

BUILDING SAFETY MONTH Maximizing Resiliency, Minimizing Risk

Code Officials: Keeping (Wild) Fire in its Place

By Kathy Clay, Battalion Chief Fire Marshal, Jackson Hole Fire/EMS, for Teton County and the Town of Jackson, Wyo.

Tucked in a valley just south of the magnificent Grand Teton and Yellowstone National Parks, the town of Jackson (often called Jackson Hole) and adjacent Teton County are lands surrounded by towering mountains draped in conifer and aspen forests. The valley floor is dissected by the meandering Snake River, its banks accentuated with towering cottonwood trees and flat river benches reaching out beyond the river, covered in grasses and sage brush.

This most picturesque of our nation's land lives and breathes wildland fire every summer season.

Defining that area where the forest and man meet is a difficult proposition. Numerous definitions can be found from various organizations. Defined by the National Wildfire Coordinating Group (NWCG), the wildland-urban interface is the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Wildland fire is a natural part of this mountain landscape. Through the lessons learned from years of fire suppression prior to the Yellowstone Fires of 1988, immediate fire suppression of all fires was re-evaluated on the landscape and allowed to burn without suppression when burning in the wilderness. This return of fire as a natural environmental process has not been as easy in the built environment. When homes are threatened, fire-suppression strategies and priorities change, and costs increase significantly.



Considering 97 percent of all wildfires are extinguished before they consume 10 acres (CoreLogic, 2013)¹, every fire put out could easily be viewed as one fire still to happen, or one fire simply put off.

Teton County, a landscape of 4,222 square miles, is 97 percent federally owned with a mere 3 percent private land. With its mountain climate and scenic vistas, much of this sought-after private land clearly meets the wildland urban interface (WUI) definition. Currently, using the above WUI definition, Teton County maps more than 200,000 acres of private land within the interface.

As the 1988 Yellowstone Fires burned to the north of Jackson, a stakeholder group of Teton County fire managers began to develop a community wildfire protection plan (CWPP) for that county. If that could happen there, they lamented, it could happen here. The process identified priority areas in the event of wildfire, provided evacuation plans, and developed the mapped wildland-urban interface. The stakeholder group, Teton Area Wildfire Protection Coalition (TAWPC), has been and continues to be made up of stakeholders from federal, state and local agencies, as well as public interest groups. The TAWPC work also allows private landowners to take advantage of National Fire Plan grant money in fuels reduction projects on their properties. The TAWPC is currently revising the 2005 CWPP. Additionally, the

increased coordination from having the organized community wildfire planning group (TAWPC) benefited the wildfire preparedness of the community with strengthened relationships, resulting in unified and highly efficient operations, as was demonstrated in the 2001 Green Knoll and 2012 Horsethief Fires. These complex wildfires saw highly successful outcomes as fire threatened to burn high-end homes in the area. No homes were lost in either of these significant wildland fires.

The effects of fire suppression, climate change, beetle kill and building in the WUI areas has raised the risk and cost of fighting wildfires. Last fall, fire crews from Jackson Hole Fire/EMS began gathering home and subdivision assessments in wildfire-prone areas. This work provided homeowner information on topics such as reducing fuels—trees or wood piles or other combustible materials—around structures. Firefighters were able to gather ingress and egress information and identify potential hazards, such as bridge crossings, above-ground fuel tanks and overhead power lines.

“By understanding the risks in our subdivisions, we can manage the risk to our firefighters,” said Chief Willy Watsabaugh. “No one’s home is worth sacrificing firefighters’ lives in exchange. Our department has a much better understanding of the fuel loads and hazards in these assessed subdivisions, and we will develop our

tactics around this knowledge.” Fire crews will continue WUI assessments in 2014.

In the event of a wildfire, trigger points will be pre-planned and will determine protection methods before a fire, during the fire event and when it is appropriate to return to the subdivision after the fire has moved through the area. Chief Watsabaugh will make certain his crews have time to retreat from a subdivision in the path of a fire. Given time in advance of a fire, crews will prepare private homes by taking preventive actions, such as relocating stacks of firewood away from the structure, moving flammable lawn furniture inside, cleaning debris off roofs and installing roof sprinkler systems. When the trigger point is realized, crews will evacuate the subdivision, let the fire burn through and then re-enter to catch small fires and save what structures that can be saved.

All new construction in Teton County in the mapped WUI areas is built to the *International Wildland-Urban Interface Code*® (IWUIC). Depending on the fuels, topography and firefighter hazards, construction requirements enhance the exterior of a structure in correlation to fire risk factors. A home built on the grassy, sage brush flats will require much less restrictive construction than one at the end of a one-way, steep road in a conifer forest.

Good neighbors are essential in the WUI, and recognition of responsibility is critical for private and public enti-

ties. "Fire funds and fuel reduction funds are getting stretched on a national level," said Mike Johnson, Bridger-Teton National Forest North Zone Fire Management Officer. "As neighbors, we must recognize and address the shared responsibility of fuels reduction."

Entire subdivisions might become adapted to wildland fire, but still face a threat from their public land neighbors. This fire influence from surrounding public land is significant given Teton County's private/public land ratio.

To understand wildland fire, one must understand the heat potential of burning vegetative fuels. There is a big difference between a grass fire and a fire burning through the canopy of a pine tree forest. Both fires, however, have the potential of igniting structures. Given that a hot ember can travel a half of a mile and ignite a structure adds to the complexity of structure ignition and protection. With managed fuel loads, defensible space, "clean" areas around structures and fire resilient construction, there is no reason a wildfire couldn't be viewed as a "weather event."

Nationally, 84 percent of the WUI remains to be developed [As Wildland Urban Interface (WUI) Develops, Firefighting Costs Will Soar, 2013].² The cost of fighting fires in the WUI where structures exist provokes consideration of prohibiting structures to be built in these areas. When building new construction under the IWUIC, the fire hazard is considered, and the structure built to meet the fire resistance in relation to its fire risk. For the built environment, educational tools must be made available to homeowners so they might begin to understand the risk of a wildland fire event and can mitigate the hazards in their own backyards.

Teton County homeowners must understand fuels reduction monies could become more scarce, and highly competitive, as federal and state budgets continue to be strained. This lack of funding could perpetuate fuels problems on neighbors' lands. As this trend continues, the threat of significant wildfire affecting the built neighborhood is inevitable. Realizing this, building structures that can withstand a

wildland fire is an obvious first step in home preservation within the WUI. Ensuring current homeowners understand the importance of defensible space and recognizing potential ignition fuel beds will help them prepare before evacuation in the event of wildland fire. With the local fire department pre-incident planning knowledge, risk to firefighters will be properly addressed and hazards identified.

Our county still has much work to do. The CWPP update is Teton County's number one priority. Through TAWPC, community education efforts will continue to inform homeowners about the risks associated in living in the WUI, the potential impact to their homes and the mitigation efforts they may take to protect their homes.

Fuel reduction projects through national grants are currently available to private property owners. Education of code officials, builders, architects and designers to use the IWUIC by building more fire-resistant structures in the face of wildland fire will ensure structures receive proper review and construction materials. Supporting large-scale fuels reduction projects on the public lands surrounding our communities will facilitate the federal planning process and ultimately benefit built neighborhoods.

We are off to a good start living in this mountain landscape where, with planning and education, necessary fires need not become costly ones.

¹ *CoreLogic. (2013). CoreLogic Wildfire Hazard Risk Report. Corelogic.*

² *As Wildland Urban Interface (WUI) Develops, Firefighting Costs Will Soar. (2013).*

Retrieved February 2014. **bsj**

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