

George A. Conway MD, MPH  
Jennifer M. Lincoln

## Preventing Deaths in Alaska's Fishing Industry

One of the last decade's great regional public health success stories is the sharp decline of deaths in Alaska's commercial fishing industry.

During the 1970s and 1980s, commercial fishing boomed in Alaska. By the mid-1980s, commercial fishing-related deaths were the dominant contributor to Alaska's very high occupational fatality rate (1). Nationally, these hazards captured the attention of Congress, which enacted the Commercial Fishing Industry Vessel Safety Act of 1988 (CFIVSA, P.L. 100-424). Intensive surveillance in Alaska began with the U.S. Coast Guard (USCG) Main Casualty Data Base (2) and collaborative death certificate review by Federal

agencies and the Alaska Departments of Labor and Health and Social Services during the 1990s.

During 1990-1994, 118 commercial fishers and 22 fish processors died while working in Alaska. One hundred-one of these fishers drowned. Of the 118 deceased fishers, 73 died due to vessels sinking or capsizing. Twenty-two fishers, only one of whom was

wearing a personal flotation device (PFD), died from falls overboard. This constitutes a fatality rate of 140 per 100,000 per year (3) or 20 times the overall U.S. occupational fatality rate.

Our analysis of USCG statistics (4) shows impressive progress: the case-fatality rate dropped from 24 percent in 1991 to 2 percent in 1994, while the number of vessels lost remained relatively constant, as has the number of people on board at risk. This progress has occurred primarily in the post-event phase, by fishers using immersion suits and life rafts to stay afloat and warm until being located via emergency position indicating radio beacons. The CFIVSA requirements for these items were implemented between 1990-1993. These regulations also require that masters of each vessel ensure that monthly safety drills are conducted describing the use of safety equipment. Those conducting the safety drills must be trained in the proper proce-

dures. The Alaska Marine Safety Education Association has played a major role in preparing fishers to meet these needs.

Although it is tempting to declare victory, we should resist the inclination. Twenty-five to 45 vessels sink and approximately 100 persons require rescue annually from cold Alaskan waters. Successful rescue is expensive and remains dependent on the expertly-trained staff of the USCG search-and-rescue operations and subject to the vagaries of the seas and the weather. Mortality also persists largely unabated for man overboard (MOB) events.

The critical etiologic factors that must be addressed for primary prevention efforts are compromised vessel stability and falls overboard. Capsizing events are generally preventable since vessel stability is measurable and predictable. By design enhancements such as retrofitting of sponsons (flotation projections) and careful attention to loading and environmental factors, vessels can be less susceptible to capsizing or sinking due to sudden changes in weather.

Falls overboard are risky because PFDs are not routinely used on deck. Although USCG regulations require vessels be equipped with at least one USCG-approved PFD or immersion suit for each person on board, the PFD is not required to be worn. Fishers wearing PFDs on deck would be an appropriate intervention for MOB drownings.

The substantial progress made in Alaska's most hazardous industry through the thoughtful application of the public health model and incorporation of new technologies and comprehensive training should encourage others to try similar approaches to injury problems elsewhere.

Dr. Conway and Jennifer Lincoln work in the Division of Safety Research, National Institute for Occupational Safety and Health, Anchorage, Alaska.

*Tearsheet requests to Jennifer Lincoln, 4230 University Dr., Suite 310, Anchorage, AK 99508.*

### References

1. Bell, C.A., Stout, N.A., Bender, T.R., Conroy, C.S., Crouse, W.E., Myers, J.R. Fatal Occupational injuries in the United States, 1980-1985. *JAMA*. 1990; 263: 3047-3050.
2. National Research Council (U.S.). Marine Board. Committee on Fishing Vessel Safety: *Fishing Vessel Safety: Blueprint for a National Program*, 1991, National Academy Press. Page 3.
3. Commercial Fishing Fatalities—Alaska, 1991-1992, Morbidity and Mortality Weekly Report, 42(18): 350-9, 1993, Centers for Disease Control and Prevention.
4. Casualty data base. Seventeenth District Fishing Vessel Safety Coordinators Office, Juneau, 1995.