

The precondition, either for a comprehensive approach or for the detailed regulation of particular activities, is knowledge. In this respect the Working Group on Ocean Management and other similar bodies concerned with the future of Canadian arctic waters serve a valuable function. While highlighting and contributing to the debate about the future of ocean management and regulation in the Arctic, this book also improves our knowledge of the Arctic generally.

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THE NORTHWEST PASSAGE: ARCTIC STRAITS. By DONAT PHARAND in association with LEONARD H. LEGAULT. Dordrecht/Boston/Lancaster: Martinus Nijhoff Publishers, 1984. 199 p., 17 figs., 7 tables, subject, name, geographical and ship indices, selected bibliography. Hardbound. No price indicated.

This book is the seventh in a series of studies on international straits of the world, organized and edited at the Center for the Study of Marine Policy at the University of Delaware. Its authors are extremely well qualified. The principal author, Professor Donat Pharand, of the Faculty of Law at the University of Ottawa, is Canada's leading scholar on law of the sea matters, particularly in regard to the Arctic. His collaborator, Leonard Legault, is legal advisor to the Canadian Department of External Affairs. Together, they bring to their subject many years of knowledge and thought about the issues raised in the book.

The appearance of this book is most timely. To some degree, the Arctic has slipped from the high profile in public consciousness that it achieved in the 1970s. In part, this is because the issues of the period that excited interest — the environment, native land claims — have given way to more pragmatic concerns about unemployment and the economy. Moreover, as Pharand points out in his July 1984 *Post Scriptum* to the Preface, the changing world economy has raised doubts about the short-term viability of many of the massive energy projects once envisaged for the Arctic. Yet he correctly concludes that, regardless of the actual timing of such projects, it is very likely that there will be major commercial resource developments in the Canadian Arctic at some point in the future. In view of the many urgent policy issues that the book identifies, it may be fortunate that such developments will be postponed for a few years. This will provide Canada with some breathing space in which to debate and resolve these issues and to engage in more effective planning for the future than has characterized our approach to the Arctic in the past.

The purpose of the book is to assess the legal status of the Northwest Passage in international law, to examine the commercial potential of the Passage, and to outline what policy implications these suggest for Canada. The objectives are achieved in a book that canvasses a wide range of topics cutting across many disciplines: history, geography, economics, business, anthropology, and law, both domestic and international. It is in the latter area that the author is both the most qualified and comfortable. An expert in any one of the other fields might view the book's treatment of certain topics as superficial. This is not to criticize the approach that has been taken. On the contrary, it is evident that care was exercised in reviewing the literature of disciplines other than law. The result is a well-researched and well-documented work that, for the first time, provides an overview of the multiplicity of factors that will influence the future of the Northwest Passage. The book is aimed at a general audience and can be easily understood by any reader interested in the Arctic, regardless of his or her disciplinary bias.

The first three chapters describe the physical and geographical characteristics of the area dealt with in the book and review the known history of non-aboriginal exploration and use of the Passage. Chapters four and five present an overview of the resource potential of the area,

a brief review of the resource development technology likely to be employed, and a summary of the various resource development proposals that have been brought forward. Thus, the first half of the book provides the backdrop for assessing the legal status of the Passage and the resulting policy issues. While this backdrop is both necessary and useful, the reader should be cautioned against expecting a comprehensive treatment of these subjects, any of which might usefully fill a book itself. For example, chapter 5 refers to Canadian efforts at pollution prevention and control and makes reference to certain federal statutes. However, it fails to give even passing mention to the strict liability regime for oil spills recently implemented by the federal Oil and Gas Production and Conservation Act or to the liability arrangements that petroleum operators have been required to enter into with the Canadian government.

Not surprisingly, it is in the three chapters on legal aspects that the author appears to be most at home. To his credit, however, he does not retreat into jargon incomprehensible to the average reader. Rather, he concisely sets out the applicable principles of international law and, based upon the earlier analysis of history and geography, reaches clear conclusions about the status of the Northwest Passage. It is his excellent grasp of this subject matter that enables him to reduce such a complicated subject to a level of apparent simplicity. He asserts that the Passage is not currently an international strait but is part of Canada's territorial sea. As such, it is subject to the international right of innocent passage. This right limits to some extent the protection that Canada can apply to the Passage, although the special Arctic clause inserted in the Law of the Sea Convention of 1982 considerably expands the scope of measures Canada might lawfully take. However, it is pointed out that, with increased Arctic activity, the legal status of the passage could be altered in the future, eroding the extent to which Canada could control its use.

