

ATLAS OF EASTERN CANADIAN SEABIRDS. BY R. G. B. BROWN, D. N. NETTLESHIP, P. GERMAIN, C. E. TULL AND T. DAVIS. Ottawa: Information Canada, 1975. 11 x 8½ inches, 220 pages, soft cover. Canada \$6.75; other \$8.10.

The distribution of the majority of the members of the North American terrestrial and freshwater avifauna is relatively well known. However, the distribution of many seabird species, and particularly those in more northerly regions, is poorly documented. The *Atlas of Eastern Canadian Seabirds* does much to remedy this deficiency. It constitutes the first attempt to collate and collect basic information on the ecology and breeding and pelagic distributions of seabirds in the northwestern North Atlantic (the area covered includes the Gulf of St. Lawrence, the Atlantic Provinces of Canada, the eastern Canadian Arctic and western Greenland). The Atlas is also one of the first comprehensive quantitative studies of the pelagic distributions of seabirds over a wide geographic area (another concerning the Pacific Ocean has appeared under the editorship of W. B. King<sup>1</sup>). The majority of previous works have usually consisted of lists of birds seen during transoceanic crossings.

The Atlas is in six sections. The introduction presents the background to, and development of, the study, with the reasons for carrying out such distributional work. The second part outlines the methods used to collect and analyse the information which follows later in the work (the scheme used for coding data for computer analysis is included as an appendix). This section also contains the key to map symbols (the same key is also on the last page of the book) and the "effort maps" (which explain the amount of effort put into each part of the study area during the course of the survey).

Section 3 discusses oceanographic characteristics of the northwestern Atlantic and the eastern Canadian Arctic, including currents, ice cover, zonation of eastern Canadian waters (based on physical characteristics, such as temperature-salinity relationships and biogeographical data) and the plankton and higher organisms (mostly fish) associated with the zones.

Section 4 is concerned with the factors that affect the breeding range of seabirds, while Section 5 addresses itself to a more practical

matter, namely the use of the Atlas in environmental impact studies. Six maps show the areas in the northwestern Atlantic and eastern Canadian Arctic where seabird concentrations are most vulnerable to oil spills through the annual cycle.

The sixth, and largest, section of the Atlas contains notes and numerous maps dealing with the breeding and pelagic distributions of over 30 species of seabirds, as well as tables listing known seabird colonies and their size (if known). Three map formats are used: quantitative maps to show the average numbers of birds seen per 10-minute watch in the various parts of the study area; "rare bird" maps for species for which quantitative data were not meaningful; colony maps, showing the location of the breeding sites (listed in tables) for colonial species (e.g. Northern Fulmar, Gannet, murre) and a general indication of breeding range for species which either form many small colonies (e.g. the *Larus* species), are non-colonial (e.g. Black Guillemot) or whose colonies are hard to locate (e.g. Leach's Storm-Petrel).

The pelagic distributions of individual species are plotted to show geographical and seasonal (monthly) variations and changes in abundance on the basis of 1°N x 1°W (Atlantic) or 1°N x 2°W (Arctic) blocks of latitude and longitude over the survey area, which covers the eastern Canadian Arctic and northwestern Atlantic north of 40°N and west of 40°W. Despite the great mobility of the seabirds in the area, the evidence presented in the Atlas indicates that many are zone-specific.

The book, which follows the format of the Report Series of the Canadian Wildlife Service, is remarkably free of typographical errors.

At a time when publication costs are escalating rapidly, I feel that the text, tables, and maps could have been arranged in such a way as to make maximum use of the available space e.g. Maps 4a - 4f could have been placed on fewer pages than they now occupy, without losing content or visual appeal. The effect of this would have been to reduce the number of pages in the Atlas, and perhaps its cost. Perhaps the single most irritating thing about the Atlas is the fact that the "Key to map symbols" is present in only two places; one plate near the front of the work and one on the last page. This means that anyone using the Atlas has to be constantly turning back and forth, from the maps to the symbol sheets, in order to be able to interpret the former. The inclusion of more "keys" would have made the Atlas easier to use, and as pointed out previously, space is available

<sup>1</sup>W. B. King (ed.) 1974. *Pelagic Studies of Seabirds in the Central and Eastern Pacific Ocean*. Washington, D.C.: Smithsonian Institution (Contributions to Zoology no. 158).

throughout the work where these could have been inserted.

