SEABIRD DISTRIBUTION IN THE NORTH SEA

Blake, B.F., Tasker, M.L., Hope Jones, P., Dixon, T.J., Mitchell, R. & Langslow, D.R. 1984. Huntingdon: Nature Conservancy Council. Unpaginated.

The "Seabirds at Sea Team" of the U.K. Nature Conservancy Council collected a large data set in addressing three objectives: 1. determine winter and pelagic distributions of seabirds; 2. relate these distributions to the environment; 3. determine the feeding range of seabirds from their breeding sites. The final report is a compendium of distribution data and natural history information which details seabird distribution both in and out of the breeding season. The information and distribution maps should serve as regional background to the design of further research on North Sea seabird ecology. The data on seabird diets are important and are related well to information available on commercial fisheries. In the Report, feeding ecology of the seabirds is integrated well with their breeding season distribution. However, it is generally difficult to distinguish between the breeding and non-breeding ecology of pelagic seabirds. Perhaps the information provided in this report will encourage further study of the ecology of seabirds at sea.

In addressing the vulnerability of seabirds to oil pollution, the report discusses direct oiling of the birds. Although it is possible to identify sensitive coastal areas (e.g. where bird activity is great), the report seems to ignore or play down the indirect effects. Disruption of feeding at sea, mortality of prey stocks and alteration of prey stock distribution by oil pollution are threats to marine avifauna which may equal or exceed the threat of direct oiling. The meeting of Objective 1 requires greater attention to the indirect affects on seabirds of oil pollution.

Appended to the main report is a useful review of field methods for determining the distribution of birds at sea. The conclusion drawn is that project directors initiating new research on seabirds at sea must strive for density data as a final product. This is very true, but I wonder at the report's scepticism about this aim, especially if internatonal comparisons are to be made. The tone of the section on field methods is critical, although the 'compromise' attitude of their final recommendations is appropriate to the difficulties experienced in the field.

If the reader pages through the distribution maps, certain associations between seabirds and habitat features are notable which are not fully explored in the report. For example, there is an association of Common Guillemots *Uria aalge* and sprat distributions which is tested statistically. The integration of this association with oceanographic information is insufficient to address the possible influence of habitat structure on the birds or their prey. The report denies an influence of oceanic fronts on North Sea seabird distribution.

Joiris (1978) disagrees with this and several of the distribution maps in the report seem to illustrate bird-front relationships. Objective 2 of the project could have been addressed by testing the apparent increase in bird density observed just north of the front along 54/55 N latitude (Figs. 44,46,60,69,96,101,123,139,150). Another case in point was in the area southeast of the Shetland Islands where a southerly tongue of high salinity water coincided with elevated densities of sandeels (59N,1E). Arctic Fulmars *Fulmarus glacialis*, North Atlantic Gannets *Sula bassana*, Great Skuas *Catharacta skua*, gulls *Larus* spp. and Blacklegged Kittiwakes *Rissa tridactyla* seemed abundant at or near this site from time to time, but the report did not satisfy my curiosity on this apparent association. For instance, the report establishes an association between Arctic Fulmar numbers and the presence of fishing vessels. The report then dismisses the importance of oceanographic patterns without discussing their existence. Undoubtedly, given an analysis of birds within and without of the commercial fishing areas, the importance of seabird attraction to fisheries can be established (see Bailey & Hislop 1978, Wahl & Heinemann 1979). Nevertheless, this report's dismissal of the importance of habitat structure to seabird ecology seems premature in the light of the likelihood that the location of the fisheries is determined by the marine habitat structure (Abrams 1983, in press).

As with many ornithological data compendiums, the reader may lose sight of the forest for the overabundant and disconnected trees. There is virtually no comprehensive interpretation of the relationships of bird distribution to the structure or dynamics of the marine environment. This is particularly unfortunate in light of the inclusion in the report of a review of the oceanography and marine biology of the North Sea. The preparation of the report reflects a knowledge of the general ecology of North Sea birds, but the authors do not represent the breadth of the seabird literature, particularly in respect of the Southern Ocean. Perhaps they still intend to produce publications linking their results with both Pacific Ocean and southern hemisphere programmes.

REFERENCES

ABRAMS, R.W. 1983. Pelagic seabirds and trawl-fisheries in the southern Benguela Current region. *Mar. Ecol. Prog. Ser.* 11:151-156.

ABRAMS, R.W. in press. Pelagic seabird community structure in the southern Benguela Current region: changes in response to man's activities? *Biol. Conserv.*

BAILY, R.S. & HISLOP, J.R.G. 1978. The effects of fisheries on seabirds in the northeast Atlantic. *Ibis* 120:104-105.

