

## Conclusions

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**F**ires in the wildland-urban intermix (Figure 16) will occur more and more frequently, in all areas of the United States. Injuries and fatalities to firefighters must be reduced or eliminated on these fires in the years ahead. Coordinated efforts between the community, homeowners, fire agencies, and firefighters before the fire occurs are essential to ensure firefighter safety. These measures must be reinforced by safety-conscious performance by both firefighters and fire officers once fires are being fought in the wildland-urban intermix.

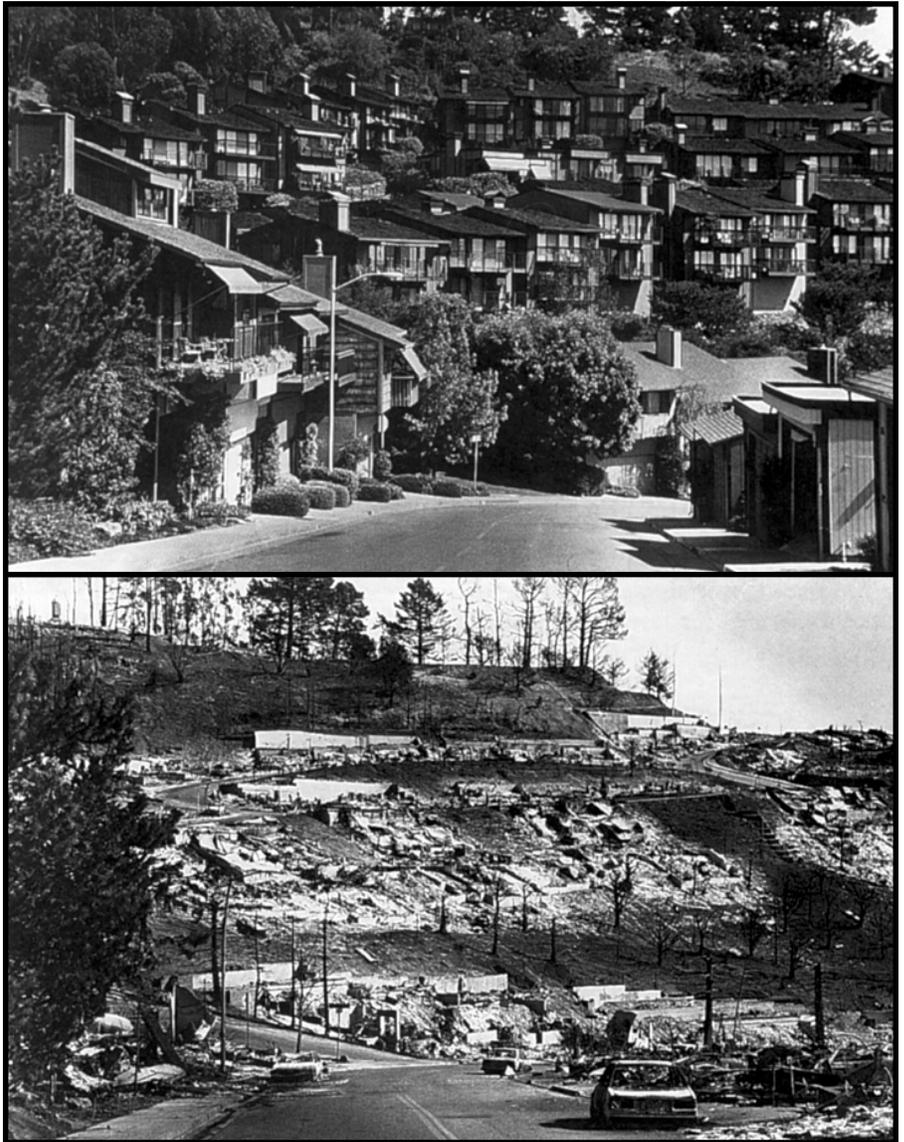


Figure 16—The results of the 1991 East Bay Firestorm in Oakland, CA. Photos used with permission of the *Oakland Tribune*. Before: Robert Warwick, After: Michael Macor.

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**Notes:**

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## About the Author...

Dick Mangan has been Program Leader for Fire, Aviation, and Residues at MTDC since 1989. Before coming to the center, he spent more than 20 years working on Ranger Districts and National Forests in Oregon and Washington, participating in the full range of wildland fire activities. He serves on the National Wildfire Coordinating Group (NWCG) Fire Equipment and Safety and Health Working Teams and is chairperson of the National Fire Protection Association (NFPA) 1977 Technical Committee for Wildland Fire Personal Protective Clothing and Equipment. Dick remains active in the field, representing MTDC on fire entrapment investigations and serving as Operations Section Chief on a National Type 1 Overhead Team.

## Library Card

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Each year, the incursion of private residences into wildlands increases the potential for the devastating loss of important natural resources and private property from wildfire. Structural and wildland firefighters are working side-by-side in a setting that is not typical of their traditional workplaces. These wildland-urban intermix fires have proven to be a special risk to the safety of the firefighters battling them. In the 1990's alone, firefighters have been seriously injured or killed on intermix fires in Arizona, California, Utah, Kentucky, and other States. This report discusses key areas of concern for firefighter safety in the wildland-urban intermix: command and control, mix of forces, access, civilian population, personal protective clothing and equipment, and special hazards.

Keywords: Fire fighters, fire fighting, fire suppression, structural firefighting, wildland firefighting.

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Phone: (406) 329-3849  
Fax: (406) 329-3719  
IBM: dmangan/wo,mtdc  
E-mail: dmangan/wo\_mtdc@fs.fed.us

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