

## INTERNATIONAL COMMISSION

FOR THE

## NORTHWEST ATLANTIC FISHERIES



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Environmental Surveys - NORWESTLANT 1-3, 1963

PART I. TEXT (and figures)

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## Preface

The NORWESTLANT Surveys took place during April-July 1963. The dates of the three surveys which were carried out were as follows:

NORWESTLANT 1: 31 March-9 May; NORWESTLANT 2: 30 April-30 June; NORWESTLANT 3: 30 June-3 August.

(In the report, dates which have the year omitted should be regarded as referring to 1963.)

The following research vessels took part in the surveys:

NORWESTLANT 1: Thalassa France  $G.\ O.\ Sars$  Norway  $Ermest\ Holt$  UK Topseda USSR  $Academician\ Knipovich$  USSR

NORWESTLANT 2: Sackville Canada Baffin Canada

Dana Denmark
Anton Dohrn Federal Republic of Germany
Aegir Iceland

NORWESTLANT 3: Dana Denmark

Ermest Holt UK
Explorer UK
Academician Knipovich USSR

In addition, other vessels provided relevant data, especially the Norwegian, French, British, and American weather ships that occupied Ocean Weather Stations Alfa and Bravo, the U.S. Coast Guard cutter Evergreen, U.S.S. Atka, and the ships which carry out the Continuous Plankton Recorder Survey for the Oceanographic Laboratory, Edinburgh, Scotland. On behalf of the group of scientists that planned and executed the NORWESTLANT Surveys, I would like to thank the officers, scientists and crews of all these ships for their contributions to the surveys.

The report on the surveys consists of four parts as follows:

Part IV — Biological data.

Part I — Text;
Part II — Atlas;
Part III — Physical and chemical oceanographic data;

All parts have been bound in such a way that the reader can rearrange them into a loose-leaf system should he so wish. It also allows him to compare charts by superimposing one on the other. The base chart was kindly provided by the Institut für Meereskunde der Universität, Kiel, Federal Republic of Germany and is in on Delisle's conical projection. The International Council for the Exploration of the Sea is using the same projection for its atlas of the North Atlantic Polar Front Survey carried out during the International Geophysical Year (IGY). Thus, the results of the NORWESTLANT Surveys can be relatively easily compared with those obtained during the IGY.

The preparation of Parts I, II, and IV has been carried out under my supervision and I wish to express my thanks to the Reporters who have written the various sections of the report, to the members of the Coordinating Groups who have contributed material relevant to those sections, and to

my colleagues at this laboratory and in the ICNAF Secretariat who have helped so greatly with the editorial work, particularly John Corlett who has done most of the work in preparing Part IV for publication.

Part III is in three volumes and has been compiled by the Canadian Oceanographic Data Centre, Ottawa and ICNAF thanks this organization and in particular its former Director, Charles Sauer, for the very large amount of valuable work which has been done on its behalf.

l also wish to acknowledge the important contribution made to the NORWESTLANT Surveys by the Oceanographic Laboratory, Edinburgh in marrying the data collected by the research vessels to those provided by its Continuous Plankton Recorder Survey. In this way, it has been possible to compare some of the information collected during NORWESTLANT 1-3 with a long time series.

Arthur Lee, Fisheries Laboratory, Lowestoft.