



Fire Ground Survival

Background



Fire Ground Survival

Open Video File: "IAFF FGS Introduction"

Watch Introduction of Fire Ground Survival Video

IAFF FGS Introduction



Objectives

Students will be able to:

- Describe the changes since World War II that have affected fire fighting attitudes, practices, and survival.
- Identify the sources of fire ground survival policy.
- Describe the findings and implications of line-of-duty death (LODD) investigations by NIOSH and USFA.
- State the current standards for company staffing.
- Summarize LODD death trends over the last 30 years.



History

For the past 200 years:

- Dangers that fire fighters were exposed to were considered part of the job.
- Risks of injury and death were what fire fighters were paid for.
- Protection of property was considered more important than the safety of fire fighters.



Changes

Since World War II, progress has been made:

- The safety engineering profession was created and has grown.
- Fire departments have faced litigation for unsafe work practices.
- OSHA was created and has mandated changes.
- The moral and legal priorities of fire fighting strategies and tactics have been defined.



Current Priorities

1. Protection of Life

Fire Fighters

Civilians

2. Fire Containment

3. Protection of Property

Fire Ground Survival Information



NIOSH

Ministry of
Labour

NIST
National Institute of
Standards and Technology
Technology Administration
U.S. Department of Commerce



Underwriters
Laboratories

U.S. Fire
Administration



FEMA



OSHA

Occupational Safety
and Health Administration
www.osha.gov



NIOSH LODD Investigations

Need better training on the fire ground survival procedures:

- Proper pre-planning and size up.
- When to call a Mayday.
- Team continuity.
- Self-survival procedures.
- Radio discipline.
- Actions to take while waiting to be rescued.



Adequate Staffing Improves Survivability

NFPA Standards:

- Both engine and truck companies shall be staffed with a minimum of FOUR on-duty personnel.
- Some companies shall be staffed with a minimum of five or six members in certain jurisdictions.



Figure 3

While the number of structure fires and deaths at structure fires has dropped, the rate of firefighter deaths at structure fires has not dropped as much.

