

**INTERNATIONAL COMMISSION
FOR THE
NORTHWEST ATLANTIC FISHERIES**



SPECIAL PUBLICATION NO. 11 (Revised)

**Index and List of Titles of ICNAF
Publications, 1951-79**

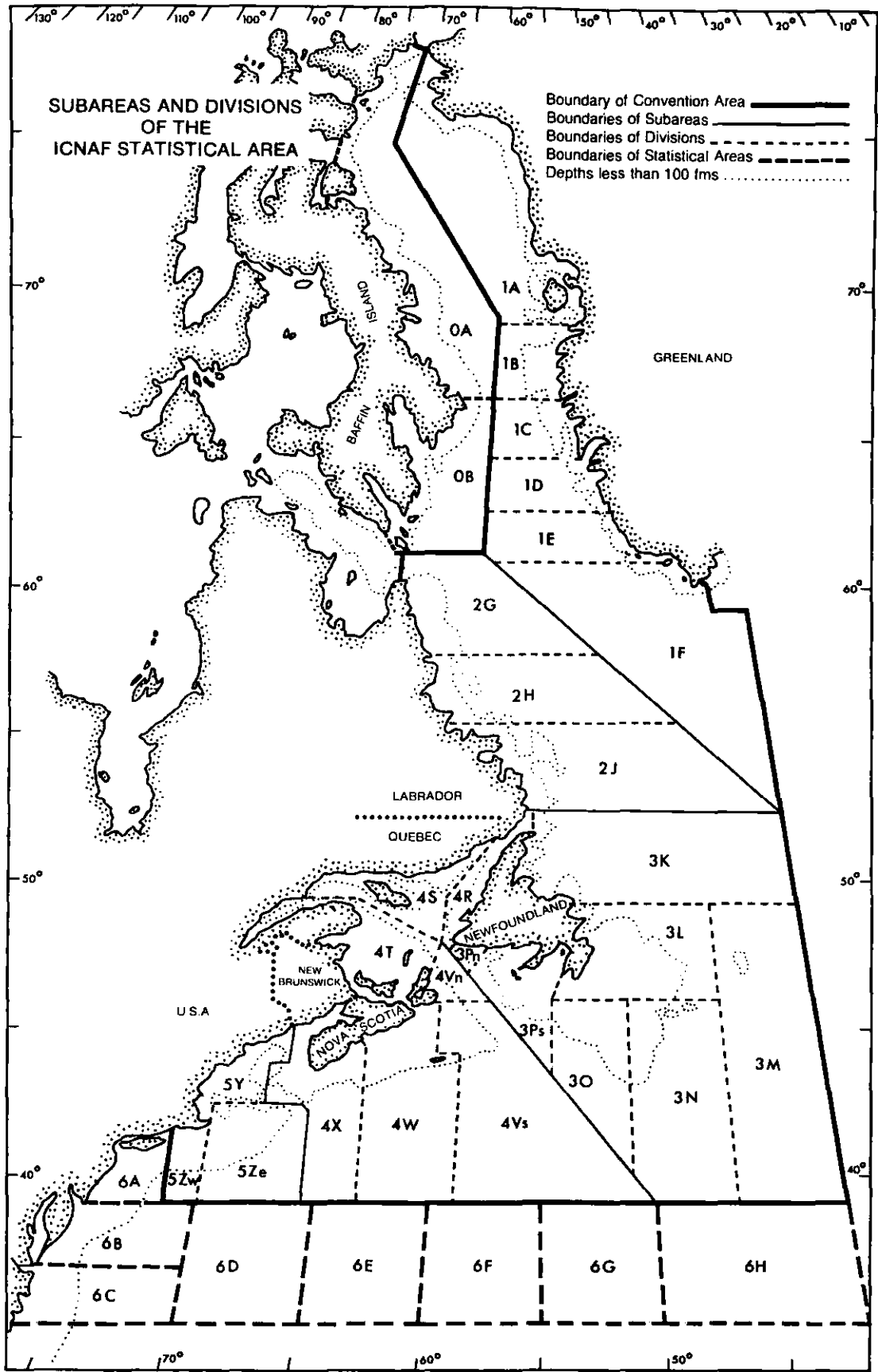
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Dartmouth • Canada

August 1980

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INDEX AND LIST OF TITLES OF ICNAF PUBLICATIONS, 1951-79

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INTRODUCTION

This revised edition of *Special Publication* No. 11 contains in three parts the subject and author indexes and lists of titles of the principal publications of the International Commission for the Northwest Atlantic Fisheries (ICNAF) during its 29-year history from 1951 to its termination in 1979. The earlier edition, issued in 1975, covered the 1951-74 period. In the preparation of the material for this publication, emphasis was placed on the indexing of scientific papers, particularly those published in the *Research Bulletin*, *Special Publication*, *Redbook* and *Selected Papers* series, but relevant information in the Annual Report and Meeting Proceedings series has been noted where appropriate. The following sections describe the contents of this publication and the procedures used in indexing.

