EMBERS, the Hidden Risk in Wildfire — Richard Young

We all are aware of the negative impact that direct contact with a wildfire will have on our homes; the Lakehills Fire Safe Council has been working hard to help our community by working with our agency partners to create numerous 100 foot safety zones on the public land boundaries bordering private properties in the community. These safety zones are termed “shaded fuel breaks” and are used in forest management strategy to mitigate the threat of wildfire in areas where natural fire regimes have been suppressed, leading to a dangerous buildup of combustible vegetation. Constructing a shaded fuel break is the process of selectively thinning and removing more flammable understory vegetation while leaving the majority of larger, more fire-tolerant tree species in place.

While the Fire Safe Council focuses partners on the criticality and seeks funding to create and maintain these shaded fuel breaks, we also urgently encourage homeowner participation in the continuation of these safety zones by maintaining their own property’s fuel hazards. Obvious is the need to remove the combustible materials near each home: clearing dry grass and limbing up trees to remove the fuel nearest to the ground.

What is often overlooked is the protection of the home from potential flying embers that can be up to a mile ahead of a wildfire. These embers can be blown into the vicinity of the home—even though the fire has not reached the property—and can be disastrous to the home and may prevent it from being saved. Here are preventive tools for homeowners—see FEMA’s checklist: <CLICK LINK> and see pages 2-3 articles: “Decks” & “Roofs”

2018 Plans for the Fire Safe Council

⇒ Use grant funding to create a shaded fuel break on Iron Mountain (Southpointe)
⇒ Continue vegetation management & fuel reduction on US Bureau of Reclamation / CA Park land
⇒ Schedule speakers for our March—October monthly meetings on a variety of topics covering local governance, fire safety, UCD master gardeners, 2017 wildfire re-cap, EDHFD updates, etc. Celebrate accomplishments at the annual Firewise BBQ in May.
⇒ Encourage neighbors to create defensible space; Increase our value to agency partners.

Unwanted Wood?

Do you have large tree wood, trunk and limb pieces on your property that you don’t want and/or you don’t know of how to dispose? Whether the wood is from your own efforts or from PG&E due to power line maintenance, there may be options for you.

If wood on your property is due to PG&E work, you may qualify for the PG&E Wood Management Program where the wood will be removed at no charge to you. To see if you qualify, call the Wood Management Program at 800-743-5000.

If wood on your property is from your own efforts, the Seventh Day Adventist Firewood Ministry may be able to help. Contact Lloyd Ogan, 530-644-0338 (Mon.-Fri., 8-5 pm).
The National Fire Protection Agency (NFPA) Wildfire Division provides information, educational resources, trainings and conferences for wildfire stakeholders to help reduce their risk of wildfire damage to homes and property. They also administer the Firewise USA program (both Lakehills/Southpointe and Lakeridge Oaks are Firewise communities). The Fire Safe Council often uses NFPA resources when writing our monthly newsletters.

This month, NFPA provides information about decks and roofs and their associated risks of igniting homes in a wildfire situation. Fire is spread in three ways: embers/firebrands, radiant heat exposure or direct flame contact. Many homes located in wildfire-prone areas have attached decks, which can potentially spread fire to the house if ignited during a wildfire. NFPA shares a new fact sheet with recommendations to help protect your deck and home (see page 3). In addition, see information from NFPA about roofs below.

### Roofs - Implement these 6 actions — from IBHS and NFPA

**RISK REDUCTION WITH PREVENTIVE ACTIONS:**

1. **Roofs should be Class A.**
   - Roof covering fire ratings are Class A, B, C, or unrated. Class A provides the best performance. Some Class A roof coverings are asphalt fiberglass composition shingles, concrete and flat/barrel-shaped tiles. If materials have a “by assembly” Class A fire rating, that means additional materials must be used between the roof covering and sheathing to attain that rating. Examples include aluminum, recycled plastic and rubber and some fire-retardant wood shake products. If a wood shake roof does not have the manufacturer’s documentation specifying the fire retardant, assume it’s untreated.
   - Flat and barrel-shaped tiles, metal, and cement roof coverings can have gaps between the roof covering and sheathing, which typically occur at the ridge and edge of roofs. These openings can allow birds and rodents to build nests with materials that are easily ignited by embers. Flames can spread to the structural support members, bypassing the protection offered by a Class A rated roof covering. Plugging these openings between the roof covering and the roof deck, is commonly called “bird stopping”.

