January 1, 2003, a class A roof covering (excluding solid wood roofing products) shall be installed on all residential occupancies and a minimum class B roof covering shall be installed on all remaining occupancies (not to replace class A where already required by

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the Building Code). This shall be required at the time a permitted roofing or reroofing application is done within the limits of the City of Colorado Springs, Colorado, unless specifically approved by the *Fire Code Official*.

SECTION K105 HARDENED STRUCTURE

K105.1 Structure Protection. The following requirements shall be enforced for all homes constructed or reconstructed, after the adoption of this ordinance, within the Hillside Overlay Zone for ignition-resistant construction and fuels management:

1. A Class A roof covering (excluding solid wood materials) shall be installed on all Residential Occupancies and a minimum Class B roof covering shall be installed on remaining occupancies, unless otherwise permitted.

2. Exterior cladding, eaves and soffits shall be constructed of ignition-resistant materials approved by the *Fire Code Official*. Approved materials include, but are not limited to: fiber-cement board, stucco, masonry/brick, manufactured stone, and similar materials. Natural wood/cedar siding, hardboard, vinyl, and similar combustible materials are not allowed.

   Exception: Natural wood or plastic products used for fascia, trim board materials and trim accents, such as corbels, false rafter tails, faux trusses, shutters and decorative vents material are allowed when painted or as approved.

3. For any portion of the attached structure with projections or overhangs, the area below the structure shall have all horizontal under-floor areas enclosed with ignition resistive materials such as those allowed in item 2, above.

   Exception: Exposed heavy timber or dimensional log construction is allowed.

4. Exterior doors shall be noncombustible or solid core not less than one and three-fourths inches (1¾") thick. Windows within doors and glazed doors shall be tempered safety glass or multi-layered glazed panels.

   Exception: Decorative single pane glazing in front entry doors is allowed.

5. Exterior windows shall be a minimum double pane. Tempered panes are preferable but not required by this Code.

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6. All attic vents shall be screened with wire mesh or hardware cloth having openings no larger than one-eighth inch (1/8") unless an alternative design or product is allowed by the *Fire Code Official*. Soffit vents are allowed. Gable vents may be allowed but only as approved by the *Fire Code Official*.

7. Gutters and downspouts that are of non-combustible construction shall be installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. The drip edge shall extend into the gutter. Vinyl gutters may be allowed, but must have a non-combustible landing area below the roof line, that is a minimum five foot (5') distance from the side of the structure or foundation. NOTE: gutter caps are highly encouraged as a home-owner maintenance item to prevent combustible debris from collecting in the trough.

8. Decks and other habitable spaces shall be of ignition resistant or non-combustible decking materials, such as composite or metal decking. Wood is not permitted to be used for the decking surface, but can be used for all large structural components and railings.

9. The base of exterior walls, posts or columns shall be protected on the bottom side with provisions such as fire resistant foam or wire mesh having openings no larger than one-eighth inch (1/8") to protect from ember intrusion and still permit weeping and moisture control.

10. Chimneys serving fireplaces, as well as other heating appliances in which solid or liquid fuels are used, shall have an approved spark arrestor or cap.

K105.2 Alternative Materials. Alternative materials or construction methods not specifically addressed in section K105.1 may be considered on a case-by-case basis if found to have comparable ignition-resistant properties and as approved by the *Fire Code Official*.

SECTION K106 REVIEW REQUIREMENTS

K106.1 Construction Permit Review Requirements: All requirements must be reviewed and approved by the *Fire Code Official* prior to permit issuance and prior to final inspection. A final fire department inspection to verify compliance will be required prior to issuance of the Certificate of Occupancy.

Section 2. This ordinance shall be in full force and effect from and after its final adoption and publication as provided by charter.

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Section 3. In accord with City Charter § 3-90, this emergency ordinance shall be in full force and effect upon adoption.

Section 4. Council deems it appropriate that this ordinance be published by title and summary prepared by the City Clerk and that this ordinance shall be available for inspection and acquisition in the office of the City Clerk.

Introduced, read, passed on second reading and ordered published this 11th day of December, 2012.

Finally passed: January 8, 2013

Scott Hente, Council President

Mayor's Action:

☒ Approved: _____

☐ Disapproved: _____, based on the following objections:

Steve Bach, Mayor

Council Action:

☒ Finally adopted on a vote of 6 to 2, on January 15, 2013.

☐ Amended and resubmitted _____.

