

References

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2.9 Occupational Drownings

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Drowning is an occupational safety problem around the world. Any maritime occupation, including commercial fishing, commercial diving, and water transportation workers are exposed to drowning hazards. In many cases, particularly with commercial fishermen and water transportation workers, the vessel is not only the workplace, but also often their home while they spend weeks at a time at sea. A diligent search for national and international occupational drowning data was not successful. Data are not reported internationally for overall occupational drownings. Extensive research, however, has been conducted on drowning prevention and commercial fishing safety throughout the commercial fishing industry.

In the commercial fishing industry alone it is estimated that 25–40 million people are employed worldwide [2]. Fatality rates have been reported from different countries ranging from 45.8/100,000 per year (Canada 1975–1983) to as high as 414.6/100,000 per year (Alaska, US, 1980–1988) [3]. The International Labor Organization's Occupational Safety and Health Branch estimates that 24,000 fatalities occur worldwide per year in fisheries [4]. Studies have shown

that drowning, presumed drowned and hypothermia are the predominant causes of death among commercial fishermen (91% in Canada, 88% in Alaska, and 78% in Ireland) [1].

Commercial fishing fatalities can be divided into the categories vessel-related events (such as vessels sinking or fire) or non-vessel-related events (such as deck injuries or falls overboard). Unfortunately, vessels with all hands lost at sea is not an unusual scenario. Weather and fatigue are usually factors in these events. Safety during commercial fishing operations depends on several things including the design of the vessel, how it is loaded, water tight integrity, the operating conditions and the experience of the skipper and crew. In the last 15 years, the safety gear which is depended upon during emergencies at sea has greatly improved [3]. Such gear includes life rafts, electronic position-indicating radio beacons (EPIRBs) and immersion suits. Inflatable personal flotation devices (PFDs) are also now available that are comfortable to wear.

By the 1990s, many countries activated new prevention programs including educational programs and safety regulations. There have been several fora worldwide that have led to development of safety guidelines for fishing vessels, including design, construction and safety training guidelines for personnel on board. Based on these and other factors, countries have developed regulations for their respective fleets. These requirements vary greatly, however. Australia, for example, has extensive licensing requirements for all classes of vessels and qualification requirements for skippers, mates, engineers and crew. Norway's fleet is heavily regulated for operation and material conditions for vessels greater than 15 meters. Requirements for vessels and personnel in the US are not as stringent [7]. In Alaska, there has been a decline in the number of fishing fatalities since the implementation of a US law requiring emergency equipment on board fishing vessels and emergency drills performed by crews. However, there has not been any primary prevention to keep fishermen out of the water in the first place [5, 6].

While high-income countries have been moving towards implementing measures to improve the safety in their own commercial fishing fleets and preventing drownings, safety at sea continues to be a very serious problem in low-income countries. Fleets may consist mainly of small and often non-motorised vessels, with limited communications, navigation and emergency equipment onboard. There are very few technically trained personnel in these countries to serve as crew members, trainers and inspectors of vessels. Infrastructure that is necessary for enforcement of regulations is lacking. This also makes launching search and rescue operations difficult because they require high levels of organisational structure and coordination. The motivation of each society to invest in fishing vessel safety may vary. The biggest challenge in these areas is to educate the authorities on the extent of the problem, to encourage discussion and to persuade them to act [4].

Commercial fishermen around the world are faced with many hazards including the risk of drowning. Measures have been implemented in several parts of the world to mitigate this problem, but more must be done. Different aspects of drowning hazards in the industry in high-income countries as well as in low-income nations should continue to be addressed. Through successful

intervention programs, the drowning rate should decrease among commercial fishermen around the world.

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ISBN-10 3-540-43973-0 Springer-Verlag Berlin Heidelberg New York

ISBN-13 978-3-540-43973-8 Springer-Verlag Berlin Heidelberg New York

Library of Congress Control Number: 2005932048

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Printed in Germany

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Editor: Dr. Ute Heilmann, Heidelberg

Desk Editor: Hiltrud Wilbertz, Heidelberg

Typesetting: Satz-Druck-Service, Leimen

Production: Pro Edit GmbH, Heidelberg

Cover-Design: Friedo Steinen-Broo, EStudio Calamar, Spain

Printed on acid-free paper 21/3151Re 5 4 3 2 1 0