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Seabird Bycatch: Trends, Roadblocks, and Solutions.

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BOOK REVIEWS

Seabird Bycatch: Trends, Roadblocks, and Solutions.—Edward F. Melvin and Julia K. Parrish [eds.]. 2001. University of Alaska Sea Grant College Program, Fairbanks, Alaska. vii + 206 pp., 24 tables and 32 text figures. ISBN 1-56612-066-7. $20 (hard cover).

In the preface to *Seabird Bycatch*, editors Edward Melvin and Julia Parrish explain that seabirds, due to their life history, are vulnerable to population decline from levels of adult mortality as low as 3% to 5%

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annually. Hence, they are particularly susceptible to human-caused mortality. One example, incidental mortality in longline and gillnet fisheries, is a major source of seabird mortality and was the subject of an international symposium held during the Pacific Seabird Group's annual meeting in 1999. *Seabird Bycatch: Trends, Roadblocks, and Solutions* presents these proceedings in published form.

Seabird Bycatch is a compilation of examples of initiatives being conducted to analyze and address the incidental mortality of seabirds and migratory waterbirds in commercial longline and coastal drift and set gillnet fisheries. The volume provides insights on characteristics common to bird bycatch issues and identifies effective approaches to manage fisheries and seabird interactions. The editors have produced a comprehensive synthesis, and despite some gaps in the subject matter, the book is a useful source on the subject. Readers should have some familiarity with longline and gillnet fishing methods and of the problem of bird bycatch.

Seabird Bycatch includes nine peer-reviewed papers, seven abstracts, and an introduction by the editors that synthesizes the symposium. The authors are scientists and managers, several of whom are international experts on interactions between seabirds and fisheries. Three papers and two abstracts present results of research on methods to reduce seabird capture in longline fisheries, and another paper takes up this topic for a coastal salmon drift gillnet fishery. Three papers and one abstract review initiatives by nongovernmental organizations, national governments, and multilateral bodies to reduce seabird bycatch in longline fisheries. One paper discusses relevant applications of molecular-genetic markers. One paper and two abstracts discuss fishing effort of U.S. set and drift gillnet fisheries and estimate bird bycatch. One abstract presents seabird mortality estimates for a longline fishery and discusses the problem of seabird mortality caused by pirate demersal longline vessels. One abstract documents the foraging distribution of the Short-tailed Albatross. While the papers presenting bycatch estimates and reviews of past initiatives are now somewhat dated, all of the papers remain important contributions to the literature on bird bycatch. References are included at the end of each paper, and an index concludes the book.

Seabird Bycatch discusses bird mortality in fisheries of the United States, Canada, Norway, South Africa, and Falkland Islands/Islas Malvinas. Ten of the 16 papers and abstracts included in the volume discuss U.S. fisheries. Entire regions where seabird bycatch in longline fisheries is a significant problem, such as Southeast Asia and South America, are absent from the volume. This might simply be a result of the symposium's location, or it might reflect a lack of activity in research and management of seabird and fishery interactions in some of these nations, but the editors do not give us the benefit of their perspective on this question.

In their synthesis, Melvin and Parrish summarize characteristics common to seabird bycatch problems, obstacles to abating these problems, and guidelines for solving them. For instance, they identify seven common seabird bycatch characteristics, one of which is the sparseness of information about seabird populations, seabird distribution, and level of seabird mortality in commercial fisheries. Among the roadblocks to addressing seabird bycatch is that managers neglect the significance of the mortality of nonthreatened seabird species, and focus exclusively on threatened species. One of the four guidelines proposed for resolving seabird bycatch problems is that managers, the fishing industry, and academia must collaborate on solutions that are scientifically defensible, practical, and accepted by management authorities and industry.

The editors do not address some potentially effective methods to address the problem of seabird bycatch in commercial fisheries, such as educating seafood consumers through eco-labeling, such as has been developed by the Marine Stewardship Council and National Audubon Society, as yet another tool to provide industry with a nonregulatory incentive to minimize seabird mortality. Nor do the editors discuss what constitutes an effective management framework to manage bird bycatch in fisheries. Examples of possible guidelines for fishery management authorities that are not covered in the volume include adopting species-specific annual thresholds of bycatch (similar to those in the U.S. for endangered species), like the ones being adopted by New Zealand for longline fisheries; establishing a target bycatch rate, as has been adopted in Australia; identifying performance criteria for fishing gear, such as standards for hook sink rate; or institutionalizing formal incentive programs to encourage industry to innovate and test new seabird avoidance methods. Furthermore, the volume neglects to include examples of how governments have tried to manage seabird and fishery interactions through area and seasonal closures, the role of education and awareness-raising, and the importance of data collection programs.

As several papers in this volume document, seabird deterrent measures (including changes in fishing gear, fishing practices, and vessel layout) can reduce seabird capture by greater than 90%. However, most longline and gillnet fisheries are believed not to be employing adequate seabird avoidance measures, and few nations with longline fisheries have effective management programs. Melvin and Parrish recognize the degree of political will and capacity for enforcement of most of these nations. They suggest that a key to this global problem is a bottom-up approach whereby the industry develops a sense of ownership of proven and practicable seabird deterrence measures. This would then lead to concomitant voluntary compliance with eventual rules for mandatory use of these measures. Seabird deterrent measures most likely to receive support by industry are those that significantly reduce seabird capture for the individual fishery, do not increase bycatch of other sensitive species, do not pose a safety hazard to crew, are cost effective (or better yet, cost saving), require minimal intrusion on fishing operations, and require minimal effort to employ.

Seabird Bycatch documents the continued international prominence of the problem of seabird bycatch to global fisheries management and conservation of biodiversity. The book provides useful insights into approaches and technological mitigation measures used to address seabird and fishery interactions, and will be

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of interest to fishery scientists and managers, ornithologists, marine policy analysts, the fishing industry, and nongovernmental environmental organizations.—ERIC GILMAN, 2718 Napua'a Place, Honolulu, HI 96822, e-mail: egilman@lava.net

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