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Planning for Wildfire in the Wildland-Urban Interface

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The federal government is spending unprecedented funds to fight wildfires. In 1995, fire made up 16 percent of the U.S. Forest Service’s annual appropriated budget. In 2015, wildfire consumed more than 50 percent of the agency’s budget, a benchmark reflective of steadily rising costs.¹ At the same time, while 91 percent of federal appropriations for wildfire management are allocated to protect federal lands, it is increasingly evident that federal funds are being used to protect private homes and other structures “adjacent to federal lands [that] can significantly alter fire control strategies and raise costs.”²

In a survey of Forest Service land managers, estimates were that “[50] to [95] percent of firefighting costs were attributable to protection of private property.”³ Moreover, a study conducted for the Montana legislature found that firefighting costs are “highly correlated with the number of homes threatened.”⁴ A recent study of wildfires in Wyoming found that protecting just one isolated home added as much as \$225,000 to the overall cost of fighting a fire.⁵

The rising cost of fighting fires and, in particular, those that threaten private property, has many factors including terrain, fuels, and weather.⁶ Increasingly, though, attention is being directed to the rapid growth of remote developments — especially those not designed or maintained with wildfire in mind — at the ur-

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ban periphery often referred to as the “wildland-urban interface,” or WUI (pronounced “Woo-E”).⁷ A good example of WUI development patterns in the Idaho region would include those residential developments in the Boise foothills, an area which Ada County includes in its definition of the county’s WUI.⁸ There is good reason why attention is turning to these types of developments: six of the 10 most expensive fires in the past 100 years were WUI fires despite the fact that WUI fires account for just a small fraction of overall fires fought in any given year.⁹

There are different approaches to defining the WUI, which include prioritizing either a designated area on a map or a set of conditions which contribute to wildfire risk.¹⁰ According to one widely used WUI definition, only 14 percent of the WUI is developed.¹¹ If current development patterns continue, development in the WUI will almost certainly grow substantially, resulting in even further increases in wildfire protection costs.

Here’s the dilemma: local governments retain authority to approve WUI development through applications of local zoning, building, fire, and subdivision codes even though

it is the federal government that bears the greatest burden in protecting those developments from wildfire. Indeed, only a few local governments in the West generally, much less in Idaho, are integrating a deep knowledge of federal wildfire protection policy into their planning and development processes. That disconnect between federal wildfire planning and local land use planning decisions has a potential to “lock in” long-term, expensive development patterns.

This article will first describe a new collaboration between the University of Idaho, Boise State University, the U.S. Forest Service, and the Idaho Department of Lands to address these issues. The article will then briefly review several regulatory and non-regulatory approaches to addressing wildfire in the WUI currently in use throughout Idaho and the West.

Starting a conversation about wildfires in the WUI

Across the West, a number of approaches are being pioneered to bridge the jurisdictional divide in wildfire that also respond to local conditions. In 2015, the U.S. Forest

Service and the Idaho Department of Lands provided a \$240,000 grant to scholars at the University of Idaho and Boise State University to address this disconnect throughout Idaho's varied terrains and political sensibilities. The project is currently in its first phase, in which students in Stephen R. Miller's Economic Development Clinic at the University of Idaho College of Law are contacting all 200 Idaho cities and 44 Idaho counties to establish a "legal baseline" of existing local approaches to wildfire.

At the same time, Eric Lindquist, director of Boise State University's Public Policy Research Center, and Thomas Wuerzer, faculty of Real Estate Development at Nova Southeastern University, Davie, Florida, surveyed thousands of Idahoans on their perception of wildfire risk. These studies will provide a collective baseline of existing Idaho legal strategies used to address wildfire, as well as an understanding of how Idahoans perceive the risk of wildfire.

In Fall 2016, the College of Law will release a working draft of a wildfire risk planning guide for Idaho. This first draft will include online access to existing legal approaches in the state, as well as foundational best practices just now emerging to address wildfire in the WUI. In the second and third years of the grant, Jaap Vos, program head of the University of Idaho's Bio-regional Planning and Community Design program will coordinate workshops around the state to assist local communities to find locally appropriate approaches to planning for wildfire in the WUI. As these conversations evolve, so, too, will the wildfire risk planning guide, which will remain a working document throughout the process. The vision is that the final guide will be completed in the third and final year of the grant, and will reflect the best

solutions arising from the needs and conditions of local communities.