Scott Hente, Council President

ATTEST:

Sarah B. Johnson, City Clerk

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I HEREBY CERTIFY, that the foregoing ordinance entitled **"AN ORDINANCE AMENDING SECTION 105 (AMENDMENTS TO THE INTERNATIONAL FIRE CODE) OF PART 1 (FIRE PREVENTION CODE) OF ARTICLE 4 (FIRE PREVENTION) OF CHAPTER 8 (PUBLIC SAFETY) OF THE CODE OF THE CITY OF COLORADO SPRINGS 2001, AS AMENDED, PERTAINING TO AMENDMENT TO THE INTERNATIONAL FIRE CODE"** was introduced and read at a regular meeting of the City Council of the City of Colorado Springs, held on December 11, 2012; that said ordinance was finally passed at a regular meeting of the City Council of said City, held on the 8th day of January, 2013, and that the same was published by title and summary, in accordance with Section 3-80 of Article III of the Charter, in the Transcript, a newspaper published and in general circulation in said City, at least ten days before its passage.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the City, this 15th day of January, 2013.

City Clerk

4-803 Pre-application Conference

A pre-application conference as defined in Section 3-201 shall be held prior to the submission of an application for Site Plan Review.

4-804 Application and Submittal Requirements

A. Within four days of the time application is made, all proposed access points, driveways, wells, leach fields, cisterns, turn-out, turn-arounds, and at least four corners of the proposed structures must be visibly marked on the property with clearly labeled stakes.

B. For the purpose of referring the project to applicable agencies, the applicant shall submit a minimum of five copies of the following information:

1. The application form available at the Land Use Department as specified in Section 3-202 of this Code.
2. A vicinity map clearly showing and identifying the general location and boundaries of the subject property prepared by using the 1:80,000 scale County Road Map base; and a location map clearly identifying the subject property and how to access it from the closest county right-of-way. This map must be of acceptable scale to show the names of all public roads.
3. Name of the proposed development or use and total number of acres.
4. A site plan at a scale which best conveys the conceptual aspects of the plan and allows for effective public presentation. This site plan must have the following elements:
   - **a.** Date of preparation, revision box, written scale, graphic scale, and north arrow (designated as true north)
   - **b.** Clearly identified boundary lines, corner pins, dimensions of the subject property, and distance of structures from property lines.
   - **c.** Location, and dimension of all structures, existing and proposed,
   - **d.** Parking areas, driveways, emergency turn-outs, and emergency turn-arounds will be shown, with locations and dimensions including all proposed grading for the property.
   - **e.** All roads, railroad tracks, irrigation ditches, fences, existing and proposed utility lines, and easements on or adjacent to the parcel.
   - **f.** Significant on-site features including, but not limited to: natural and artificial drainage ways, wetland areas, ditches, hydrologic features (with flooding limits based on information available through the County), aquatic habitat, geologic features (including slopes, alluvial fans, areas of subsidence, rockfall areas, USDA soil classification and landslide areas), vegetative cover, dams, reservoirs, excavations, and mines.
   - **g.** Location and size of leach field, sewer service lines, treatment facilities, well(s) and/or water lines to serve the proposed development.
   - **h.** (For mountainous area properties only) Existing and proposed topographic contours at maximum intervals of five feet for at least 50 feet around all proposed disturbances. The remainder of the site may show greater contour intervals (i.e. 20 foot intervals) or obtain contours from the area's U.S.G.S. topographic map.
   - **i.** Any Floodplain, 100 year Floodplain or Floodway located on the property as indicated in Article 4-400 of this code.
   - **j.** Any Natural Landmark or Natural Area along with a 250 foot buffer zone surrounding the landmark or area as shown on the Zoning District Maps of Boulder County. Significant Natural Communities, Rare Plant Areas or Riparian Corridors that are indicated in the Natural Resources Element of the Comprehensive Plan must also be included on the site plan.
   - **k.** The location and type of proposed exterior lighting.
5. Four elevation drawings showing existing grade, finished grade, and height of the structure above existing grade. The location and dimensions of all windows must also be included on each of the elevations.
6. Verification that the site is a legal building lot under this code and that legal access from a public road has been obtained.

C. The following information may be required to be submitted with a site plan application if the Director determines that such information is necessary to allow the site plan standards of 4-806 to be adequately evaluated:

1. A detailed site plan of developed portions of the property presented at a larger scale than required in (B) above.
2. Land survey data to identify the subject property including section corners and distance and bearing to these corners, quarter corners, township, range, etc.
3. (For non-mountainous portions of the county) Existing and proposed topographic contours at maximum intervals of five feet for at least 50 feet around all proposed disturbances. The remainder of the site may show greater contour intervals (i.e. 20 foot intervals) or obtain contours from the area's U.S.G.S. topographic map.
4. Location, width, and typical cross-section of all existing and proposed earthwork, including but not limited to: driveways, pedestrian paths, parking areas, and berms. This information may include earthwork calculations, grading plan, drainage plan, and/or geotechnical/soils reports. The Director may request that any or all of this information be certified by a Colorado registered Professional Engineer.
5. Information regarding the use of ignition/fire resistant construction materials.
6. Location of existing and proposed landscaping including a revegetation plan. The site plan shall illustrate the type, height, and/or caliper of the trunk of proposed plantings. All plantings will be specified by type and location.
7. Location and results of soil percolation tests (Boulder County Public Health Department approval) where on-site wastewater systems or similar systems are proposed. This may include site approval and discharge permit, if required, as issued by the Colorado Department of Health.
8. Erosion control and revegetation plan.
9. The areas of all development in square feet and percentage of site, including total square feet of developed driveways, parking, and buildings.
10. A development report addressing the standards in 4-806.
11. A letter of verification of a search of Inventory of Cultural Resources from the State Historical Society, a report defining the archaeological or historical resources on the site (based on information available from the State Historic Preservation Officer) or the appropriate archeological field survey report.
12. A Wildfire Mitigation Plan demonstrating the appropriate site location of structures, construction design and the use of ignition resistant building material, defensible space and fuel reduction around the structures, driveway access for emergency vehicles, and an emergency water supply for fire fighting.
13. A control plan for noxious weeds.
14. A topographic survey certified by a Colorado Registered Surveyor or Professional Engineer.
15. Information regarding the type of glass used on the structure as it relates to reflectivity of sunlight and their emission of internal lighting.
16. A wildlife impact report meeting the requirements of Section 7-1700 of this Code. The requirement for a wildlife impact report shall not be construed to import the substantive requirements of Article 7-1700 into the Site Plan Review process, but rather shall provide additional information for the County to apply the site plan review criteria to the facts of the application.

4-805 Review by the Director

A. Once an application for SPR is filed, the Director shall promptly forward one copy of the application and supporting materials to the Transportation, Public Health, Parks and Open Space Departments, local fire district, and any other potentially affected agencies or organizations. The Director shall also post a sign on the property stating the Site Plan Review docket number and the address and phone number of the Land Use Department. Referrals shall be returned to the Director no later than 18 days from date the application is filed.

B. Any determination by the Director to approve, conditionally approve, or deny a site plan application must be in writing and mailed or otherwise provided to the applicant no later than 28 days after the date on which the site plan application is filed. Once the determination is made, the Director shall also provide notice of the determination to all referral agencies and the adjacent property owners within 1500 feet of the property. If the Director fails to make a determination on the site plan application within this time period, the application as submitted shall be considered approved and the applicant's building permit shall be processed.

C. The Director may suspend the 28-day decision period required in subsection (B) above at any time during the 28-day period at the request of the applicant or whenever the Director determines that the application is not complete. The Director may deem the application incomplete, based on the application submittal requirements, at the Director's initiative or at the request of any or all referral agencies. In the event that the Director deems an application incomplete, the Director shall immediately notify the applicant of the shortcomings. Once the requested information has been provided, the application shall be deemed filed as of that date and the Director shall render a decision within 28 days. However, if the application is not completed within 6 months of the date of suspension, the Director may declare the application withdrawn. The 6 month time frame may be extended should the Director determine that circumstances beyond the control of the applicant prevent a timely completion of the application.

4-806 Site Plan Review Standards

A. All Site Plan Review applications shall be reviewed in accordance with the following standards which the Director has determined to be applicable based on the nature and extent of the proposed development. When two or more of the standards listed below conflict, the Director shall evaluate the applicability and importance of each of the conflicting standards under the facts of the specific application and make a reasonable attempt to balance the conflicting standards in reaching a site plan decision.

1. To provide a greater measure of certainty as to the applicable neighborhood relevant for comparison, the following definition of neighborhood shall be used to review proposed Site Plan Review applications:

a. For applications inside platted subdivisions, which have seven or more developed lots, the neighborhood is that platted subdivision.

b. For applications within the mapped historic townsites of Allenspark, Eldora, Eldorado Springs, Raymond, and Riverside, the neighborhood is defined as the mapped townsite.

c. For applications outside of platted subdivisions with seven or more developed lots or the townsites of Allenspark, Eldora, Eldorado Springs, Raymond, and Riverside, the defined neighborhood is the area within 1,500 feet from the applicable parcel. The neighborhood shall not include any parcels inside municipal boundaries, platted subdivisions with seven or more developed lots or the townsites of Allenspark, Eldora, Eldorado Springs, Gold Hill Historic District, Raymond, and Riverside.

2. The size of the resulting development (residential or nonresidential) must be compatible with the general character of the defined neighborhood.

a. In determining size compatibility of residential structures with the defined neighborhood, it is presumed that structures of a size within the larger of a total residential floor area of either (1) 125% of the median residential floor area for that defined neighborhood or (2) of a total residential floor area of 1,500 square feet in the mapped townsites of Allenspark, Eldora, Eldorado Springs, Raymond, and Riverside, or 2,500 square feet for all other areas of the County, are compatible with that neighborhood, subject also to a determination that the resulting size complies with the other Site Plan Review standards in this section 4-806.A.