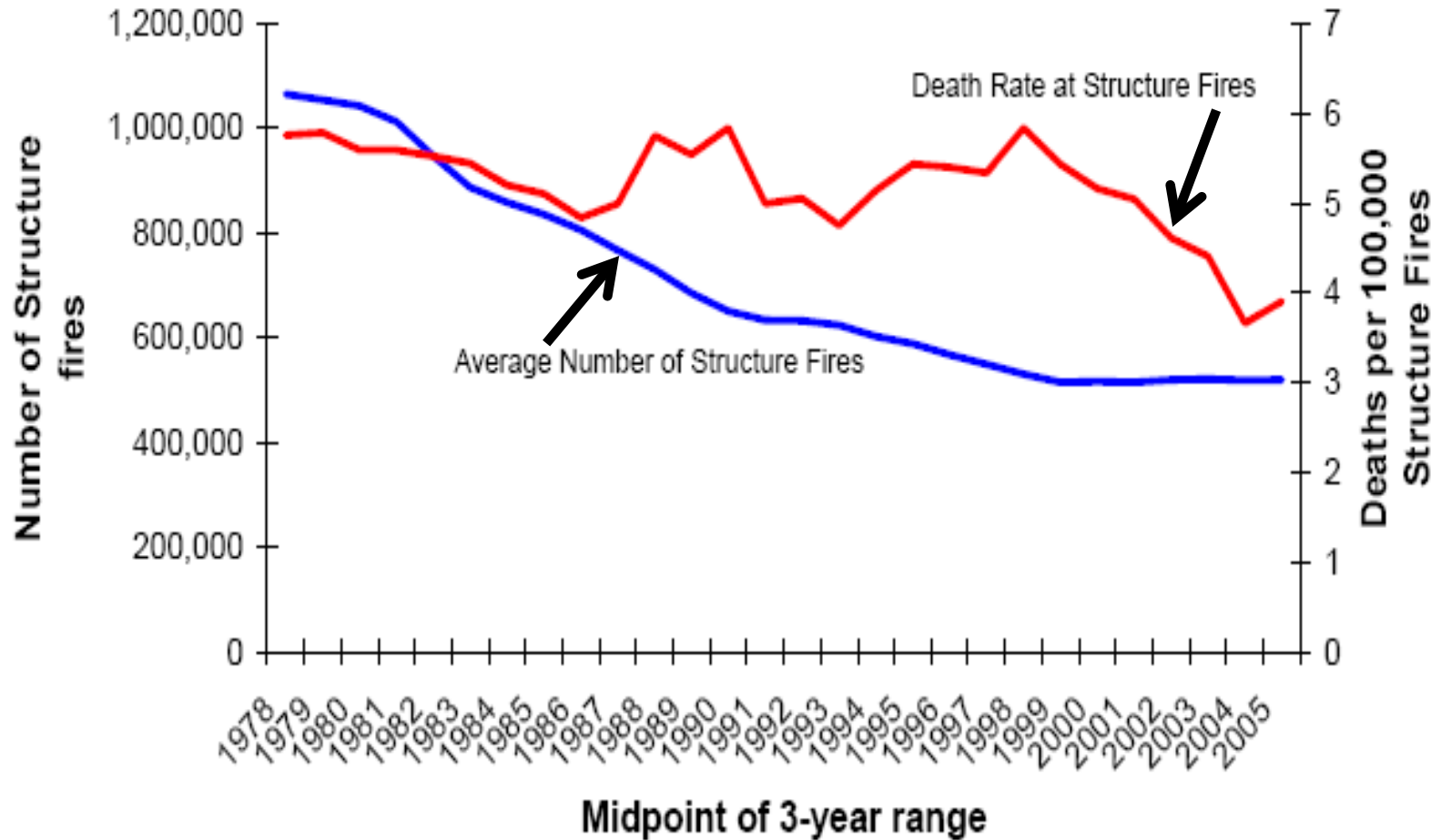
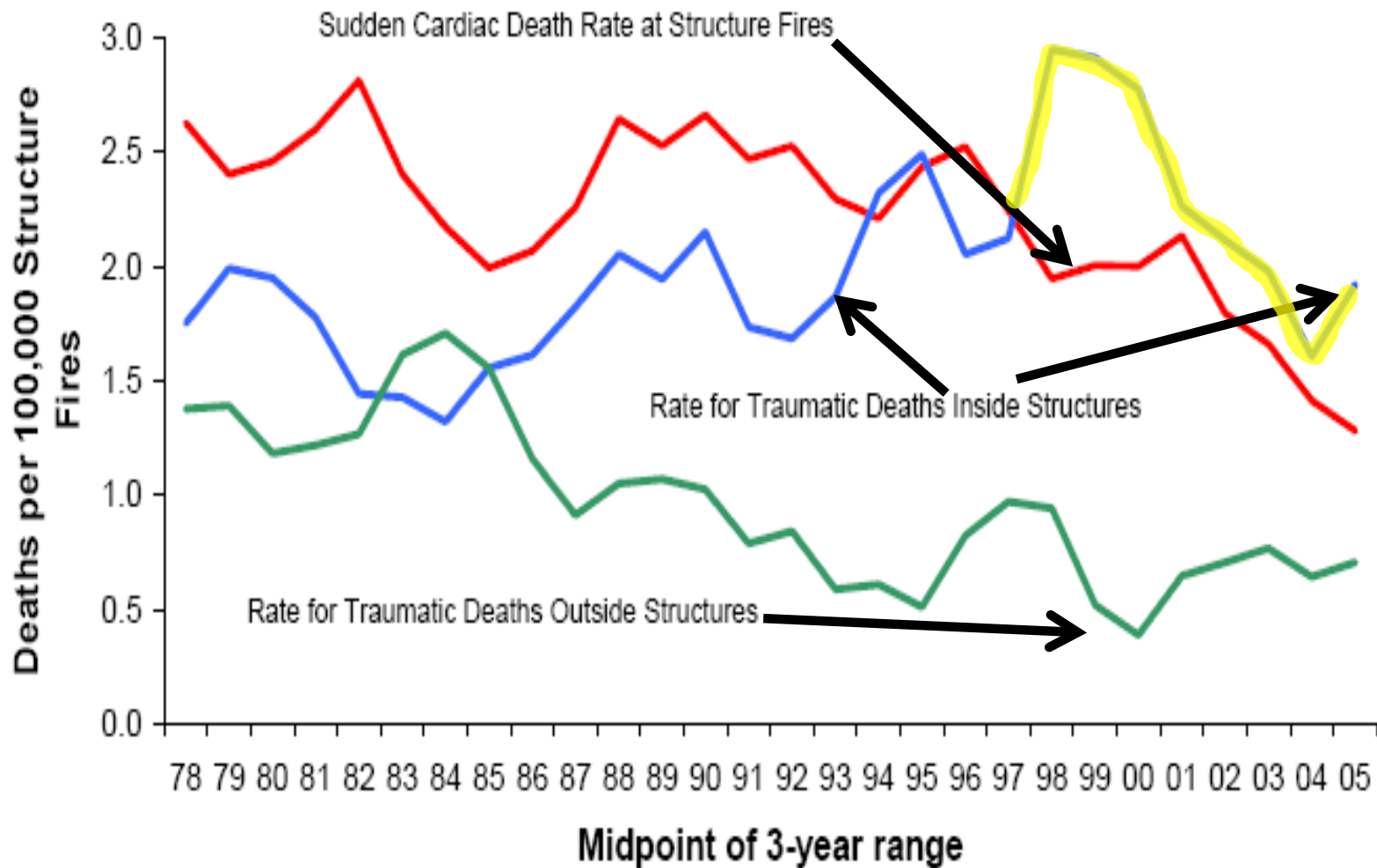