On the whole, the Atlas provides us with a considerable amount of baseline data on the seabirds in the area covered and, while such information will change over a period of time as more data are collected, this work will prove useful for many years to come. It is a book that will probably not have much general appeal but is a "must" for all those people interested in seabirds and their distribution.

*William Threlfall*

**CAIN'S LAND REVISITED: CULTURE CHANGE IN CENTRAL LABRADOR, 1775-1972.** BY DAVID ZIMMERLY. *St. John's, Newfoundland: Memorial University of Newfoundland* (Newfoundland Social and Economic Studies no. 16) 1975. 5½ x 8½ inches, 346 pages, 16 figures, 8 maps, 2 appendices. Paperback, \$3.50.

Europeans had their first view of Labrador in 986 A.D., when Bjarni Herjolffsson was blown off course on his way from Iceland to Greenland. Other Norse explorers followed over the next 200 years and, after a gap of a century or two, Basque fishermen began to frequent southern Labrador waters. By 1700, the first permanent European bases had been established in the region, and white people of one background or another have been residing there ever since. Despite its long and fascinating history, the white population of Labrador never received much attention from scholars until the nineteen sixties, when researchers supported by the Institute of Social and Economic Research at Memorial University, Newfoundland, began to correct the situation. This monograph is the most recent in a series of Institute publications resulting from their work.

David Zimmerly chose to focus his attention on the Lake Melville district of Newfoundland-Labrador, a region known to outsiders as the site of Goose Bay Air Force. This book is not about the air base or the nearby Churchill Falls hydroelectric plant, however, but about the white population of the nearby communities — particularly Goose Bay, Happy Valley, Mud Lake and Northwest River. For the most part, it is concerned with the history of the "settlers", people of European background primarily but with important infusions of both genes and ideas from the local Eskimo population during the early years of its development.

The book is a description and analysis of culture change based on library research and a year of field work (carried out in 1971-72). The text begins and ends with chapters devoted to theoretical matters, but consists primarily of an historical account of the settler population from the time of its recorded beginnings to the period of Zimmerly's field research. This era of nearly two centuries is divided into four segments each of which is the subject of a chapter. The temporal divisions are (a) the period of early settlement, from 1775 to 1835, (b) the expanding fur trade, 1836 to 1900, (c) the fur trade climax, 1901 to 1941, and (d) the modern period, 1942 to 1972. These chapters, which comprise nearly 90 per cent of the body of the text, contain a comprehensive, balanced description and analysis of changing settler life. The presentation is both readable and informative, and usefully complements Elizabeth Goudie's (1973) popular *Women of Labrador*<sup>1</sup>, which was also edited and introduced by Zimmerly.

In the theoretical realm — the book was originally a Ph.D. dissertation — Zimmerly's thesis (p. 6) is that "when a sociocultural system shifts over time from a family to a national level of integration, there is a corresponding transition in the major behavioural determinant from ecological to political." The author claims (p. 317) to have "validated" that hypothesis by demonstrating that the behaviour of the central Labrador settlers was "determined" primarily by ecological variables from 1775 to 1941 (when Goose Air Base was established), and by political variables subsequently. In my opinion, Zimmerly has, on the contrary, done an admirable job of demonstrating that the naive determinism of his theoretical position is untenable. On practically every page he describes the complex interaction of cultural-historical, affiliational, economic, religious, and educational factors on settler life. Both ecological and political factors are important throughout, but at no time is either one the primary determinant of anything.

The book is a good one precisely because of Zimmerly's ability to transcend the limitations of his stated approach.

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<sup>1</sup>Goudie, E. 1973. *Women of Labrador*, edited and introduced by David Zimmerly. Toronto: Peter Martin Associates.