

## Fire Prevention and Response By Dr. Kenneth S. Cheng

Now that we are well into spring and the days start to warm, we should also start to think about preparing for the upcoming fire season. The heavy rains this recent winter causing blooms of vegetation, and the past wild fires devastating entire communities in southern and northern California, should heighten our concern for fires in Nellie Gail Ranch. The Emergency Preparedness Committee's focus has traditionally been to prepare for natural disasters, typically an earthquake. This month, we focus on actually preventing a disaster; taking the steps to mitigate a fire from destroying our homes. Better to prevent a fire than to fight a fire.

According to the California Department of Forestry, Cal Fire and local fire authorities, the southern-most portion of Nellie Gail Ranch (Hidden Trail, Rapid Falls, Dillon, Greenfield and the nearby smaller streets) is "recommended" to be listed as a Fire Hazard Severity Zone" (FHSZ), with a rating of "moderate" to "high" risk for wildfires. This is based on scientific modeling where experts geographically identify risk areas using factors such as vegetation type, terrain, fire history and weather patterns. It should be noted that this area is "recommended" as a FHSZ as of September 2012, but the City of Laguna Hills has not yet officially adopted this recommendation. Therefore, fire-mitigating construction and vegetation management is not mandatory, but only voluntary (but still highly recommended.) Taking the steps here, and in other parts of Nellie Gail Ranch, will limit fire-related losses to this community. Slope management, where slopes need to be cleared of tall brush prior to every fire season, does not fall under this voluntary recommendation; slopes in all areas still must be cleared pre-fire season. The specific location of the FHSZ for Laguna Hills can be found here:

<https://ocfa.org/Uploads/CommunityRiskReduction/FHSZ%20LagunaHills.pdf>

Although most of the readers will not be living in the Fire Hazard Severity Zone, it does not alleviate us from fire risk. There is always a potential threat as flying embers from a fire blocks away can put your home and property at risk if it is not properly prepared. The Orange County Fire Authority website ([www.ocfa.org](http://www.ocfa.org)) is a tremendous resource of information on fire prevention. This website contains many files, videos and even a home assessment form that one can fill out for a free fire threat assessment. It is strongly recommended that one explore this site as this article can only briefly touch upon the wealth of information provided by the OCFA.

There are some basic steps that have been recommended by Cal Fire and the Orange County Fire Authority to help reduce the risk of fires affecting our homes. Some of the basic concepts are explained below:

### Structure Clearance.

As of 2005, state laws increased the "defensible space" from 30 feet to 100 feet from any structure. Within 0 to 30 feet of a home or structure, one should be "Lean, Clean and Green." This includes the removal of all dead plants, trees and weeds, removal

of all dried leaves and pine needles, and to keep any branches at least 10 feet from other trees and at least 10 feet away from any heat source (chimneys, heaters, etc.) From 30-100 feet of a home or structure, this is the "Reduced Fuel Zone" where we should limit vegetation; keeping all grasses trimmed to no higher than 4 inches, have adequate horizontal spacing between trees and shrubs and create adequate vertical spacing of at least 6 feet between the lowest tree branches and the ground, preventing a vertical "fire ladder." The horizontal spacing between shrubs and trees is dependent upon the slope upon which they are planted; the steeper the slope, the greater the distance between plants. Information from the Orange County Fire Authority on Defensible Space can be found here:

<https://ocfa.org/Uploads/SafetyPrograms/OCFA%20RSG%20-%20Defensible%20Space.pdf>

#### Yard Clearance:

Flammable materials (firewood, construction material, etc.) should be kept at least 30 feet from any structure, and all vegetation should be cleared at least 10 feet from any wood pile or construction material. Ideally, storage sheds should also be at least 30 feet from the house.

Many of us have LP (Liquid Propane) fuel tanks commonly used for BBQ's and heaters. These should be kept at least 10 feet from any structure and the same distance from the property line.

#### Vegetation Management

There are the Four R's to the management of vegetation on your property:

**Removal**-This involves remove all dead vegetation within 100 feet of your home, and the removal of existing trees and shrubs on the OCFA "Undesirable" list as these plants have a high risk of burning. Juniper, Eucalyptus, and Pine trees, common here in Nellie Gail, are examples of these "undesireable," highly flammable plants.

**Reduction**-One should reduce the amount of vegetation by pruning and thinning within 100 feet of your home, provide proper separation between trees and shrubs at a distance of 3 times the tallest tree or shrubs, and all plants within 10 feet of the home should be pruned to no taller than 2 feet.

**Replacement**-Once we remove the "undesirable," highly combustible, vegetation, we can then replace with low combustible plants and maintain adequate spacing between new plants to allow for growth.

**Resistant**-We should utilize fire-resistant plants when possible, such as succulents to limit combustibility of vegetation on our property.

When one can follows these recommendations, it will provide the firefighters the greatest chance of saving one's home during a wildfire. Comprehensive guidelines on proper plants, proper spacing and proper pruning of vegetation can be found here:

<https://ocfa.org/Uploads/SafetyPrograms/OCFA%20RSG%20-%20Vegetation%20Management%20Guidelines.pdf>

The OCFA also has produced "Vegetation Management Guideline: Technical Design for New Construction Fuel Modification Plans and Maintenance Program," which are

guidelines on all aspects of plant designs, species identification, placement based on slope, location, desirable and undesirable plants and many other factors too detailed for this article. This information can be found at:

<https://ocfa.org/Uploads/CommunityRiskReduction/OCFA%20Guide-C05-Fuel%20Modification.pdf>

Should a wildfire occur at or near Nellie Gail Ranch, we also must be prepared to respond appropriately. When homes are threatened and evacuations are ordered, homeowners often are unprepared and start to gather personal belongings without much thought or planning. Orders for evacuation will come from the Sheriff's Department; these should be heeded. Having provided evacuation orders in Orange County, this author has witnessed the chaos on how the unprepared gather their personal belongings.

Besides family members and pets, what to grab can often be placed into one of three main categories: items of practical importance, items of sentimental importance and items of value.

When given the orders to evacuate, or if you have independently made that decision based on your knowledge of the situation, you should implement your *pre-planned* strategy on the practical, sentimental and valuable items to grab. The emphasis is on pre-planning since much of what is important can be assembled long before the fire. These items typically fall under the practical category. These items generally include:

- car keys
- home and auto insurance information
- home inventory of belongings
- health insurance information
- prescription medications
- clothing

All of these items should already be in your grab-and-go bag (see the September 2018 Pony Express article on "Your Work and Car Earthquake Kit"). Documents can also be placed on a cloud-based digital file. Sentimental items usually involve photo albums or family heirlooms. Again, pre-planning by placing all photo albums in a single box or crate that can be grabbed quickly and easily is the best way to prepare for evacuation. Better yet is to have the pictures already digitally reproduced and stored in a digital cloud file. The collecting of items of value must be balanced by the practicality of carrying and transporting potentially large items. One possibility is to have "valuable items" list divided into easily grabbed and carried (jewelry, etc.), larger items that may be grabbed if time, space and energy permits.

In summary, the steps to take for fire prevention are the most important aspects of surviving a fire. This all comes down to preparation; preparing your yard, your house and your items of importance. As Benjamin Franklin has taught us, "Failing to prepare is preparing to fail."