JOIRIS, C. 1978. Seabirds recorded in the northern North Sea in July: the ecological implications of their distribution. *Gerfaut* 68:419-440.

WAHL, T.R. & HEINEMANN, D. 1979. Seabirds and fishing vessels: co-occurrence and attraction. *Condor* 81:390-396.

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THE GANNET

Nelson, J.B. 1978. Berkhamstead, U.K.: T. & A.D. Poyser. 366 pp.

To review a book in its seventh year on the shelves introduces a test of time, and by and large, Bryan Nelson's book succeeds. Those who know Nelson's immensely informative, door-stopping and shelf-filling volume on the Sulidae should not assume this book is a précis of that work, despite the overlap in content. It is finely produced and very readable, appealing to a wider audience than The Sulidae. The book concentrates on the gannets, in particular the Northern Gannet *Sula bassana* , drawing on comparative studies of the boobies.

The book comprises 366 pages and a further 32 pages of black and white photographs. Sixtytwo figures, including many sketches of displays, are scattered through the book, with a more indigestible lump of 32 tables confined to the back pages. I found the summary of main points at the end of each chapter, and mention of subject matter beneath each chapter heading on the contents page useful. With the index, these features enhance the usefulness of the book as a reference text. Interspersed through the pages are 24 line drawings by John Busby, each capturing the "jizz" of gannets or their island neighbours. The chapters deal with plumage, shape, structure and voice; numbers and distribution; breeding behaviour; breeding ecology; the gannet at sea; the gannet family and order; and lastly, gannets and man.

Of interest are Nelson's conclusions on the taxonomic status of the gannets. Whilst accepting that gannets can be split readily from the boobies, he notes that the boobies can be split into two or three genera. Therefore, he argues *Sula* and not *Morus* should be used for the gannets. Furthermore, he regards the three gannets as more than just subspecies, but less than full species, and suggests unity as a superspecies. Hopefully newer concepts of species will resolve the argument.

The book reflects the state of knowledge about seabirds : six of the seven chapters are concerned with gannets on land. In particular, the breeding behaviour and ecology are thoroughly treated. Population dynamics of the Northern Gannet are exhaustively treated, mirroring the dense population of seabird observers in Britain. Even in the chapters on gannets at sea, the major data sources are land-based : ringing recoveries and headland observation posts. The author discusses this shortcoming, stating of this section that "less should be expected of this chapter than of others". Nelson is not averse to using the observations of fishermen. This is most acceptable, for to ignore entirely the anecdotes, intuition and insight of fishermen because they are unfamiliar with normal distributions and hypothesis testing, is to ignore an important source of ideas and observations.

As chance would have it, the recent and current major research projects on the Cape Gannet *S. capensis* highlight weaknesses in Nelson's look at the gannets. The programmes concentrate on diet, accorded a paltry one and a half pages for the Northern Gannet only. Much data on Cape Gannet populations have appeared since 1978, so that Nelson's population figures are now outdated. Nelson has not studied the Cape Gannet at first hand, and this is evident at times. For example, it is stated that fledgling Cape Gannets sometimes return to the nest to be fed after practising flying on the fringe, and may be competent fliers at nest departure. Cape Gannets do practise wing-flapping, but do not undertake hop-flying exercises and then return to the nest. Once the chick wanders to the edge of the island, it is no longer fed, and is certainly not a competent flier. As a further example, I would argue that the dense packing of Cape Gannet nests is a defence against predators, and against other seabirds and seals competing for breeding space, rather than due to the scarcity of islands per se. These criticisms apply to material beyond the author's grasp at the time, but are nevertheless, still relevant to the prospective buyer today.

A major function of books such as these is to float ideas free of the rigid format of pure scientific writings. In this realm, notably with regard to comparative studies of related species, the book stimulates.

In summary, a fine book geared primarily to northern seabird enthusiasts, but now dated in terms of what is known of Cape Gannets. Nevertheless, it is a worthwhile book and highly recommended.

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PACIFIC SEABIRD GROUP -- COLONIAL WATERBIRD GROUP MEETING

A joint meeting of the Pacific Seabird Group and the Colonial Waterbird Group will be held on 4-8 December 1985 at the Financial District Holiday Inn in San Francisco, California, U.S.A. Two symposia will be held, "Recent advances in gull research" and "The use of man-modified vs. natural wetlands by waterbirds and shorebirds." Scientific paper sessions will be held on 5-7 December, with field trips on the 8th.

For more information about the meeting contact Programme chairs: Ms. Lora Leschner (PSG), Washington Dept. of Game, 16018 Mill Creek Blvd., Mill Creek, WA. or Dr William Southern (CWG), No. Illinois University, Dept. of Biological Sciences, DeKalb, IL.