2. **Remove debris on roof and in gutters at least 2 times each year.**
   - Wind-blown debris (including leaves & pine needles from nearby) will accumulate on roofs and in gutters. Dry debris can be ignited by wind-blown embers. These flames can extend to the edge of the roof and to adjacent siding. Even with Class A fire-rated roof coverings, vertical surfaces next to the roof edge will be exposed to flames from the ignited debris. Regularly remove debris.

3. **Remove branches overhanging the roof.**

4. **Inspect exposed areas under soffits and eaves to ensure material is in good condition.**
   - Post-fire research has shown attic vents, roof and gable end vents and under-eave areas are entry points for embers and flames.

5. **Cover vents with noncombustible, corrosion-resistant 1/8-inch metal mesh screens.**

6. **Inspect and maintain your roof. Replace when necessary.**

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### Firewise Landscaping Ideas

**Firewise landscaping goal:**
- limit flammable vegetation & material surrounding the home
Reduce the Vulnerability of Your Deck to Wildfire

Many homes located in wildfire-prone areas have attached decks, which can potentially spread fire to the house when ignited during a wildfire.

A burning deck can ignite siding or break the glass in doors or windows, allowing fire to gain entry into the house. Consequently, making decks less vulnerable to wildfire also makes your house less vulnerable. Reducing the deck’s vulnerability requires an approach that focuses on the materials and design features used to build the deck, and creating a noncombustible zone around and under the deck.

Ember Exposure and Ignition
Walking surfaces of decks are either solid surface or constructed using deck boards (with between board gaps). Solid surface decks are commonly light weight concrete or tile. Combustible deck board types include: solid wood and wood-plastic composites (these products are more widely used than noncombustible deck boards). Noncombustible deck board types include: metal and fiber cement.

Recent testing at the IBHS Research Center showed embers mostly lodge between deck board gaps and where deck boards rest on joists. Embers can accumulate and potentially ignite decking and combustible joists. Embers can also fall through board gaps and land on materials stored beneath the deck. It’s critical to remove all combustible materials from the under-deck area to minimize the opportunity for ignitions; where resulting flames would impinge on the decking (some wood-plastic decking products are vulnerable to flaming exposures).

IBHS tests also showed that even without vegetative debris in between deck gaps, medium density softwood decking products, such as redwood or western redcedar are vulnerable to ember ignitions. Most wood-plastic composites, along with higher density tropical hardwood, and fire-retardant treated decking products are less vulnerable to embers. The vulnerability to embers in these locations is a reminder to remove debris that accumulates in these areas.

Building Code Requirements
The International Wildland Urban Interface Building Code (IWUIC) and the California Building Code are the most commonly referenced construction codes for wildfire-prone areas; both include requirements that focus on the walking surfaces of decks. Noncombustible products are allowed by both codes.

The California Code provides provisions for accepting combustible decking products. These types of products are more commonly used by homeowners living in wildfire-prone areas across the country. Their requirement governs the amount of heat released when combustible decking is ignited by a gas burner. This mimics burning debris that could be located under the deck, or burning vegetation impinging on the underside of the deck, but does not mimic ember exposure. Combustible decking products that comply with the California Code can be found at: http://osfm.fire.ca.gov/licensinglistings/licenselisting_bml_searchcotest.

The IWUIC prohibits common combustible deck boards with the exception of fire-retardant treated decking (rated for outdoor exposure) and other materials that meet the requirements of an Ignition Resistant Material. However, as of this date, no other materials meet these requirements. The IWUIC allows an enclosed deck option that uses a horizontal construction attached to the bottom of the deck joists. This option should only be used with a solid surface deck. Using this option with deck boards (and the associated gaps), will cause moisture-related degradation problems (corrosion of fasteners and wood rot). Water from rain or melting snow will easily get into the enclosed space and will have a much harder time getting out.

Recommendations for Your Deck:

1. Combustible materials should not be stored beneath decks. This will effectively create a noncombustible zone under the entire footprint of the deck.
2. Routinely remove debris that accumulates in between deck board gaps and debris that can accumulate at the intersection between the deck and house.
3. If the deck is a non-fire-retardant treated softwood deck, consider removing and replacing deck boards within a few feet of the house. Be careful to match the deck board thickness.
4. When building new decks, select deck boards that comply with the California Building Code requirements. If using wood joists, cover the top and part of the sides with a foil-faced bitumen tape product.