(i) The Boulder County Assessor's Records will be the base source of data to determine both the median size within that defined neighborhood as well as the existing residential floor area on a given parcel, as verified by Land Use staff for the subject parcel.

(ii) Median floor area will include the total residential floor area, as defined in Section 18-189D.

b. Either the applicant or the Director may demonstrate that this presumption does not adequately address the size compatibility of the proposed development with the defined neighborhood.

(i) Factors to be considered when determining the adequacy of this presumption and whether it can be overcome include:

(A) The visibility of the proposed development from other private parcels within the defined neighborhood, as well as visibility from either public roads or open space both within and outside that defined neighborhood.

(1) The proposed development must be minimally visible from the above-listed areas. Mitigation of visibility impacts may be achieved by:

(a) the use of natural topography to screen the proposed development, or

(b) underground construction to screen the proposed development; existing underground residential floor area may be considered, or

(c) distance of the proposed development from other private parcels, public roads and open spaces.

(B) The distribution of residential floor area within the defined neighborhood, taking into consideration the sizes (a minimum of two) adjacent to the subject property.

(1) If the proposed development is able to overcome the size presumption due to the adjacent sizes, the size of the resulting development may not exceed the median residential floor area of those adjacent to the subject property that are over the size presumption.

(C) For properties which are encumbered by a Boulder County conservation easement that specifies an allowable house size on that parcel, that specified home size is a factor to be considered in rebutting a size presumption which is smaller than the house size defined in the conservation easement.

(D) Significant adverse impacts demonstrated according to Standards 3 through 16 of this Section 4-806.A.

(E) Demolition and rebuilding of legally existing residential floor area that is not in conflict with the other standards set forth in this Section 4-806.

(F) Retrofitting of an existing structure for purposes of making a demonstrated energy efficiency improvement.

(G) Existing residential floor area that already exceeds the size presumption and has not been limited through a prior County land use approval.

(1) Up to a one-time maximum of 200 square feet of residential floor area may be granted under this factor.

(H) Historic structure(s) that are landmarked or otherwise protected cause the residential floor area to exceed the size presumption.

3. The location of existing or proposed buildings, structures, equipment, grading, or uses shall not impose an undue burden on public services and infrastructure.

4. Plans for the proposed development have satisfactorily mitigated any geologic hazards, such as expansive soils, subsiding soils, questionable soils where the safe-sustaining power of the soils is in doubt, or contaminated soils, landslides, unstable slopes, rockfalls, and avalanche corridors, as identified in the Comprehensive Plan, or through the Site Plan Review process.

5. The site plan shall satisfactorily mitigate the risk of wildfire both to the subject property and those posed to neighboring properties in the surrounding area by the proposed development. In assessing the applicable wildfire risk and appropriate mitigation measures, the Director shall consider the referral comments of the County Wildfire Mitigation Coordinator and the applicable fire district, and may also consult accepted national standards as amended, such as the 2003 Urban-Wildland Interface Code; NFPA / 80A, 299, 1231; 2003 International Fire Code; and the 2003 International Building Code.

6. The proposed development shall not alter historic drainage patterns and/or flow rates or shall include acceptable mitigation measures to compensate for anticipated drainage impacts.

7. The development shall avoid significant natural ecosystems or environmental features, including but not necessarily limited to riparian corridors and wetland areas, plant communities, and wildlife habitat and migration corridors, as identified in the Comprehensive Plan or through the Site Plan Review process. Development within or affecting such areas may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.

8. The development shall avoid flash flood corridors, alluvial fans, floodplains, and unique geologic, geomorphic, paleontological, or pedologic features, as identified in the Comprehensive Plan or through the Site Plan Review process. Development within or affecting such hazards may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonable necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.

9. The development shall avoid agricultural lands of local, state or national significance as identified in the Comprehensive Plan or through the Site Plan Review process. Development within or affecting such lands may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.

10. The development shall avoid significant historic or archaeological resources as identified in the Comprehensive Plan or the Historic Sites Survey of Boulder County, or through the Site Plan Review process. Development within or affecting such resources may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.

