



Southern California Fires - Summer 2003
Fire Hazards

Structural Fires

Structural fires are not typically considered an emergency except when the fire can potentially spread to adjoining structures. In addition to typical methods of occurrence, structural fires are a potential secondary hazard of earthquakes and riots. One study estimated that 80-100 fires would occur from a large earthquake in the Seattle area. Building codes requiring fire detectors and sprinkler systems are in effect for most large structures, therefore reducing some vulnerability.

Injuries and casualties to the occupants of a structure are a primary concern in all structural fires. These events can also cause the release of hazardous materials and disconnect utility lines.

The following steps should be accomplished to preclude major loss of life and reduce the actual number of fires in hazard areas. Citizens should know the proper way to handle fire. Public education programs on fire safety, fire alarms and fire response are important. People should also be encouraged to purchase fire insurance and understand building codes.

Forest Fires

Forest fires are the uncontrolled destruction of forested lands caused by natural or human-made wild fire. An average of 905 fires burn 6,488 acres annually with a resource loss of \$2,103,884 in Washington State. The probability of a wildfire in any one locality on a particular day depends on fuel conditions, topography, the time of year, wind direction and speed, the past and present weather conditions, and the activities (debris burning, land clearing, camping, etc.) that are or will be taking place. Controlled burns are also conducted because the fire cycle is an important aspect of management for many ecosystems. These are not considered hazards unless they were to get out of control.

Washington state is prone to wild land fires with a fire season that usually runs from mid-May through October. However any prolonged period lacking precipitation presents a potentially dangerous problem as is evidenced by a winter wild land fire that occurred in January, 1995 in the Cumberland area.

The effects of wild land fires vary with intensity, area and time of year. The greatest short-term loss is the complete destruction of valuable resources, such as timber, wildlife habitat, recreation areas, and watersheds. Severe fires producing high soil temperatures create a water-repellent layer below the soil surface. The soil above this layer becomes highly prone to erosion, often resulting in mud slides. Long-term effects are reduced amounts of timber for commercial purposes and the reduction of travel and recreational activities in the affected area. Loss of life and personal property occur as well.

Wildland or Urban Interface Fires

Wildland, or Urban Interface Fires are fires that occur where "combustible vegetation meets combustible structures" and therefore combine the hazards associated with both forest and structural fires. These types of fires have increased dramatically in the last two decades as more and more people move to rural areas. Between 1970 and 1980 the rural population of the United States increased 23.4 percent, more than twice the gain of 11.4 percent for the nation as a whole. The hazard is bi-directional, wild fires can burn homes, and home fires can burn into the wildlands. Rural areas are becoming more vulnerable to the effects of wildland/urban interface fires due to increased building, living and recreating in forested areas.

These types of fires are increasing as more vacation homes are built and improved transportation systems allow more people to live outside city centers. The longer response times for these out of the way locations gives the fire more time to get out of control, making these fires very difficult to fight. Most fire fighters are trained to fight either wildfires or structural fires. Interface fires require both skills, and it is very difficult to balance the two. "When a wildfire breaks out, the threat of extreme property and casualty losses often forces firefighters to focus their efforts on protecting homes and structures, sometimes at the expense of protecting wildland resources or working to slow the fire itself." The effects of interface fires are the combined effects of both structure and forest fires.

The following steps should be accomplished to preclude major loss of life and reduce the actual number of forest fires and wildland, or urban interface fires:

- Since the vast majority of forest fires are started by people, forest fire prevention education and enforcement programs can significantly reduce the total number of wild land fires.
- An effective early fire detection program and emergency communications system are essential. The importance of immediately reporting any forest fire must be impressed upon local residents and persons utilizing the forest areas.
- An effective warning system is essential to notify local inhabitants and persons in the area of the fire. An evacuation plan detailing primary and alternate escape routes is also essential.
- Fire-safe development planning should be done with local government planners.
- Road criteria should ensure adequate escape routes for new sections of development in forest areas.
- Road closures should be increased during peak fire periods to reduce the access to fire-prone areas.