BRENTWOOD HOMEOWNERS ASSOCIATION

DR. JON KEELEY PRESENTATION | 2.18.25

Palisades and Eaton fires were not unusual, but they were unique in their destruction.

- Have had severe Santa Ana conditions in the past without fires. Difference is that fires are now started by human ignition. The primary source in Southern California for Santa Ana Wind Driven fires is power line failures. Second is arson.
- Wind blowing embers determined fire, not fuel management. Once embers reach the urban environment wildland fuels no longer relevant. The main problem with these fires is the ember-driven spread, rather than the age of the vegetation, and that fuel treatments may not be the most effective solution.
- The destructive nature of the Palisades and Eaton Fires were due to extreme wind speeds and the ability of embers to spread the fire across multiple blocks.
- High-density housing significantly increases fire risk, as fires can easily spread between closely spaced structures.
- Planning and density is a very important issue in high fire zones. Not enough to have one house hardened to fire, ALL houses need to do it.
- Population growth is likely to be a more important threat than climate change. The most destructive fires have occurred this year in large part due to the fact there are more people on the landscape.

Importance of defensible space and home hardening in wildfire protection.

- Most homes burn due to embers rather than direct flames, so focusing on preventing ember entry is crucial. He recommends creating a 5-foot zone around homes with minimal vegetation, and spacing plants further out to prevent fire spread. Trees may help protect homes by catching embers, contrary to some conventional wisdom.
- Removing dry leaves and branches on roofs, making sure dry branches or wood fences are not near home (within zone 0), installing fine mesh eve on all vents, and installing double-pane windows make a difference.
- Fire hazard reduction within 100 feet from home makes an impact. The right trees can actually protect homes from fire by catching flying embers.
- Defensible space, especially the five feet around a home, is critical for providing a safe environment without continuous fuels so that firefighters can stay and protect your home. Firefighters need space and safety to fight the fire.

Southern California Fire Risk Strategies

- Population growth has increased fire risk and its impact. There is a need for better wind pattern prediction, improved communication systems, and more effective community planning to mitigate fire risks. (see page 4)
- Dr. Keeley presented his 5 P's in addressing wind dominated fires: People, Prevention, Prediction, Planning and Protection. (see below)

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- Need to eliminate ALL ignitions during Red Flag Days—powerlines (underground them or power off, arson (patrols), power equipment (restriction on use) and debris burning (restrictions).

Resources for Southern California Wildfire Prevention Recommended by Dr. Keeley

- When researching fire prevention strategies, important to focus on Southern California. Dr. Keeley highly recommends this webinar on managing wildfire risk in Southern California with insightful comments by Michael O'Connell from the Irvine Ranch Conservancy.
- Sustainable Defense Space is a website specifically designed for the Santa Monica Mountains and on how to produce defensible space from the house out to 100 feet. The website includes information on how to landscape within defensible space, focusing on native plants as well as understanding characteristics of the plant.
- CAL FIRE Defensible Space shows how to produce defensible space around your home and discusses the different zones around your house that have different characteristics in terms of vegetation.

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The 5 Ps of Wind-Dominated Fires

1) ***People****:* This is more a people problem than a fuel problem. 100% of these fires are ignited by people and increased fires since 2000 may be due to an additional 6 million people; population growth is likely more of a threat than climate change.

2) ***Prevention****:* Rather than focusing on fuel treatments we need to put much greater emphasis on fire prevention. Progress is being achieved; ignitions have declined markedly since the mid-1980s, but area burned has remained high, but in the last decade the majority of large fires ignited by powerlines.

3) ***Prediction***: These are due to extreme wind events and real time prediction of wind patterns and communicating to agencies and homeowners could save lives.

4) ***Planning***: Community planning needs to give fire similar recognition as other hazards. We have limited ability to control earthquakes and floods, so we have zoning restrictions. Fires have been perceived as controllable, but history reveals we are vulnerable. There is a need for greater focus on fire-zoning and consideration of replacing community planning with regional planning.