11. The development shall not have a significant negative visual impact on the natural features or neighborhood character of surrounding area. Development shall avoid prominent, steeply sloped, or visually exposed portions of the property. Particular consideration shall be given to protecting views from public lands and rights-of-way, although impacts on views of or from private properties shall also be considered. Development within or affecting features or areas of visual significance may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.
    a. In reviewing development proposals in the Peak-to-Peak Scenic Corridor Area, special attention will be paid to the visibility of the development from the Peak-to-Peak Highway, with the intent to ensure development is minimally visible from the Highway.
    b. For development anywhere in the unincorporated areas of the county, mitigation of visual impact may include changing structure location, reducing or relocating windows and glazing to minimize visibility, reducing structure height, changing structure orientation, requiring exterior color and materials that blend into the natural environment, and/or lighting requirements to reduce visibility at night.
12. The location of the development shall be compatible with the natural topography and existing vegetation and the development shall not cause unnecessary or excessive site disturbance. Such disturbance may include but is not limited to long driveways, over-sized parking areas, or severe alteration of a site's topography. Driveways or grading shall have a demonstrated associated principal use.
13. Runoff, erosion, and/or sedimentation from the development shall not have a significant adverse impact on the surrounding area.
14. The development shall avoid Natural Landmarks and Natural Areas as designated in the Goals, Policies & Maps Element of the Comprehensive Plan and shown on the Zoning District Maps of Boulder County. The protection of Natural Landmarks and Natural Areas shall also be extended to their associated buffer zones. Development within or affecting such Landmarks or Areas may be approved, subject to acceptable mitigation measures and in the discretion of the Director, only if no other sites on the subject property can be reasonably developed, or only if reasonably necessary to avoid significant adverse impacts based upon other applicable Site Plan Review criteria.
15. Where an existing principal structure is proposed to be replaced by a new principal structure, construction or subsequent enlargement of the new structure shall not cause significantly greater impact (with regard to the standards set forth in this Section 4-806) than the original structure.
16. The proposal shall be consistent with the Comprehensive Plan, any applicable intergovernmental agreement affecting land use or development, and this Code.

4-905A Development Plan Submission

A. The applicant shall submit seven copies of the proposed development plan with the completed application form to the Land Use Department, or alternatively, the plan shall be submitted in a digital form acceptable to the Land Use Department. The following information must be submitted with a development plan application unless waived by the Director where inappropriate or unnecessary. An attempt will be made to reduce the application requirements to the minimum necessary for adequate processing of the application. For any of the following requirements, the State Division of Minerals and Geology (DMG) submittal may be substituted if it contains the same or similar information.

1. A vicinity map indicating the section, township, and range of the site, and its relation to surrounding public roads and municipal boundaries.
2. A detailed drawing of the site (affected surface area) at a scale of 1 inch to 100 feet or other appropriate scale, including the following:
   - **a.** the dimensions of the site, indicating area in square feet and acres, names of the mining claims, if applicable, and the area of the site to be disturbed;
   - **b.** the location of all structures, laydown yards, settling ponds, milling facilities, and any other facilities or stationary equipment;
   - **c.** existing and proposed roads within the site as well as ingress and egress from public or private roads;
   - **d.** on-site features such as floodplain designations, water courses and springs, drainage, utility lines and easements, ditches, wetlands or aquatic habitat, significant plant ecosystems, wildlife habitat and migration routes, geologic features and hazards, vegetative cover including any mapped wildfire hazard areas, dams, reservoirs, mines, and known cultural resources;
   - **e.** existing and proposed topographic contours at vertical intervals of five feet maximum within 50 feet of the proposed activity. In terrain where the average cross slope exceeds 15 percent, vertical intervals may be 20 feet maximum for the area within 50 feet of the proposed activity. The remainder of the site may show topography using a U.S.G.S. topographic map; and
   - **f.** existing and proposed vegetation, buffers, berms, fences, and other screening devices.
3. Diagram showing adjacent properties and the approximate location of roads and buildings and their uses within a distance of 200 feet of any proposed structure, facility, or area to be disturbed. This may be drawn at a smaller scale than the site plan.
4. One copy of application forms and/or approvals for all applicable local, state, or federal permits. Where such permits have not yet been applied for, a listing of all such permits which will be needed shall be included, together with an explanation of which particular activities the permits will enable. Supplemental submission of subsequent permit applications and/or approvals may be made a condition of Development Plan approval.
5. A summary of the mining plan, per the State Division of Mining and Geology regulations, including the method of and associated schedules for the production, milling or processing; 'moth balling' and abandonment; hours of operation; an access and transportation route plan; anticipated truck traffic generation; a waste disposal plan; production rates and total volumes of ore and waste rock; a drainage and erosion control plan for both on-site and off-site drainage; and, a description of the water source to be used in the operation where applicable.
6. For all designated mining operations (DMO), as defined in CRS 34-32-103, an emergency response plan, including a list of all hazardous substances which will be used or generated, fire protection and hazardous materials spills plan, which specifies planned actions for possible emergency events, a listing of persons to be notified of an emergency event, proposed signage, and provisions for access by emergency response teams. The emergency plan must be acceptable to the appropriate fire district or the County Sheriff, as appropriate. The plan shall include a provision for the operator to reimburse the appropriate emergency service provider for costs incurred in connection with emergency response for the operator's activities at the site.
7. A summary of the reclamation plan submitted or intended to be submitted to the DMG, including proposed recontouring, revegetation or other appropriate measures to restore the surface while operations proceed or after they cease.
8. A noise, odor, or dust abatement plan as specified in 4-907A to control impacts on adjacent properties.
9. Any proposed measures, pursuant to the standards in 4-907A, necessary to mitigate anticipated adverse impacts on the aesthetic features of the site, on views from surrounding properties or public rights-of-way, or on significant environmental resources such as wetlands or plant and wildlife habitats.
10. Distance to nearest subdivided land or substantially developed townsite.
11. A noxious weed management plan for the site.

