

# Utah Forest News

Utah Forest Landowner  
Education Program Newsletter

EXTENSION  
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## Prepare, Stay, and Defend: A Down-Under Approach to Protecting Homes from Wildfire

An Australian approach to protecting homes from wildfire is gaining the attention of fire managers and ecologists in the United States. At the Third International Fire Ecology and Management Congress held in San Diego last November, John Gledhill, chief of the Tasmania Fire Service in southern Australia, outlined the unorthodox strategy being promoted in Australian communities threatened by wildfire: instead of evacuating their homes during a fire, residents are encouraged to prepare, stay, and defend.

The prepare, stay, and defend approach (also referred to as “sheltering-in-place”) is based on research in both the United States and Australia that shows how houses actually burn during a wildfire. These

*The annual meeting of the Utah Forest Products Association is coming up! See page 7 for details.*



*This well-prepared home survived a hot crown fire which passed nearby.*

studies have revealed that it is not a dramatic wall of flames that consumes properly prepared homes during a wildfire. Instead, these disasters are usually caused by flying embers, or fire brands, that precede a fire and land on vulnerable portions of homes and landscapes. Fire brands can precede the flaming front of a wildfire by considerable distances – a quarter of a mile is not uncommon, and occasionally they fly more than a mile. These chunks of burning wood can be easily extinguished with a garden hose, bucket of water, shovel, or even a wet towel. But a brand left unchecked in the corner of a deck, in a

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- Annual Meeting of the Utah Forest Products Association

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rain gutter, or on flammable roofing material, is all that is needed to ignite a home.

Further reasons for the Australian directive to prepare, stay, and defend, are the hazards involved in evacuation. Many wildfire fatalities occur when victims leave their homes at the last minute and are overrun by the fire while on foot or in their cars. Car crashes caused by smoky conditions and traffic jams are also a serious concern during evacuations. Take the story of Sandra Younger, for instance, who attended the San Diego Congress. A journalist and resident of southern California, she spoke of losing her home and everything in it during the 2005 Cedar Fire. Given little or no advance warning to evacuate, all she could do was jump in her car and go. She nearly drove off the road in the smoke and panic. By chance, a bobcat jumped in front of the car, showing her where the road surface actually was and preventing her from driving off a cliff with her family. They have since rebuilt in the same location with the commitment to shelter-in-place when fire returns to their neighborhood.

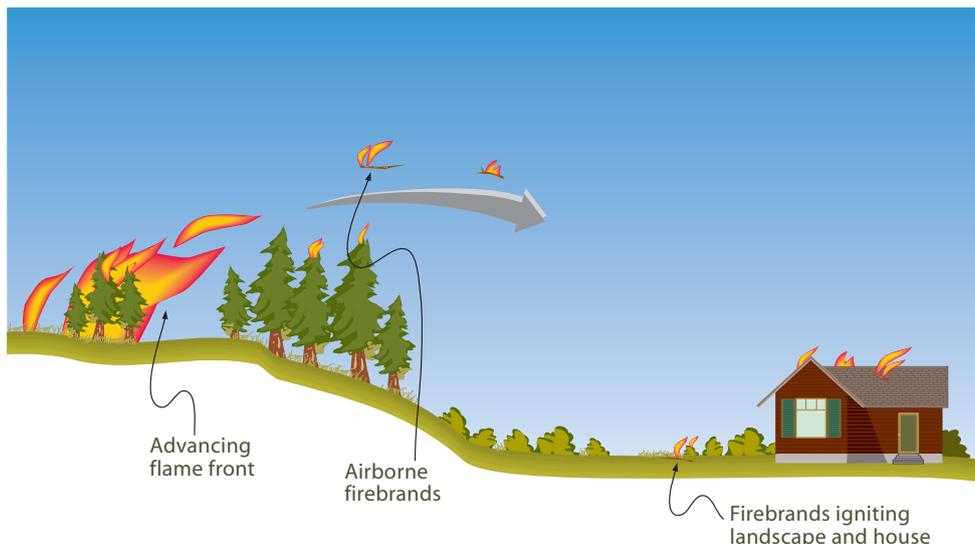
Of course, sheltering-in-place is only advisable if considerable preparation has been done before the fire arrives. As in the United States, Australians living in the wildland-urban interface are urged to get ready for a wildfire by creating and maintaining a large defensible space around their home that is free of readily flammable materials. Because they are encouraged to stay and defend, other preparations are necessary as well, such as setting aside equipment and clothing for fighting the fire and maintaining adequate water sources.

