

NATIONAL FOUNDATION FOR ENVIRONMENTAL SAFETY, INC.

A Non-Profit Corporation

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December 7, 1989

Dr. James R. Sweeney
459 Jill Court
Incline Village, Nevada 89450

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Dear Bob:

When visiting Incline Village again last month after our Foundation's annual meeting more than there years ago, I was truly shocked at the extreme wildland fire hazard which has spread virtually unchecked throughout 'residential mountain slopes' in your community. Based on my past experience with wildland fire predictions and residential damage probabilities in Southern California, a fire storm disaster with extensive residential damage can be expected in the near future given the right weather conditions.

The lack of common sense fire-safe building codes in the urbanization of the forests as well as the almost total lack of enforcement of wildland fire hazard ordinances as they exist in California are largely to blame for the problems encountered. A community is often jolted out of its own complacency by a disaster in its own backyard or by a disaster close by. The present stepped-up incorporation of fire-safe roofing in the building design of new homes shows that public officials as well as individual homeowners are beginning to realize that even in your community the roof is the most vulnerable and most exposed part of a house. For the wildland areas of California I have documented that under almost all fire weather conditions, a wood shingle roof has a greater probability of ignition than most surrounding native vegetation! A roaring wildfire thus makes no distinction between a dead tree, downed ladder fuels, a wood shingle roof, wooden siding or wooden overhangs of a house.

While I saw many indications that awareness of wildland fire hazard had been raised among homeowners living year-round in the area, the efforts of such homeowners alone may or may not protect their own home and will do little to prevent a fire storm. The extended drought and the subsequent insect infestation of both firs and pines have accelerated the buildup of aerial dead fuels and downed ladder fuels so drastically that man, in his typically slow response, and on a piece-meal basis, can not keep up with their removal. An intensive community-wide fuel hazard reduction effort involving both public and private agencies, as well as homeowners, should therefore be in place before the next fire season, as we are approaching High Noon in the Tahoe basin. Nature has greatly advanced the time table of natural fire cycles and man has not yet responded.

However, in order to put an effective community-wide fuel hazard reduction program in place quickly and tighten up fire-safe building codes even further, public agencies must immediately acknowledge the existence of extreme fire danger and the potential of wildland fire disasters, even if its takes admitting that they have been slow to respond. Are they are up this task? Not doing so would be complacent irresponsibility.

The attached photographs that I took during my stay in Incline Village are pretty self-explanatory and document what I have said above.

I know that both as a fire ecologist and director of the Foundation, you have done much to raise the awareness of wildland fire hazard in your community, so that my impressions on the present wildland fire hazard conditions in the Lake Tahoe basin do not come as shocking news to you. But given the general complacent attitudes of public agencies and their typically slow response, I think that it is imperative that our Foundation take an even more active role in supporting your efforts in speeding up the process of public awareness of impending wildland fire disasters, so that community-wide preventive measures can be implemented quickly and on an ongoing basis.

Sincerely yours,

A handwritten signature in cursive script that reads "Klaus Radtke".

Klaus Radtke, Ph.D.
President

The Wildland Fire Problem

A. Aerial fuels



Photo 1. To the casual observer, the dead jeffrey pines, ponderosa pines, and white fir trees in this mixed conifer forest in Incline Village may be of little concern, or if of any concern, may be viewed as part of a natural cycle. However, to prevent a fire conflagration and prevent further deterioration of the health of a forest stand, such trees should be removed through sanitation thinning wherever feasible (R. #39-22; 11-11-89).



Photo 2. A close-up of the forest shows that many trees have died previously (whitish silhouettes), have died recently (brownish), or are dying (flagging: browning out of portions of the tree). An extended drought coupled with the infestation of drought-weakened pines and firs by insects has killed many trees, and has greatly advanced the natural fire cycle in and around urbanized forests (R. #39-23; 11-11-89).

B. Ground and ladder fuels



Photo 3. A forest understory consisting largely of greenleaf manzanita (*Arctostaphylos patula*), huckleberry oak (*Quercus vaccinifolium*), fallen trees and dead lower branches of firs and pines not only provides the fuels for ready ignition on the forest floor but also provides the ladder fuels for fires to be carried into the crown of trees (R#39-27; 11-11-1989).