A brief introduction to tools for planning for wildfire in the WUI

This section reviews several general tools being used around the country to plan for wildfire in the WUI and refers to several Idaho examples of those strategies currently in use.

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Regulatory approaches

One of the best guides to mitigating the impacts of fire through the development process, *Community Wildfire Safety through Regulation: A Best Practices Guide for Planners and Regulators*, was published in 2013 by the National Fire Protection Association (NFPA).¹² The guide describes five primary regulatory tools for local governments to manage wildfire in the WUI: comprehensive plans, land use and zoning codes, subdivision codes, building codes, and fire codes.¹³

Comprehensive plans

Comprehensive plans can play an important role in signaling the long-term development goals of a community and, in particular, its intention to address the risk of wildfire in the planning process.¹⁴ For instance, Bonner County, Idaho has used its comprehensive plan as an opportunity to describe its fire history, identify characteristics of the WUI, and outline techniques for reducing the risk of wildfire to development in the WUI.¹⁵ Bonner County's comprehensive plan recognizes that clear road signage and fire resistant building materials reduce WUI fire hazards by respectively decreasing firefighter response time and improving home and neighborhood fire resistance.¹⁶ As an out-of-state example, Boulder, Colorado's recent comprehensive plan includes an entire chapter dedicated to natural hazards including eight policies expressly addressing wildfire.¹⁷

Land use regulations and zoning ordinances

Land use development regulations and zoning ordinances can also be powerful in addressing wildfire in the WUI. Since wildfire issues in the WUI often apply across different land use districts, an overlay zone can apply WUI regulations to specific fire hazard areas that do not correspond directly to uses.¹⁸ For example, Coeur d'Alene, Idaho defines hillside overlay zones in certain areas with average slopes of at least 15 percent.¹⁹ Before developing in a hillside overlay zone, the city must determine wildfire mitigation goals for the area according to the Kootenai County WUI Fire Mitigation Plan and NFPA standards as guidelines.²⁰

An alternative zoning approach is to adopt, in whole or in part, the International Code Council's International Wildland-Urban Interface

Code, which provides model language for defining WUI areas based on climate, geography, topography, and fire insurance rates as provided by an appropriate insurance services office.²¹ In adopting its own Urban-Wildland Interface Code, Bannock County tailored the International WUI Code to its needs by amending the fire insurance rate consideration in the standard code and adding factors related to fuels, water supply, and access that were unique to its location.²² As written, the Bannock County Urban-Wildland Interface Code imposes wildfire specific requirements on WUI areas, such as water supply and access requirements, fire resistant construction standards, and defensible space.²³

Subdivision codes

Most WUI development involves subdivision of land, which provides an opportunity to consider how that process can be altered to reduce wildfire threat. For instance, Flagstaff, Arizona reduced subdivision ignitability by respectively requiring firebreaks and clustering lots away from fire hazards.²⁴ Clustering can be balanced to preserve the desired density in a subdivision while avoiding high risk fire areas, which results in the developed area being denser than would otherwise be possible.²⁵ Communities seeking to improve fire response in subdivisions often require additional access roads and water supply.²⁶

Building codes

At the lot and building scale, communities often focus on building ignitability reduction by requiring 30 feet of defensible space (e.g., modifications to vegetation, such as tree removal, thinning and pruning).

In addition to regulatory options for addressing wildfire in the WUI, local governments also have a number of non-regulatory options and incentives to offer.

This may sometimes be enacted regardless of property boundaries, so neighbors may be required to cooperate to mitigate their shared fire hazard.²⁷ In addition to defensible space, Boise addresses structure ignitability by requiring fire resistant roofing, siding, exterior glazing, and doors in its WUI zones.²⁸ Eagle County, Colorado, uses site-specific hazard assessments to specify mitigation requirements that the developer must satisfy as a condition before obtaining a building permit.²⁹

Fire codes

Finally, the broad public safety goals of fire codes are flexible enough to encompass many WUI wildfire management objectives;³⁰ as a result, they are a popular location for these types of regulations.³¹ Communities should give consideration to their base fire code, which can offer a wider array of options for addressing wildfire.

Non-regulatory approaches

In addition to regulatory options for addressing wildfire in the WUI, local governments also have a number of non-regulatory options and incentives to offer. Non-regulatory approaches can be especially valu-

able in incentivizing ongoing maintenance of properties in a state of fire readiness.