4-907A Development Plan Review Standards and Criteria for Approval

A. A development plan shall be approved or conditionally approved in accordance with the following standards and criteria.

1. Any equipment used in production or reclamation of a mine must comply with Section 25-12-103, C.R.S., Maximum Permissible Noise Levels.

a. For any mine where noise from the site will have a substantial impact in adjacent areas, additional noise mitigation may be required. One or more of the following additional noise mitigation measures may be required:

(i) acoustically insulated housing or covers enclosing any motor or engine;

(ii) screening of the site or noise emitting equipment by fencing or landscaping;

(iii) a noise management plan specifying the hours of maximum noise and the type, periodicity, and level of noise to be emitted, including blasting; and

(iv) any other noise mitigation measures required by the Colorado Division of Minerals and Geology, or other responsible agency, or as proposed by the operator and accepted by the Director.

2. Subsurface mining facilities shall be located in a manner to minimize their visual and physical impact and disturbance of the land surface, and to maximize their compatibility with the character of the neighborhood and surrounding land uses.

a. Facilities shall be painted or otherwise finished in a noncontrasting, nonreflective color, to blend with the adjacent landscape.

b. In areas where the facilities will have a substantial visual impact on the surrounding area, landscaping or screening of the site, or the use of less intrusive equipment, may be required. Specific landscaping or screening requirements may include, but are not necessarily limited to, establishing and properly maintaining ground cover, shrubs, and trees; shaping cuts and fills to appear as natural forms; designing the operation to utilize natural screens; or constructing fences for use with or instead of landscaping.

c. The development plan will incorporate the use of wildfire mitigation measures, such as location of structures, fuel reduction, incorporation of a buffer around structures, and the use of fire resistant building material, if applicable.

d. The facilities will not have a significant adverse impact on surrounding land uses.

e. The facilities will not have an adverse safety impact on adjacent parcels and rights-of-way.

3. Access roads on the site and access points to public roads shall be reviewed by the County Transportation Department. All access and oversize or overweight vehicle permits must be obtained from the County Transportation Department prior to beginning operation. All proposed transportation routes to the site shall also be reviewed and approved by the County Transportation Department to minimize traffic hazards and adverse impacts on public roadways. Existing roads shall be used to minimize land disturbance unless traffic safety, visual or noise concerns, or other adverse surface impacts clearly dictate otherwise.

4. For any subsurface mining located in or adjacent to a significant wildlife habitat, as defined by the Colorado Division of Wildlife; or, Environmental Conservation Area; or, environmental resource, as designated in the Boulder County Comprehensive Plan, or identifiable on or near the site the operator shall consult with the Division of Wildlife or the county as applicable to determine appropriate mitigation procedures. In no case shall an operator engage in activities which jeopardize a state, federal, or otherwise listed threatened or endangered species.

5. Air contaminant emissions shall be in compliance with the permit and control provisions of the Colorado Air Quality Control Program, Title 25, Article 7, C.R.S., and the fugitive dust regulations administered by the Boulder County Public Health Department.

6. All operations shall comply with all applicable state Water Quality Control and drinking water standards.

7. All waste disposal or treatment facilities shall comply with all requirements of the state or County Public Health Department and responsible emergency response authorities, as applicable.

8. Subsurface mining shall comply with all state and Federal requirements. However, to the extent that a state or Federal requirement falls within a land use regulatory area addressed by this Article, and conflicts with any conditions of a development plan approved under this Article, the development plan conditions shall be enforceable provided they do not materially impede the state or Federal interest. The applicant may appeal the development plan approval to the Board of County Commissioners under Section 4-909A, below (or within thirty days after written notification to the Director of an alleged material conflict if the conflict is discovered after the appeal deadline in Section 4-909A has expired and could not reasonably have been discovered earlier), or any argument as to material conflict shall be deemed waived. If it is possible for the applicant to appeal to the applicable state or Federal agency for a variance or waiver to comply with a conflicting development plan condition, there shall be a presumption in any appeal before the Board of County Commissioners that a material conflict does not exist, unless the applicant has pursued an appeal with the applicable agency.

9. The proposal shall be consistent with the Comprehensive Plan, any applicable intergovernmental agreement affecting land use or development, and this Code.

7-1100 Fire Protection

A. It is the intent of Boulder County to work with the Fire Protection Districts and Fire Departments in the County to assure the highest level of fire protection service that is available and reasonable.