Photo 4 . To reduce the probability of roaring crown fires, understory and ladder fuels should be removed for a minimum distance of 300 feet around homes and for a much greater distance downslope from homes. Such on-going effective fire hazard reduction is shown in these jeffrey pine-ponderosa pine-white fir stands (R.#39-21; 11-11-89).

Homeowner Initiatives

A. Fuel modification



Photo 5. This homeowner along Saddlehorn Road in Incline Village is diligently clearing all ground fuels and dead branches from around his home. He has also removed standing dead trees on his property or directly affecting his property. (R.#39-24; 11-11-89)

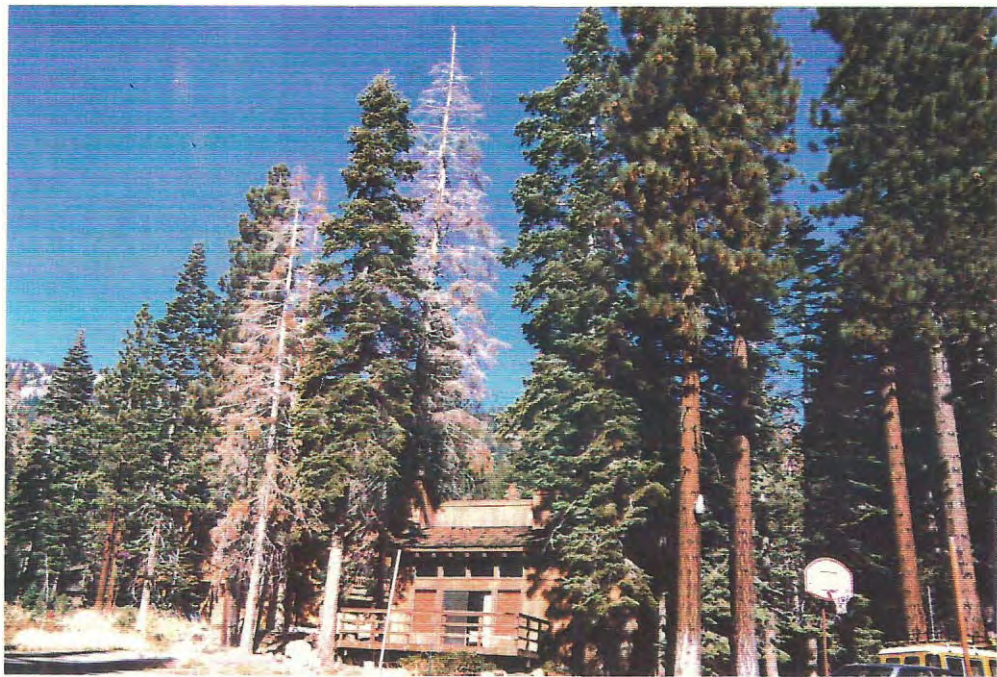


Photo 6. Dead standing trees surrounding a nearby property pose an extreme fire hazard, not only to the wood shingle home and the adjacent live trees, but to surrounding homes as well. In a fire disaster, one's safety is often greatly affected by the action or inaction of adjacent homeowners (R.#39-25; 11-11-89).