Australian fire officials encourage families with children or elderly persons to consider evacuating instead of staying to defend their homes. They emphasize that these evacuations must take place early – hours before the fire arrives. Fleeing at the last minute is one of the most dangerous things a family can do during a wildfire. Those who choose to remain and defend the home are told to expect a frightening experience – as the fire approaches, the sky will turn dark, the roar of the fire will be deafening, and embers will rain down on the house. Residents who stay and defend are encouraged to wear long pants, eye protection, boots, gloves, and

masks over their mouths as they move throughout the property and home checking for embers to extinguish. As the fire passes over the property, being inside the home can protect individuals from levels of radiant heat that would be deadly outside.

According to the Tasmania Fire Service, unattended houses are three times more likely to burn down than those that are defended. Despite the advantages of the Australian approach, opinions were

#### FIRES ADVANCE BY DIRECT FLAME CONTACT AND BY AIRBORNE FIREBRANDS



mixed at the San Diego Congress about whether sheltering-in-place policy could be successfully adopted in the U.S. Gledhill believes that “sheltering-in-place gives more responsibility to landowners and can be effective in the U.S., despite the paternalistic, hero mentality of the firefighting culture here, which is at odds with the shelter-in-place approach.” The problem with U.S. firefighting culture, he points out, is that firefighting forces cannot possibly protect the thousands of homes that are often simultaneously threatened by a wildfire.



*John Gledhill, Tasmania Fire Service*

“Americans are too accustomed to being taken care of, and too fond of litigation, for the policy to be successful here.”

Fire’s most prolific author, Stephen Pyne, also presented at the conference and agreed with Gledhill that sheltering-in-place is the direction we must move toward in the U.S. Bob Mutch, a retired fire manager who is greatly respected in the field, said that he was committing all of his working energy in retirement to spreading the word about sheltering-in-place.

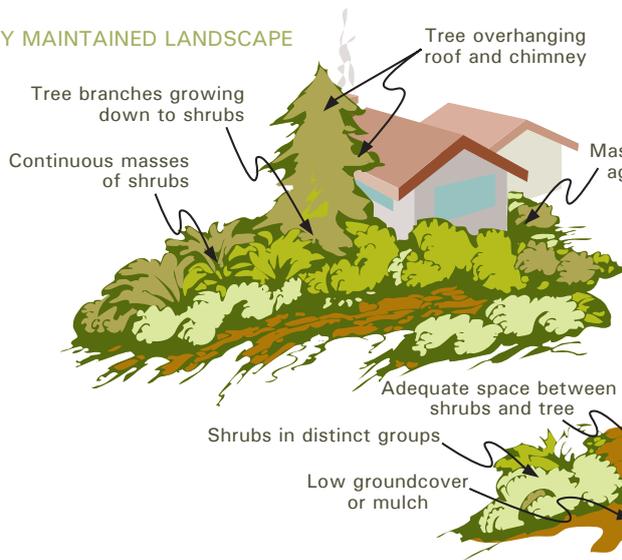
Firefighting forces in the U.S. may not be quite ready to embrace or facilitate a prepare, stay, and defend approach here. In the meantime, prepare your home in the wildland-urban interface for the inevitable fire occurrence and keep an eye on our neighbors to the South to see what we can learn from Australia’s shelter-in-place approach to wildland fire safety.

Presenter Jim Hubbard, deputy chief for State and Private Forestry for the USDA Forest Service, and former Colorado State Forest Service State Forester, expressed concern about adopting a prepare, stay, and defend policy in the U.S. He remarked that

by Darren McAvoy

***What do you think?***  
 Would you implement a prepare, stay, and defend strategy for your own home? Email your thoughts about sheltering-in-place to [darren.mcavoy@usu.edu](mailto:darren.mcavoy@usu.edu) or call 435-797-0560.

**POORLY MAINTAINED LANDSCAPE**



**WELL MAINTAINED LANDSCAPE**



## Horse Power Enhances Forest Health at Sundance Resort

Before the invention of modern logging equipment, real horse power was used to move felled trees from forests. Although this approach might seem old-fashioned now, horse logging is growing in popularity among landowners and others who wish to conduct low-impact, smaller scale forest management activities.

Last November, the work of two teams of Belgian draft horses was demonstrated at a horse logging project at Sundance Resort, up Provo Canyon. Jessie Walthers, environmental educator director at Sundance Nature Center, explained that Sundance decided to take a proactive approach to forest health after fires in 1997 sent embers toward the 5,000 acre resort.

They knew that thinning high risk areas of forest in the resort would reduce fire potential and help to prevent Douglas-fir beetle activity from spreading. However, because one of the 3 ½ acre areas they were targeting has important aesthetic and recreational resources, they wanted the trees to be removed in a very low-impact way. After receiving a USDA Forest Service Forest Health Protection grant, they chose to use horses for the task, and consulted Thompson Logging, based in Francis, Utah.