5) ***Protection****:* Fuel treatments around homes need to be focused on the 'house out', i.e., greatest effort near homes and less as one moves further into the wildlands. Reducing fuels within 100' is sufficient and farther clearance is of doubtful value. Most homes burn from embers, thus reducing litter on roofs, installing fine mesh eve vents, double-pane windows, and roof sprinklers may make a difference.

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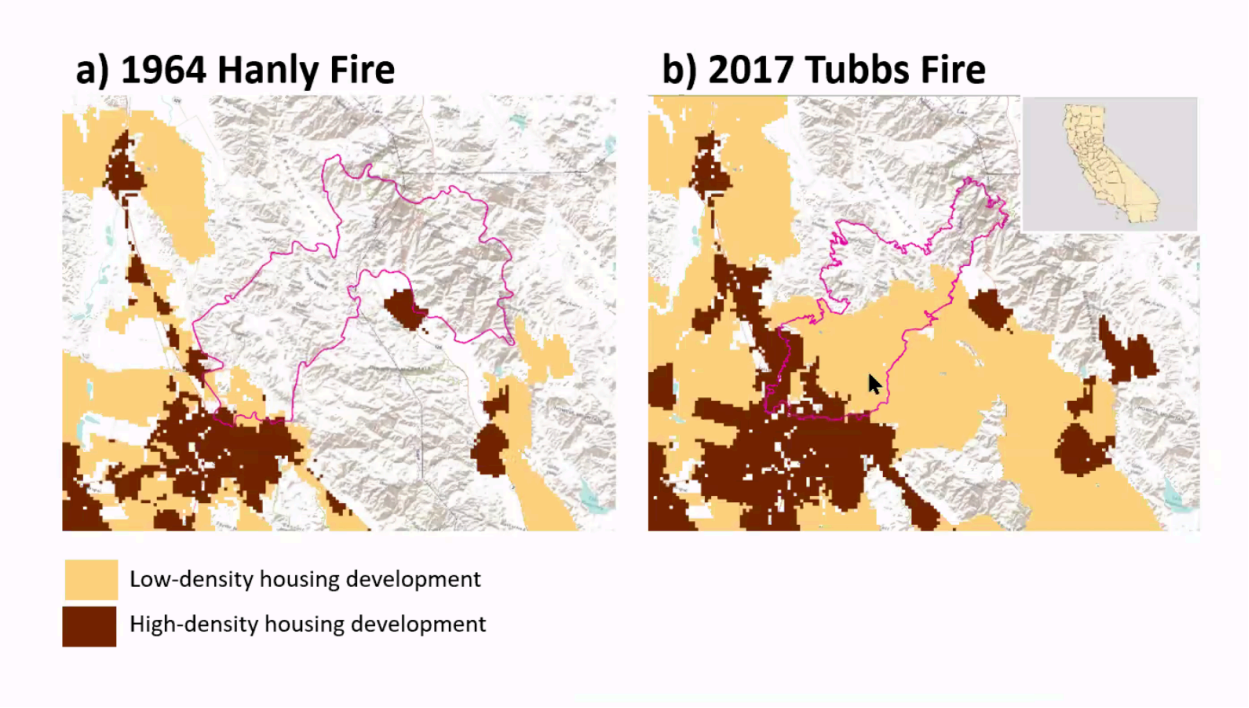

Population growth is likely to be a more important threat than climate change. In looking at areas where the most destructive fires have occurred this year, they're now really damaging, and in large part due to the fact there are more people on the landscape.

The 1964 Hanley fire had no fatalities, 100 structures lost. The 2017 Tubbs Fire, 50 years later, had 22 fatalities and over 5,000 structures lost. Population growth of Santa Rosa between 1964 and 2017 saw a five-fold increase. In addition, this growth in the landscape was reflected in development. Image A outlines the 1964 Hanley Fire. The tan represents low density development. Image B is the 2017 Tubbs fire. The low-density housing covers well over half of the area of the Tubbs fire, and certainly that increase in development produced a situation with many more people at risk to fire. But, more importantly, it also increased the possibility of a fire, because all of these wind, driven fires in the autumn are all started by people, either directly or indirectly. Put more people in the landscape, and you have a greater likelihood somebody somehow will start a fire either directly or through power line failures.