To finesse this possibility, Professor Pharand outlines the legal steps Canada could take to claim sovereignty over the waters of the Arctic Archipelago. By encircling the waters with straight baselines, a territorial sea could be drawn, making the waters internal. An intriguing suggestion is that Canada's claim could be reinforced by relying upon the historical use of the waters by the Inuit. If this approach (which has been utilized successfully by Norway) is pursued, great assistance may be obtained from a study of Inuit Land Use and Occupancy funded over a decade ago by the federal government and carried out by the Inuit Tapirisat of Canada, under the direction of the anthropologist Dr. Milton Freeman. The author does not stop at the need for legal action, however. He underscores the fact that major efforts will also have to be made in the technological arena if Canada's sovereignty is to be credible.

The final three chapters focus upon the policy issues raised by the Northwest Passage. These relate to the environment, the Inuit, and Canada's national security. While admitting that there are uncertainties in predicting the environmental effects of future commercial activities in the Arctic, Pharand stresses that Canada must maintain control over commercial shipping in the Passage if it is serious about restricting environmental degradation. He correctly points out that governmental failure to take decisions on the extent of tanker navigation may lead to a pre-emption of choices, through insistence by industrial interests on particular options. The conclusions offered as to the Inuit are not startling but perhaps are less well documented and thoughtful than other parts of the book: it is proposed that Inuit land claims should be settled expeditiously and that Canadian sovereignty should be established and maintained in order to protect the indigenous population. In view of the complexity of this subject, the author can be forgiven for his failure to suggest more original ideas. In regard to national security, it is recommended that Canada's surveillance and protection capability be upgraded.

The figures and tables contribute a helpful visual dimension to the book's presentation and summarize a good deal of information. The Selected Bibliography provides a useful reference for the reader who wishes to learn more. Although a more detailed Subject Index would have improved the book's usefulness as a reference book, the other in-

dices (which deal with names, geography and ships) may be appreciated by certain readers. Occasional typographical mistakes, referencing errors, and grammatical inaccuracies are only very minor distractions from a book that is, on the whole, very nicely presented.

This book is mandatory reading for anyone concerned about the future of the Canadian Arctic. It is particularly recommended to those in government responsible for reviewing policy and taking decisions about the Northwest Passage. The vagaries of the world economy have given us a window of opportunity to make rational choices about this unique area. Let us hope that the opportunity is not lost.

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**MARINE BIRDS: THEIR FEEDING ECOLOGY AND COMMERCIAL FISHERIES RELATIONSHIPS.** Edited by DAVID N. NETTLESHIP, GERALD A. SANGER and PAUL F. SPRINGER. Proceedings of the Pacific Seabird Group Symposium, Seattle, Washington, 6-8 January 1982. Ottawa: Minister of Supply and Services Canada, 1984. A special publication compiled by the Canadian Wildlife Service for the Pacific Seabird Group. 220 p. Softbound. No price indicated.

Marine bird studies associated with the environmental assessment of the outer continental shelf were initially concerned with censuses of distribution and abundance. Such research was conducted at a time when it appeared that of all the activities associated with man's increased interest in offshore waters, direct contact with spilled oil was the greatest threat to marine bird populations. In the past decade environmental assessment has moved to a phase where ascertaining the linkage of a seabird species to the marine system that supports it is of paramount importance. It is now recognized that impacts on the prey species of seabirds can and will have a greater influence than direct oiling of seabirds. This volume (with the exception of three papers on seabird mortality in fish nets) is a collection of papers examining the trophic linkages of a number of seabird species to the marine systems that support them.