Firewise communities

One commonly used — and often misunderstood — tool is the Firewise Communities program, which is administered by the non-governmental National Fire Protection Association. Firewise Communities is a voluntary program that encourages homeowners and neighbors to work together to minimize their wildfire risk. To become a recognized Firewise Community, a community goes through a five-step process.³² First, the project applicant must obtain a wildfire risk assessment from the state forestry agency or a fire department.³³ Second, the developer must convene a working group and create an action plan based on the assessment.³⁴ Third, the developer or subsequently created fire board must conduct community outreach events promoting wildfire education or the action plan on an ongoing basis.³⁵ Fourth, the community must invest two dollars per member annually in Firewise activities.³⁶ Fifth, the development must submit an application for approval to the state Firewise liaison.³⁷ Local governments should be aware, however, that there is no measurable standard for what constitutes

a Firewise Community and should not rely upon that designation as ensuring a standard of fire readiness. The details of each Firewise program must be investigated and compared to local risk factors to determine if the program will assist a local government's wildfire objectives.

Insurance

Some local governments are also looking at ways to provide additional incentives to property owners who perform mitigation. Boulder County, Colorado's Wildfire Partners program, which is administered by the county and run on state and federal grants, offers in-depth property assessments by mitigation specialists to help residents understand their structural and property vulnerabilities.³⁸ Property owners who successfully perform all required mitigation receive a certificate. The program has two unusual benefits: a financial rebate to cover mitigation costs (e.g., tree removal), the certificate's acceptance by several insurance companies as proof of adequate fire mitigation sufficient to reduce rates or retain coverage.³⁹

Hazard mitigation plans and community wildfire protection plans

In a third non-regulatory approach, local governments can participate in one of several planning processes that offer the opportunity to participate in broader funding schemes. For instance, the U.S. Federal Emergency Management Agency (FEMA) provides funding to communities that assess their natural hazards and propose solutions to manage and reduce those hazards through a Hazard Mitigation Plan (HMP).⁴⁰ For example, Canyon County, Idaho, and its cities—

Nampa, Caldwell, Middleton, Notus, Parma, Wilder, and Greenleaf—have created an HMP that describes the WUI within the county, identifies fire hazards, and recommends fire mitigation activities.⁴¹ Similarly, the Healthy Forest Restoration Act directs federal funds for fuel reduction and reducing structural ignitability into communities that have adopted a Community Wildfire Protection Plan (CWPP).⁴² One such CWPP is Idaho County, Idaho's *Revised Wildland-Urban Interface Wildfire Mitigation Plan*. The CWPP

These issues will be addressed in greater depth in the upcoming working draft of the wildfire planning guide tailored to Idaho's communities, which will be available in Fall, 2016.



contains a comprehensive description of its wildfire characteristics, impacted community interests, and treatment recommendations rated by effectiveness and sustainability.⁴³ Furthermore, it is the product of an extensive collaboration between the County, 25 of its cities and towns, the Nez Perce Tribe, State and Federal agencies, fire districts and departments, and private stakeholders.

Homeowner's associations CC&Rs

Finally, some homeowner associations have forged a path between

regulation and voluntary efforts through covenants, conditions and restrictions (CC&Rs) crafted to reflect the local wildfire conditions with a special emphasis on maintenance of properties.

Concluding remarks

This brief article serves as a survey of just a few of the tools that local governments in Idaho, and around the West, are using to address the complicated issues that arise when planning for wildfire in the WUI. These issues will be addressed in greater depth in the upcoming working draft of the wildfire planning guide tailored to Idaho's communities, which will be available in Fall, 2016. Those looking for immediate resources would likely find substantial assistance in reviewing the Colorado Department of Local Affairs' recently published *Planning for Hazards: Land Use Solutions for Colorado*.⁴⁴ *Planning for Hazards* provides a comprehensive method for addressing eleven different hazards, including wildfire, that affect western communities and discusses how communities of all sizes are finding solutions tailored to local community needs, as well as their proclivities toward both regulatory and non-regulatory options.

While addressing the threat of wildfire in the WUI can be daunting, there are a number of regulatory and non-regulatory solutions that can bring this potentially outsized problem of the West's future under control without prohibiting development and growth. This joint project of the University of Idaho and Boise State University, along with the U.S. Forest Service and the Idaho Department of Lands, will seek to offer ways forward that fit with the character of Idaho's communities.

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