Thompson Logging uses conventional logging equipment for most of their business, but they

occasionally do weekend work with their five teams of Belgian draft horses. The logger at the Sundance project, Sheldon Thompson, explained that for landowners who don't mind a slower logging process, horses can be a viable alternative to traditional harvesting equipment. Horse logging allows the

landowner more control over which trees are removed, since horses can get to areas in the forest that are inaccessible to larger and less maneuverable mechanical equipment. Also, the risk of damage to the trees that remain is much lower with horses than it is with traditional logging methods. At Sundance, we saw no damage to the residual trees after the first day of the horse logging



*Sheldon Thompson and one of his teams of Belgian draft horses*

project. And, unlike the roads that are the by-product of mechanical logging equipment, horses leave only trails behind them. These trails detract less from the aesthetics of the forest than a road and also cause less soil compaction and erosion.

Thompson had a three-person crew at the Sundance project, and the process they used was fairly simple: a sawyer felled the marked trees and de-limbed most of them where they landed. A log was then hitched to a team of horses which pulled it to the landing area. The horses moved surprisingly quickly through the forest. As he drove the horses, Thompson would

sometimes jump on the log they were pulling in order to keep up, then jump off to follow behind them on foot when once they slowed down. He remarked that he doesn't have any illusions about being able to control the 3,500 lb. team by pulling on the reins. Instead, he relies chiefly on spoken commands, which the horses respond to readily. Belgians have excellent hearing and obeyed commands barely audible to the rest of us observing the Sundance logging project. After the logs were collected at the landing, they were loaded onto the Thompsons' truck and taken to their mill in Francis.

Any breed of draft horse is appropriate for horse logging (mules or oxen can also be used) – they just need to be large and extremely strong. When Thompson's teams of Belgians aren't logging, they are used to pull carriages and sleighs. They also participate in pulling competitions, and last year, one of the teams won the Utah State Fair competition. (Their winning load was a sleigh filled with concrete blocks weighing 10,535 pounds – three times the combined weight of the horses.) When asked about the maximum size of logs the horses could pull, Thompson said it depended on the ground. On good ground, he said, he once had a team pull a log that was 33 feet long and had a 28-inch diameter at its base. Muddy or steep terrain limits the horses' pulling abilities, however. Hitching three or four horses abreast instead of the usual two is sometimes effective for pulling out larger logs. The distance the horses can pull a log is also variable and dependent on terrain (one study found that the average skidding distance for a horse logging team is 300-500 feet). A break or two on the way to a landing keeps the horses from pushing themselves too hard. Thompson pays careful attention to the horses' breathing to determine when they need a break and noted that while one of his teams will usually stop when they are too tired to go on, the other team will keep pulling until their driver says, "Whoa." The horses' effort was evident at the Sundance logging project – they were sweating

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*Important advantages to horse logging include maneuverability and a lesser risk of damage to the trees that remain.*



*Instead of the roads left by mechanical logging equipment, horses leave only trails.*

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profusely in the falling snow. But they appeared happy to be working, and according to Thompson, “If you give them their time, they can go all day.”

Horse logging is more time consuming than mechanical methods, and because it goes so slowly, it turns less of a profit over a given period of time. However, for landowners who are concerned about the noise and roads associated with a traditional timber harvest, or in areas that are particularly environmentally sensitive, horse logging can be an appealing alternative. Horse logging is also well suited to small tracts of land where mechanical operators might not be willing to bid due to the small amount of timber involved. Sheldon Thompson can be reached at (435) 640-0695.

*by Olivia Salmon*

**New publication about Utah forest owners is available**

The December issue of *Journal of Forestry* includes an article about Utah forest owners by Olivia Salmon, Mark Brunson, and Mike Kuhns. It is titled “Benefit-based audience segmentation: A tool for identifying nonindustrial private forest (NIPF) owner education needs.” If you would like a copy of the article mailed to you, call Olivia Salmon at 435-797-8116 or email her at [olivias@ext.usu.edu](mailto:olivias@ext.usu.edu).

**Bark Beetles: Are Your Trees at Risk?**

Bark beetles cause widespread mortality in forests throughout the Intermountain West and are a major issue for the region’s private forest landowners. A new publication has been produced by the USDA Forest Service to educate landowners about bark beetles and how to manage for them. The publication, “Bark Beetles: Are Your Trees at Risk?” describes how to identify tree species and determine their susceptibility to attack, how to determine whether trees have already been attacked, and how to treat and prevent beetle attacks. The publication also provides detailed information about the life cycles and characteristics of Intermountain West bark beetles and other defoliating insects.

This publication can be accessed online at <http://www.fs.fed.us/r1-r4/spf/fhp/index.html>. If you would like a paper copy mailed to you, please contact Olivia Salmon at 435-797-8116 or [olivias@ext.usu.edu](mailto:olivias@ext.usu.edu).