B. Fire-safe roofing

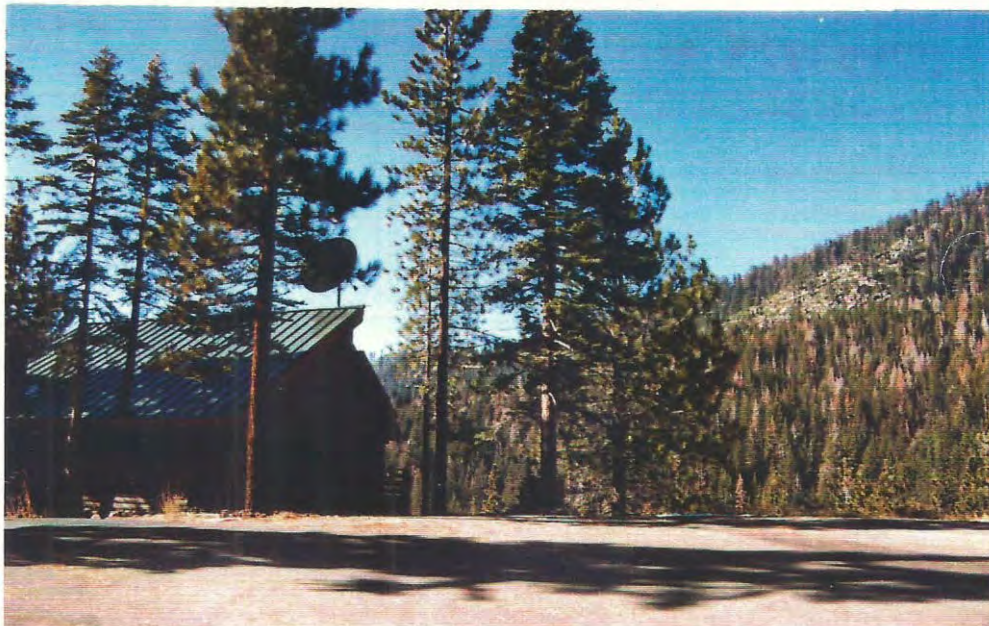


Photo 7. This house along Bronco Way in Incline Village is very vulnerable to fire because it is located on the top of a steep slope facing the natural forest stands in the background. The homeowner has therefore intensified his fire-safety efforts by not only affording the house with some protection through a fire-safe roof but also through extensive clearance of dead and dying vegetation not only on the slopes below the house but also around the house. However, the house is still vulnerable to a fire from the downslope side (not shown), as well as the side of the house (arrow; not shown in photo) where a coordinated effort with the neighbors is still needed to complete the fire clearance (R.#39-26; 11-11-1989).



Photo 8. Pine needles from adjacent dying trees are covering the wood shingle roof of this house along Valley Drive in Incline Village. Such apparent disconcert or lack of awareness of the extreme fire danger often results through absentee ownership. It must be reemphasized that one is often only as safe as his neighbor. A neighbor (private homeowner as well as public agency) thus has a legal responsibility not to endanger the life and property of surrounding homeowners (R.#39-29; 11-11-89).

Siting of Homes, Topography and Slope Aspect



Photo 9. Lower Tyner Way in Incline Village affords these homes an effective downhill firebreak. However, the steep south-facing slopes between lower and upper Tyner Way (1) pose an extreme fire threat not only to houses nestled among the trees ... (R.#39-33;11-11-89).



Photo 10. ... but also to homes near the top of the slopes along upper Tyner Way as shown here. These homes are especially vulnerable, as conduction, radiation, as well as convection heat may create an uncontrollable uphill racing fire storm (R.#39-34;11-12-89).

Community-wide Wildland Fire Safety Efforts



Photo 11. Only a community-wide wildland fire hazard reduction effort can assure that off-site fire hazards over which an individual homeowner has no control, will be removed promptly. This home along lower Tyner Way in Incline Village has excellent fire protection on the side facing the photo and also seems to have good fire protection along its downhill side. However, the many tall, dead trees and the understory of ladder fuels will convert an uphill moving ground fire into a crown fire that has a very high probability of catching the wood shingle roof on fire and burning down the house (R. #39-32; 11-11-1989).



Photo 12. New homes along lower Tyner Drive in Incline Village are characterized by fire-safe roofing, reflecting a change in the fire-safe building codes. Since the wood shingle roof is the greatest single factor in structural losses during wildfires (and often in spreading the fire to adjacent homes), a fire-safe roof will eliminate the greatest fire threat to a home. While a home with a wood shingle roof rarely survives a wildland fire unattended, a home with a fire-safe roof, depending on distance and amount of clearance of flammable vegetation, increases its odds of surviving a wildland fire unattended under the same conditions by at least 20 times, or 2000%. These are the best odds offered to any gambler anywhere in Nevada. The odds are further increased in favor of homes with fire-safe roofing as wildland fire protection agencies are being trained to protect homes that have a chance of surviving a wildfire with minimal tie-up of equipment and labor and bypass homes whose chances are minimal. Thus when a wood shingle roof catches on fire in a wildland fire conflagration, it is normally a total loss (R.#39-31; 11-11-89).