The volume consists of three parts: feeding ecology of marine waterfowl (6 papers), feeding ecology of pelagic marine birds (7 papers) and seabird-commercial fisheries interactions (10 papers). The majority of the feeding ecology papers arose from environmental assessment studies related to oil and mineral development. With the exception of one paper on olfaction by tubenoses, all provide detailed information on diet, usually of a single waterfowl or marine bird species at a single locality. All of the feeding ecology studies reported on are from the Pacific Basin. Five of the waterfowl papers are from Alaska, the remaining one being from British Columbia. The pelagic marine bird papers are all from western North America, with three from California waters. With a few exceptions the papers in these two sections should be of most interest to marine ornithologists or others with interests in the species and areas covered.

The two feeding ecology sections as a unit represent a major contribution if only by bringing together 13 related papers in a single volume. There is a lack, however, of any synthesis or review papers in these two sections. Although it is clear that much of the information on feeding ecology gathered in the last decade is just reaching publication, it would seem that enough has been published to allow the compilation and integration of work to begin. Certain species or species groups have received detailed study over a wide geographic range.

The section on commercial fisheries interactions contains 3 papers on mortality of seabirds in fishing nets, 6 papers dealing with the conflicts arising from commercial fisheries exploiting the same fish stocks utilized by seabirds, and one paper on Capelin (*Mallotus villosus*). The latter is included in the volume as a companion piece to

a related paper on seabird-capelin interactions. Unlike the feeding ecology papers, there is a broad geographic spread, with the Pacific Basin being treated in only 3 of the papers. Six papers are concerned with Atlantic systems. A paper by Furness on modelling relationships among fisheries, seabirds and marine mammals serves to review the estimation of energy requirements of seabirds and marine mammals and how exploitation of fishery stocks may affect them.

The papers on commercial fisheries-seabird interactions should have a wider audience than the feeding ecology papers and will be of interest to anyone concerned with biological oceanography. All provide examples of the effects on birds of man exploiting fish populations. This group of papers is impressive for its broad geographic scope with six separate localities discussed (southern California, British Columbia, Peru, South Africa, northeast and northwest Atlantic). As a number of the papers show, the impact of seabirds on fish resources can be substantial. Furness estimates that in several ecosystems seabirds consume between 20 and 30 percent of the pelagic fish. While most of the effects described are negative, with real or potential declines in seabird populations, also presented is a paper that relates seabird increases to man's exploitation of a fish species that competes with seabirds for forage fish.

The papers on net mortality of seabirds should be of interest to conservationists as well as seabird and fishery biologists. Intensive in-shore fishing in Newfoundland in 1971 resulted in the death of 30 000 breeding birds, or 20 percent of the local breeding population. It is unfortunate that a paper on bird mortality in the Pacific high seas drift net fishery could not be included to round out this section. The problem of seabird mortality in fish nets is a chronic one and can be expected to increase with fishing intensity. The public and resource managers need to know of the magnitude of impact on seabird populations.

The publication suffers from the lack of an index. This would have provided a way for potential users of the volume to approach the work as a unit rather than simply a series of papers. There is also no attempt by the editors to present any discussion that occurred at the symposium that might provide the reader with an indication of the type of interactions a symposium is meant to stimulate. One has to assume that if meaningful discussions were part of these interactions the results of such discussions were included in the completed papers.

Data on the food of seabirds are not obtained easily, and the dedication of the volume to three seabird biologists who died in separate incidents while conducting research is evidence of the dangers involved in the collection of such data. This dedication should allow the reader unfamiliar with seabird studies to appreciate the effort involved in the collection of the data presented.

The production of the publication is of the usual high quality of the Canadian Wildlife Service. The Pacific Seabird Group, the CWS and the editors should be complimented for collaborating in producing this volume.

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**THE BERING SEA FUR SEAL DISPUTE, 1885-1911. A MONOGRAPH ON THE MARITIME HISTORY OF ALASKA.** By GERALD O. WILLIAMS. Eugene, Oregon: Alaska Maritime Publications, 1984. 100 p., maps, illus., notes, index. Softbound. US\$9.95.

Although the diplomatic history of the Bering Sea Fur Seal Dispute is well known to students of Canadian and American relations, there are other aspects to the lengthy affair that are of at least equal significance. The conflict originated because of the migratory habits of the fur seals that took them over specific routes from California to their breeding rookeries on the isolated Pribilof Islands. Once this in-