Figure 4
Death Rates for Firefighters at Structure Fires
by Location and Nature of Fatal Injury





NFPA Summary Death Trends

- Drop in non-cardiac fatalities outside at structure fires dropped, then rose again.
- Increase in deaths due to traumatic injuries while operating inside structures:
 - Smoke inhalation = 62.1%
 - Falls = 19.1%
 - Crushing or internal trauma = 16.5%

LOST

OUT OF AIR



Lessons Learned

Fire Ground Survival starts with Preventing the Situation and Learning From the Past.

"I tore through *Deep Survival* like I'd been waiting to read it my whole life. Gonzales's writing is effortless and compelling, and his research is first-rate. I can't imagine a better book on the topic."

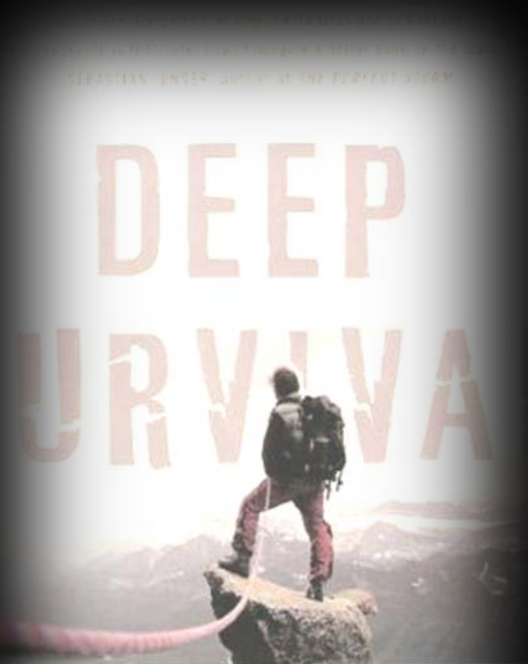
—SEBASTIAN JUNGER, author of *THE PERFECT STORM*