## Utah Forest Products Association Second Annual Conference

The Second Annual Conference of the Utah Forest Products Association will take place on April 18-20 at the Hampton Inn in Orem, Utah. The schedule will be as follows:

### **Wednesday, April 18**

#### **1:00-5:30 pm: Mechanized Harvesting Operations-**

Dr. John Garland (Oregon State University Professor Emeritus). *Dr. Garland is a consulting forest engineer and has been a timber harvesting extension specialist at Oregon State University since 1973. He has taught similar courses in Oregon, Idaho, and Colorado.*

### **Thursday, April 19**

#### **8:00 am-5:30 pm: Forest Operations Costs and Pricing Practices -**

Dr. John Garland (Oregon State University Professor Emeritus). Limited to 40 people. *Participants will learn to work with a spreadsheet program specifically designed by Dr. Garland for use in the forest products industry. Participants will be provided with this program to take home and use as a key tool in managing their forest operations costs and pricing practices.*

### **Friday, April 20**

#### **8:00-10:00 am:**

#### **Timber Products Inspection, Inc.**

*Timber Products*

*Inspection is the largest wood inspection agency in*

*the nation and participates actively*

*in the Utah wood industry. Representatives from TPI will present information on wood inspection and kiln drying activities in Utah.*

**10:20-11:50 am: GPS Tools in the Woods -** Dr. Fred Baker, Utah State University.

**11:50 am-1:00 pm: Awards Ceremony Luncheon** (included)

#### **1:00-2:30 pm: Forest Ecology and Silviculture-**

Dr. John Shaw, USDA Forest Service and Utah State University

**2:30-3:30 pm: UFPA Business Meeting**

**3:30 pm: Conference Adjourn**

To register visit [http://extension.usu.edu/forestry/Business/FPB\\_UFPASite.htm](http://extension.usu.edu/forestry/Business/FPB_UFPASite.htm) or call Kathleen McDowell at 435-586-7738.



For more information regarding any of the information presented in this newsletter, please call Darren McAvoy at Utah State University, 435-797-0560, write to him at 5230 Old Main Hill, Logan, UT 84322-5230, or email [darren.mcavoy@usu.edu](mailto:darren.mcavoy@usu.edu).

The Utah State University Forestry Extension Web site, found at <http://extension.usu.edu/forestry>, is an excellent source of technical forestry information for woodland owners. Check the "What's New" section periodically for new postings.

State of Utah Division of Forestry, Fire and State Lands (DFF&SL) service foresters for your area can be contacted by calling 801-538-5555.

Ideas and written contributions to this newsletter are encouraged. Send your contributions or comments to the return address above or call 435-797-0560, or email [darren.mcavoy@usu.edu](mailto:darren.mcavoy@usu.edu).

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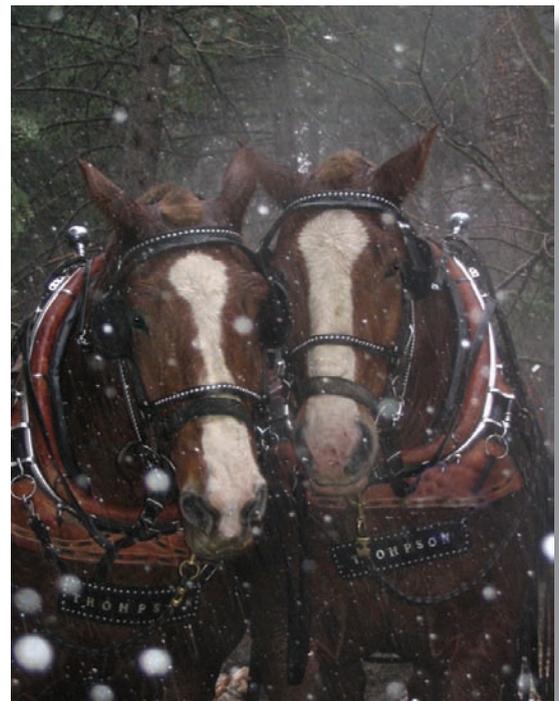
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### COMING EVENTS

**Trees and Utilities National Conference: April 16-18, Las Vegas, NV.** Visit [www.arborday.org/TUConference](http://www.arborday.org/TUConference) or contact Matt Fong at 402-474-5655 (ext. 243) for more information.

**The Utah Forest Products Association Annual Meeting and Utah Logger Education Program: April 18-20, Orem, UT.** This year's program will feature the Business of Logging and Mechanized Harvesting. Call Kathleen McDowell at 435-586-7738 for more information.

**Assessing Wildfire Hazards in the Home Ignition Zone: May 15-16, Portland, OR.** Two day workshop with Q&A sessions, discussion, and classroom exercises. Visit [http://www.firewise.org/fw\\_youcanuse/workshop\\_hiz.htm](http://www.firewise.org/fw_youcanuse/workshop_hiz.htm) for more information.



*Belgian draft horses pause in the snow during a horse logging operation*