B. To work towards a reasonable level of fire protection the following requirements apply:

1. Where a central water system is provided, fire hydrants shall be provided in all developments and shall be separated by no more than 600 feet. No dwelling shall be more than 300 feet from the nearest hydrant.
2. Fire fighting water sources for the proposed development shall meet the requirements set forth in the National Fire Protection Association, National Fire Code, Standard 1231 'Standard On Water Supplies For Suburban And Rural Fire Fighting' or the specific fire code regulations as jointly adopted by Fire Protection Districts and the Board.
3. In areas that cannot meet the distance and time requirements a local water source shall be provided. The source may be either a lake or pond with an all weather access or a cistern. Cisterns shall be connected to a water source in such a manner that they will be constantly maintained at full available capacity.
4. Capacity of cisterns shall be based on the requirements set forth in the National Fire Code, as cited in Section 7-1100(B)(2), above.
5. Cisterns or other similar systems will not be allowed without an adequate backup water supply source.
6. Storage systems that require recharging by hauling of water will not be permitted unless there is no suitable alternative and binding provisions are made for recharging.
7. Written approval from the applicable fire agency is required if on-site storage is to be waived.
8. When fire protection facilities are to be installed by the developer, such facilities including all surface access roads shall be installed and made serviceable prior to and during the time of construction.
9. Subdivision agreements or other documents shall provide for continued maintenance of fire protection systems and means of enforcement by Boulder County.

C. Fire Hazard Areas

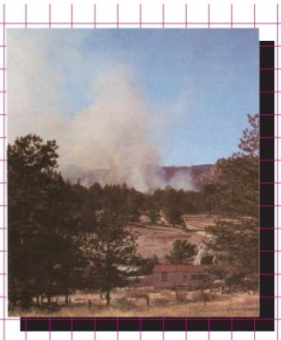
1. Additional fire precaution measures may be required because of fire hazard in the following areas:
   a. areas rated as fire hazards by the State of Colorado Forest Service;
   b. where slopes in or adjacent to proposed developments are in excess of 20%; or
   c. where the local fire protection agency identifies a specific fire danger.
2. In these areas all slash (fallen trees, shrubs, pulled stumps, and other combustible materials) may be required to be disposed of from an area extending to at least 150 feet from the road centerline prior to the acceptance of any roads.
3. All slash must also be removed from the vicinity of the home sites prior to final building inspection.
4. A forest management program for the reduction of wildfire danger may be required, including provisions for continuous proper forest management to maintain a low wildfire danger.
5. The Board may require other mitigation efforts as conditions of final approval where there is the determination that these efforts will reduce the recognized fire hazard.
6. A development proposal shall be referred to the appropriate fire protection experts as part of the development review process.

"Your home can be rebuilt, but how long will it take to replace your trees?"

Colorado State FOREST SERVICE

Home Fire Protection

in the Wildland Urban Interface



the landowner's role in fire prevention

Create a defensible space around your home

Wildfire hazards exist on most forested homesites. Many hazards can be reduced to acceptable levels by following these fire wise guidelines:

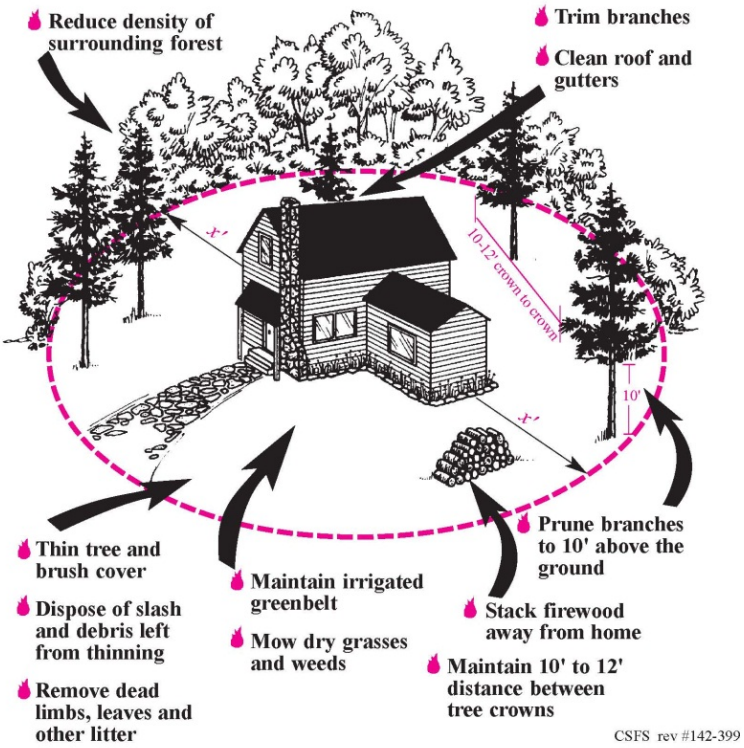
1. Thin out continuous tree and brush cover to create a "defensible space" within x(*) of your home. Adequate thinning is reached in the defensible space when the outer edge of tree crowns are **at least** 10' to 12' apart. Occasional clumps of 2 or 3 trees are permitted for natural effects if more space surrounds them. Small patches of shrubs may be left if they are separated by **at least** 10' of irrigated grass or noncombustible material. If your home is on a slope, enlarge the defensible space, especially on the downhill side. If it is located at the crest of a steep hill, thin fuels at least x(*) below the crest.
2. Dispose of all limbs and branches (slash) left from thinning. Common disposal methods are 1) chipping; 2) pile and burn (**only** when snow cover is sufficient to prevent fire spread); and 3) lop and scatter (cut debris into small pieces and scatter over area to accelerate decomposition).
3. Remove dead limbs, leaves and other ground litter within the defensible space.
4. Stack firewood uphill and **at least** 15 feet from your home (**not under the deck**).
5. Maintain a greenbelt (irrigated if possible) immediately around your home using grass, flower garden or ornamental shrubbery. An alternative is rock or other noncombustible material; avoid bark or wood chip mulch in this area.
6. Mow dry grasses and weeds to a low height. If possible, keep well watered, especially during periods of high fire danger.
7. Prune branches from trees within the defensible space to a height of 10 feet above the ground. Remove shrubs, small trees or other potential "ladder" fuels from beneath large trees (left in place, ladder fuels can carry a ground fire into tree crowns).
8. Trim branches which extend over the eaves of your roof. Remove branches within 15 feet of a chimney.
9. Clean roof and gutters of pine needles and leaves to eliminate an ignition source for firebrands, especially during the hot, dry weather of the fire season.
10. Reduce density of surrounding forest at least 100 feet out from homesite (it is preferable to thin your entire lot). Thin trees so crowns do not touch each other. Whenever possible, harvest sawlogs, posts, poles, or firewood.

(*) *Consult your local Colorado State Forest Service office to determine minimum spacing for your situation; most defensible space installations require a minimum 75' to 100'. For more information on becoming "firewise" please refer to Colorado State University Cooperative Extension Fact sheets #6.302, 6.303 and 6.304.*

Follow these guidelines

Firewise Practices

simple steps for fuel reduction



Homeowner Activities

- ☐ Plan and rehearse a home fire escape drill.
- ☐ Know where safety areas are within your subdivision. Meadows, rock outcrops, and wide roads are good example. Know all emergency escape routes.
- ☐ Report all fires immediately to you local fire department or the county sheriff's office.
- ☐ Inspect and clean your chimney on a regular basis.
- ☐ Equip your home with smoke detectors and at least one 10 pound ABC-class fire extinguisher.
- ☐ Dispose of leaves and debris with your trash. In most areas open burning is prohibited. If burning is allowed, provide an approved, properly screened incinerator.
- ☐ Install chimney screen or spark arrestor.
- ☐ Post house or lot number so that it is clearly visible.
- ☐ Maintain adequate driveway and turnaround space for emergency vehicle access by providing 15 vertical feet of clearance and thinning trees on each side of driveway.
- ☐ Store tools such as shovels, axes, rakes or hoes for use in case of fire.
- ☐ Enclose or screen off porch, foundation, roof, and attic openings to keep debris from accumulating underneath or firebrands from entering.
- ☐ Protect windows and sliding glass doors with nonflammable shutters and provide fire resistant drapes or blinds on the interior, especially on the side of the house that would most likely be exposed to a fire, e.g., the downhill side.
- ☐ Develop an external water supply for fire-fighting. This can be a small pond, cistern, well, swimming pool, etc. If your have a well, provide a power source for the pump motor separate from the house. Have an outside water faucet located away from you home with sufficient hose to reach all parts of your residence.
- ☐ Use noncombustible or fire resistant building materials, especially on the roof.
- ☐ Bury power and telephone lines underground. If this is not possible, keep poles clear of branches and remove fuel from around base.

Subdivision Activities

- ☐ Form a fire protection or forestry committee to organize and oversee needed wildfire hazard reduction projects and activities.
- ☐ Install and maintain all road and street signs.
- ☐ Clear at least three feet around and above fire hydrants and make sure they are checked periodically for adequate flow and pressure.
- ☐ Install a fire danger sign at the entrance to your subdivision (ratings must be kept current on a daily basis) and other fire prevention signs throughout the subdivision.
- ☐ Reduce fuel under utility lines and around poles.
- ☐ Install fuelbreaks at strategic locations through out your subdivision.
- ☐ Thin dense stands of trees and/or brush in common ground and greenbelts.

For assistance with layout and installation of defensible space contact your local Colorado State Forest Service office.