DEEP SURVIVAL



LAURENCE
GONZALES

Who Lives,
Who Dies,
and Why

The book cover features a climber in a red jacket and black gear standing on a rocky outcrop, looking out over a vast, hazy mountain range. The title 'DEEP SURVIVAL' is written in large, bold, orange letters. At the top, there is a quote: '...THEY WERE ALL EXPERIENCED CLIMBERS WHO HAD BEEN TRAINED TO ENTER ZONES AT THE PERFECT MOMENT'. At the bottom, the subtitle reads: 'Who Lives, Who Dies, and Why'.

DEEP
SURVIVAL

Who Lives,

Who Dies,

and Why

On preparing for survival...

“Commune with the dead...read the accident reports in your chosen field.”

Laurence Gonzales



NIOSH
Fire Fighter Fatality Investigation
and Prevention Program

Death in the line of duty...

January 31, 2010

A summary of a NIOSH fire fighter fatality investigation

Career Fire Fighter Dies After Being Trapped in a Roof Collapse During Overhaul of a Vacant/Abandoned Building—Michigan

SUMMARY

On November 15, 2008, a 38-year-old male fire fighter (the victim) died after being crushed by a roof collapse in a vacant/abandoned building. Fire fighters initially used a defensive fire attack to extinguish much of the fire showing from the second-floor windows on arrival. After the initial knockdown, fire crews entered the second floor to perform overhaul operations. During overhaul, the roof collapsed with several fire fighters still inside, on the second floor. The victim and two other fire fighters were trapped under a section of the roof. Crews were able to rescue two fire fighters (who self-extricated), but could not immediately find the victim. After cutting through roofing materials, the victim was located by fire fighters, unconscious and unresponsive. He was removed from the structure and transported to a local hospital where he was pronounced dead.

Key contributing factors identified in this investigation include: dilapidated building conditions, incendiary fire originating in the unprotected structural roof members, inadequate risk-versus-gain analysis prior to committing to interior operations involving a vacant/abandoned structure, inadequate accountability system, lack of a safety officer, an inadequate maintenance program for self-contained breathing apparatus (SCBA) and a poorly maintained and likely inoperable personal alert safety



(Photo courtesy of the fire department arson unit.)

The National Institute for Occupational Safety and Health (NIOSH), an institute within the Centers for Disease Control and Prevention (CDC), is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. In fiscal year 1998, the Congress appropriated funds to NIOSH to conduct a fire fighter initiative. NIOSH initiated the Fire Fighter Fatality Investigation and Prevention Program to examine deaths of fire fighters in the line of duty so that fire departments, fire fighters, fire service organizations, safety experts and researchers could learn from these incidents. The primary goal of these investigations is for NIOSH to make recommendations to prevent similar occurrences. These NIOSH investigations are intended to reduce or prevent future fire fighter deaths and are completely separate from the rulemaking, enforcement and inspection activities of any other federal or state agency. Under its program, NIOSH investigators interview persons with knowledge of the incident and review available records to develop a description of the conditions and circumstances leading to the deaths in order to provide a context for the agency's recommendations. The NIOSH summary of these conditions and circumstances in its reports is not intended as a legal statement of facts. This summary, as well as the conclusions and recommendations made by NIOSH, should not be used for the purpose of litigation or the adjudication of any claim. For further information, visit the program website at www.cdc.gov/niosh/fire or call toll free 1-800-CDC-INFO (1-800-232-4636).



DEEP SURVIVAL



Who Lives,
Who Dies,
and Why

“There are things you can’t control, so you better know how you’re going to react to them...you’d better have a plan.”

Laurence Gonzales



DEEP SURVIVAL



“There are also things you can control and you better be controlling them all of the time.”

Laurence Gonzales

Who Lives.

Who Dies.

and Why.