

efforts, and the extent of loss during fire disasters, can be readily evaluated using an earthquake scenario. Thus, this chapter provides loss estimation scenarios for major earthquake-induced fires, with and without Santa Ana winds.

Using an earthquake to model worst-case fire scenario hazards may also help us to remember a key point. Fire prevention and suppression are not the only services provided by fire departments. Other obligations, like search and rescue, can reduce fire suppression resources after a catastrophe, and this must be factored into emergency preparedness planning.

#### **4.1.1 Previous Fire Disasters**

Unfortunately, damaging fires are a fact of life throughout California. In 1994 alone, more than 525,000 acres were destroyed in California wildland fires, making it one of many billion dollar pay-out years for insurers. In 1995, the California Department of Forestry and Fire Prevention (CDF) battled 6,621 blazes that damaged or destroyed 121 structures. To date, the most destructive fire in California history was the fast-moving 1991 Oakland Hills fire, called the "Tunnel" fire (Table 4-1).

Table 4-1 lists the twenty largest California wildland fires, their locations, causes and extent of devastation. They are ranked according to number of structures lost. Note the great variation in acres burned. Many of the older fires on this list would be far more devastating today, as area populations have grown.

In Riverside County, the most severe fire disaster to date occurred in October 1993, Powerlines knocked down by Santa Ana winds started a fire that destroyed 107 homes and burned 25,100 acres in Riverside County (Table 4-1 and 4-2). Gubernatorial Proclamations of a State of Emergency and Presidential Major Disaster Declarations (Office of Emergency Services, 2000) affecting Riverside County have been declared on that and five other occasions in the last 30 years (Table 4-2). Historical fires and their locations within the County are illustrated on Figure 4-1.

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**Insert Figure 4-1: Historical Fire Locations in Riverside County**

**Table 4-1: Twenty Largest California Wildland Fires (Ranked By Structures Lost)**

Rank	Name (Cause)	Date	County	Acres	Structures Lost	Deaths
1	Tunnel (Rekindle)	Oct. 1991	Alameda	1,600	2,900	25
2	Paint (Arson)	Sept. 1990	Santa Barbara	4,900	641	1
3	Fountain (Arson)	Aug. 1992	Shasta	63,960	636	0
4	Berkeley (Powerlines)	Sept. 1923	Alameda	130	584	0
5	Bel Air (Undetermined)	Nov. 1961	Los Angeles	6,090	484	0
6	Laguna (Powerlines)	Sept. 1970	San Diego	175,425	382	5
7	Laguna (Arson)	Oct. 1993	Orange	14,437	441	0
8	Panorama (Arson)	Nov. 1980	San Bernardino	23,600	325	4
9	Topanga (Arson)	Nov. 1993	Los Angeles	18,000	323	3
10	49ER (Burning Debris)	Sept. 1988	Nevada	33,700	312	0
11	Sycamore (Kite)	July 1977	Santa Barbara	805	234	0
12	Kannan (Arson)	Oct. 1978	Los Angeles	25,385	224	0
13	Old Gulch (Equipment Use)	Aug. 1992	Calaveras	17,386	170	0
14	Kinneloa (Campfire)	Oct. 1993	Los Angeles	5,485	196	1
15	Mt. Tamalpais (Smoking)	July. 1929	Marin	2,500	117	0
<b>16</b>	<b>California (Powerlines)</b>	<b>Oct. 1993</b>	<b>Riverside</b>	<b>25,100</b>	<b>107</b>	<b>0</b>
17	Harlow (Arson)	July 1961	Mariposa	41,200	106	2
18	Wright (Burning Debris)	Sept. 1970	Los Angeles	27,952	103	0
19	Hanly (Smoking)	Sept. 1964	Napa	52,770	102	0
20	Coyote (Burning Debris)	Sept. 1964	Santa Barbara	67,000	94	1

source: California Department of Forestry and Fire Prevention (CDF)

**Table 4-2: Disaster Declarations Impacting Riverside County**

Date	Affected Counties	Damage Summary
<b>Fall '70</b>	Declared: City of Oakland (Alameda County 9/24/70), Los Angeles, Ventura, San Diego (9/28/70), Kern (10/1/70), San Bernardino (10/2/70), Monterey, <b>Riverside (10/20/70)</b> , San Bernardino (11/14/70)	Damage: public-\$52,862,000; watershed-\$24,826,000; private-\$145,923,000 TOTAL-\$223,611,000; 576,508 acres, 19 deaths, 722 bldgs.
<b>December 1970</b>	Declared: <b>Riverside (12/22/70)</b>	Damage \$3.2 million
<b>November 1980</b>	Declared: San Bernardino (11/25/80), Los Angeles, Orange, <b>Riverside (11/18/80)</b>	Damage: public-\$13,982,700; private-\$50,812,500; TOTAL-\$64,795,200. San Bernardino—65 buildings, 5482 acres destroyed, Additionally, 355 buildings, 41,472 acres destroyed.
<b>August 1987</b>	Declared: Colusa, Del Norte (9/10/87), Butte, Fresno, Humboldt, Inyo, Kern, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, <b>Riverside</b> , San Bernardino, Shasta, Sierra, Siskiyou, Trinity, Tulare, Tuolumne (9/3/87)	Damage: \$18 million (estimated); 1,070 fires. 534,661 acres burned, 835 sq. miles, 3 deaths (firefighters), 76 injuries (firefighters) 38 homes destroyed
<b>June 1990</b>	Declared: Los Angeles, Santa Barbara (6/28/90), <b>Riverside</b> , San Bernardino (6/29/90)	Damage: \$300 million+; 3 deaths (1 civilian, 2 firefighters), 89 injuries (46 civilians, 43 firefighters) 22,500 blackened acres, 492 homes destroyed, 28 apartments destroyed, 15 businesses and 10 public buildings destroyed, plus 30 additional structures.
<b>October 1993</b>	Declared: Los Angeles, Ventura (10/27/93), San Diego, Orange (10/27/93), <b>Riverside (10/27/93)</b> , San Bernardino (10/28/93)	Damage: total property estimate-\$1 billion; 4 deaths, 162 injuries, 1078 destroyed structures, 193,814 acres destroyed. Fires: arson (12), power lines (6), campfires (2)

source: California Governor's Office of Emergency Services