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## GUEST EDITORIALS

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### A Persistent High Human Cost of Protein: Commercial Fishing and Aquaculture

George A. Conway, MD, MPH

Commercial fishing, despite many years of effort to make it safer, and some major regional successes in mitigation, remains a very hazardous type of work. Much more nuanced than the view provided by the current glare of electronic media, this special issue of the *Journal of Agromedicine* presents a collection of articles on the varied hazards of commercial fishing in the United States, as well as three articles on the rapidly expanding seafood farming industry. The scope of subjects from machinery to culture, and geography from Alaska to the southeastern US describes a complex landscape of human effort to better understand, in order to make this time-honored work safer.

A special editorial, “An Interview With Vietnamese Fishermen of Louisiana in the Wake of the Oil Spill” has been prepared by Jeffrey L. Levin, Karen Gilmore, Ann Carruth, Matthew W. Nonnenmann, William Evert, and Denae King. This interesting piece details the many special concerns and ripple effects resulting from the despoilment of the fisheries these fishermen depend on for their livelihoods, in the wake of the Deepwater Horizon catastrophe.

A summary article by Lincoln and Lucas provides an overview of the high mortality in

the US industry, more than 30 times higher than the average US worker. This article describes the geography of the problem, with mortality occurring on all coasts, and the highest concentration of deaths now occurring in northeastern ground fisheries, Atlantic scallops, and West Coast Dungeness crab operations. This highly detailed article makes clear the role of vessel disasters in these deaths, necessity for locale- and fishery-specific understanding for intervention, and outlines the most effective preventive measures to be taken, such as universal use of personal flotation devices.

An article by Jerry Dzugan provides a detailed history of the evolution and effectiveness of safety training for US commercial fishermen. This evolution has been a gradual one, dependent upon separate and joint, persistent efforts by public agencies, private initiative, and nongovernmental organizations. From the voluntary efforts that gained momentum 30 years ago, to the passage of definitive legislation in 1988 and its implementation in the early 1990s, to the solidifying of the lead organizations and refinement of curricula over the last 15 years, this is overwhelmingly a story of helpful progress. Recent efforts to determine

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George A. Conway, MD, MPH, is Director, CDC/NIOSH Agriculture, Forestry and Fishing Program, and Director, CDC/NIOSH Alaska Pacific Regional Office, Anchorage, Alaska, USA.

Address correspondence to: George A. Conway, MD, MPH, Director, CDC/NIOSH Agriculture Forestry and Fishing Program, 4230 University Dr., Suite 310, Anchorage, AK, 99508, USA (E-mail: gconway@cdc.gov).

whether and how much training efforts may contribute to saving lives are presented, as well as work to define how frequently training must be refreshed to remain effective.

As described in a paper by Day, Lefkowitz, Marshall, and Hovinga, even a highly urbanized state like New Jersey has hazardous fisheries, with fishermen there suffering similarly multiplied hazards, multiplied over the rest of that state's workforce, the same pattern as seen for the nation overall. This paper makes use of an eclectic mix of data sources to provide a surprisingly complete picture of the injury and death risks afforded by this work. That information could prove instrumental in planning to make the fisherman's work safer in the waters off the Garden State.

Dr. Jeffrey L. Levin and seven of his colleagues from Texas and Louisiana provide a comprehensive survey of the safety challenges faced daily by the Gulf Coast fishermen plying waters from the Port of Galveston. Their findings make a compelling case for interventions better tailored to the South East Asian languages and cultures predominant in that fishing community. Many of the respondents indicated that language barriers often make safety material and instruction inaccessible, leaving many afraid that they are ill prepared for emergencies when they arise. Although sobering to read, a better understanding of such barriers is doubtless a key step to resolving them.

A related paper follows, with Ann K. Carruth and six colleagues deconstructing the influences of the Vietnamese culture so predominant in Texas coastal shrimping operations. Based on a detailed and sensitive treatment of linguistic and cultural differences, this article provides a pathway for collaborative development of safe fishing practice for this culturally unique community.

Moving just to the East, an article by Nonnenmann, Hussain, Shirley et al. examines

putative risk factors for musculoskeletal symptoms among crawfish farmers in Louisiana. Although somewhat limited by a low response rate, this survey nonetheless provides useful insights into the musculoskeletal concerns of this unique workforce. Overall, shoulder complaints were the most common, with upper extremity and lower back discomfort being noted frequently by those operating tractors. These findings should provide a platform for ergonomic interventions in this industry.

Kucera and Lipscomb present an intensive study of a small set of commercial crab fishermen and their operations in North Carolina. Using systematic observation and video analytic techniques, the authors studied each phase of the crabbing process, elucidating the postures and arm use necessary for each movement, and the level of stress afforded by each part of these complex operations.

Stephens, Ibendahl, Myers, and Cole have used survey and market information to impute costs and benefits for equipping tractors used in catfish farming operations with rollover protective structures (ROPS). Although the model so constructed does not unequivocally support such installation, the great majority (88%) of the tractors used in these operations in the region studied (Mississippi) being so equipped is reassuring.

Melvin Myers contributed a comprehensive review cataloguing the range of hazards associated with Aquaculture. The breadth of this method is made more approachable by breaking down the hazards by species and operation type. This inventory should be helpful for those trying to establish surveillance, and possibly underwriting, for this rapidly growing industry.

In sum, the range of these articles should provide useful insights for those wishing to contribute to making fisherman's lives and work safer.