

**PROCEEDINGS OF THE INTERNATIONAL
FISHING INDUSTRY SAFETY AND HEALTH
CONFERENCE**

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Foreword

Few jobs are as dangerous as that of commercial fishing. Commercial fishermen work in harsh weather, often at great distances from emergency medical care or rescue services. They must often combat external risk factors- extreme temperatures, the constant movement of their vessels- while at the same time, they face the challenges of fatigue and physical stress.

Preparation, and use of proper equipment, can go a long way to help commercial fishermen withstand the rigors of their work. NIOSH research indicates that fishermen who wear Personal Floatation Devices are far more likely to survive vessel sinkings or capsizings. Vessels that maintain emergency equipment such as life rafts, electronic beacons, and immersion suits in good working order help to ensure the survival of their crew. While many of the safety measures that have been implemented in the past decade for commercial fishermen in the U.S. are due to requirements from the Commercial Fishing Vessel Industry Safety Act, other safety measures have been implemented as a result of innovation from commercial fishermen and vessel and equipment manufacturers throughout the U.S., and around the world.

The findings in this document represent health and safety recommendations for commercial fishermen, from some of the most knowledgeable researchers in the world. This proceedings volume contains articles from commercial fishing safety experts from the Nordic Nations, United Kingdom, Argentina, Canada, Israel, and other areas, as well as articles from researchers throughout the United States. It is our hope that the common interests that were identified at the International Fishing Industry Safety and Health (**IFISH**) Conference in Woods Hole, Massachusetts in 2000 continue to help forge collaborative networks and joint research, as we work together to improve safety for commercial fishermen around the world.

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We are grateful for the editorial comments made by Ann Backus, Harvard University School of Public Health, and the photographs and captions that were graciously provided by Earl Dotter. We think that his work sheds light on the dangerous work settings that commercial fishermen face every day.

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Public Health Summary

What are the hazards?

Fishing is one of the most dangerous jobs in the world. The International Labor Organization (ILO) and Food and Agriculture Organization (FAO) estimate that seven percent of all worker fatalities occur in the fishing industry, despite the industry accounting for less than one percent of the worldwide workforce. The occupational fatality rate for Alaskan and U.S. commercial fishers was 140/100,000 per year (1991-1997) and 168/100,000 per year (1994-1998), 32 and 38 times the overall U.S. occupational fatality rate (4.4/100,000 per year, NTOF, 1990-1994), respectively. In countries as distant as Australia, Denmark, Finland, Korea, and Sweden, occupational fishing fatality rates range from 16 to as much as 79 times higher than the respective countries' overall occupational fatality rate. The ILO has estimated that the fishing industry experiences 24,000 deaths and as many as 24 million non-fatal injuries each year worldwide. The fatality rate for the world's fishermen is estimated to be 80/100,000 workers/year (ILO estimate).

How can a worker be exposed or put at risk?

Commercial fishermen are exposed to environmental risk from the elements, including ocean water, inclement weather, and extreme temperatures. They are also vulnerable to injuries from equipment, and from unstable work platforms on the fishing vessels.

What recommendations has the federal government made to protect workers' health?

In the United States, the Commercial Fishing Industry Vessel Safety Act of 1988 was enacted to protect the health and safety of commercial fishermen in the US. The act requires, among other provisions, that fishing vessels carry various types of survival equipment. The Coast Guard is charged with enforcing those requirements. NIOSH has worked closely with the Coast Guard and other agencies and organizations to identify and address risk factors for death and injury in the commercial fishing industry. The proceedings here reflect extensive safety recommendations, projects and programs that have been

presented and discussed at workshops like the Second National Fishing Industry Safety and Health Workshop in 1997, and the International Fishing Industry Safety and Health Conference, where these papers were first presented.

Where can more information be found?

The references cited by articles in this document will provide a useful inventory of published reports and literature. Additional information from NIOSH can be obtained by calling the following number or visiting the NIOSH website www.cdc.gov/niosh.

1-800-35-NIOSH
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Executive Summary

In October 2000 more than 100 fishermen and safety professionals from 13 countries gathered to discuss fishing vessel safety. Papers were presented and discussed, experiences shared, and contacts made or renewed. We hope that attendees were inspired by others' work and returned invigorated, to their projects or programs.

One major accomplishment of any conference is to publish the papers presented so that findings can be shared with other colleagues. The papers in this volume establish a foundation upon which to build new projects and programs. Forty-eight papers were presented at the conference, 43 of which are published here. (Five presenters were unable to submit their papers for publication.) We thank all of the presenters and authors for their contributions at the conference and to this proceedings volume.

Few occupations are as challenging to the worker's safety as is that of commercial fishing. Fishing vessel safety is a complex interaction involving human (skipper, crewmember, owner), machine (vessels, equipment), and environment (weather, management scheme). Safety problems can occur when even a single element- human, machine, or environment- malfunctions. Human factors include fatigue, inexperience or non-use of safety equipment. Machine factors include older vessels and inadequate safety guards for heavy machinery used in many fishing operations. Environmental factors include harsh weather and slippery and unstable work surfaces. While reviewing the papers in this volume, it became very clear that there is no universal solution for fishing vessel safety. There is a real need to explore strategies to prevent fishermen from being injured or killed on the job through efforts such as improving vessel stability and hull integrity, making safety equipment such as survival suits and life rafts more widely available, further education and training, implementing safer management regimes, understanding and heeding weather information, averting falls overboard and addressing industrial safety problems that exist on board many fishing vessels.

One of the challenges of improving safety on commercial fishing vessels is identifying plausible solutions to safety that neither hamper the ability of workers to fish nor diminish the quality of the catch. Within this volume there are

interventions presented that meet these criteria. Readers will learn about efficient design of vessels, and how individual fisheries can accommodate a variety of vessel designs while safely pursuing their work. We note that many of the programs described in this volume strive to work in partnership with local fishermen to provide safety inspections and crew survival training. Technology has been able to help many fishermen in European and North American areas to obtain more accurate weather forecasts and to avoid hazardous fishing areas. Ultimately, most successful interventions rely on prevention; training, retrofitting, equipping with new technology are all things that a fisherman does before he leaves port. In many cases, these workers are much too far from help, when trouble occurs- the best interventions are those that prevent, or at least plan for worst-case scenarios well in advance.

IFISH attendees returned home filled with new ideas and a new sense of purpose about what can or should be done to improve the safety of fishermen in their communities. We hope this document continues to motivate people to make a difference. Even though fisheries and fishing boats vary around the world, all fishermen have one thing in common—they put their lives at risk every time they go to sea.

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