ICNAF PUBLICATIONS INDEXED AND LISTED

Annual Report (formerly Annual Proceedings) (Volumes 1 to 29)

The ICNAF *Annual Report*, formerly called *Annual Proceedings*, is issued annually and normally contains (a) the administrative report for the fiscal year (1 July to 30 June), (b) the reports of Commission meetings held during the fiscal year, and (c) summaries of research and status of fisheries for the preceding calendar year. Up to Vol. 11, the *Annual Proceedings* also contained research reports, which were subsequently transferred to *Redbook Part II*, and selected papers from the annual meetings, which were transferred to *Research Bulletin* or *Redbook Part III*, depending on the quality of the papers. In addition to the regular issue of Vol. 11 for the year 1960/61, a special supplement to Vol. 11 was issued in 1962, containing the "Report of the Working Group of Scientists on Fishery Assessment in Relation to Regulation Problems". After Vol. 11, the *Annual Proceedings* was relegated to the role of presenting the reports noted in (a) to (c) above, except that Vol. 15 contains a special report entitled "Review of Possible Conservation Action for the ICNAF Area", and Vol. 17 contains the "Report of the Working Group on Joint Biological and Economic Assessment of Conservation Actions". Commencing with Vol. 23, this publication was renamed *Annual Report*.

Administrative and meeting reports are not indexed in detail but under one or two appropriate headings only, and research reports in Vol. 1-11 are indexed only by country and author. All scientific papers and special reports are indexed fully both by subject and author. The volumes covered in the indexes and listed in the last part of this publication are as follows:

Vol. 1	Report of the First Annual Meeting.
Vol. 2	Report of the Second Annual Meeting.
Vol. 3-11	Annual Proceedings, 1952/53 to 1960/61.
Vol. 11	Supplement. Report of Working Group of Scientists on Fishery Assessment in Relation to Regulation Problems.
Vol. 12-22	Annual Proceedings, 1961/62 to 1971/72.
Vol. 23-29	Annual Report, 1972/73 to 1978/79.

Meeting Proceedings (1951 to 1979)

From 1972 this publication was issued after each Annual Meeting of the Commission and contains the actual proceedings of the meetings of plenary sessions, panels, and standing committees of the Commission, except those of the Standing Committee on Research and Statistics

(see *Redbook*). From 1951 to 1971, meeting proceedings were issued as mimeographed reports identified individually by serial numbers, and those issued during 1963-1971 were subsequently collated into a single (unpaged) volume for each year. This publication is prepared solely for distribution to meeting participants and others directly involved in the activities of the Commission. The proceedings of all meetings of the Commission from 1951 to 1979 are listed in the last part of this publication.

Redbook (1958 to 1979)

The ICNAF *Redbook* series commenced in 1958 for the purpose of documenting the reports of the Commission's Standing Committee on Research and Statistics (STACRES) in a form appropriate for distribution to scientists and others engaged in the activities of the Commission. The first issue was entitled "Selected Reports of the Standing Committee on Research and Statistics for the 1958 and 1956 Annual Meetings", and the issues of 1959 to 1961 were similarly named. These reports were bound with red covers and by 1962 they became known as "Redbook", the name which was assigned to the series for subsequent issues. In addition to the STACRES reports, the issues of 1959 to 1961 contain a number of papers selected from documents presented to the annual meetings of these years.

In 1962 and subsequently up to 1973, the *Redbook* was issued annually in three parts: Part I contains the reports of STACRES, its Subcommittees and Working Groups; Part II contains national research reports; and Part III contains selected papers from the annual meetings. In 1967, a special volume of *Redbook*, namely Part IV, was issued, containing selected papers from a special meeting of the Environmental Subcommittee in May 1967 on "Fluctuations in Sea and Air Temperatures in the ICNAF Area since 1950".

At the 1974 Annual Meeting, STACRES recommended that the publication of Part II and Part III of *Redbook* be discontinued, noting (a) that the national research reports which formerly appeared in Part II receive adequate circulation as Summary Documents, and (b) that selected papers which formerly appeared in Part III should be submitted to the *Research Bulletin*, depending on their quality and content. In 1975, the *Selected Papers* series was established to accommodate papers similar in quality to those published previously in *Redbook* Part III. In 1974 and subsequently, *Redbook* was issued as a single volume, containing the reports of STACRES meetings only.

The contents of individual papers in *Redbook* for 1959 to 1961 and all papers in Part III for 1962 to 1973 are indexed in detail by subject and author. The national research reports in Part II for 1962 to 1973 are indexed by country in the subject index and by author. The STACRES reports, including those of its Subcommittees and Working Groups are listed in the subject index under the various names of these groups and in the author index under the general heading of ICNAF. The contents of the entire *Redbook* series from 1959 to 1979 are listed in the last part of this publication.

Research Bulletin (Numbers 1 to 14)

The ICNAF *Research Bulletin*, first issued in 1964 and published annually since then, was established to provide a means of publishing the results of individual research relevant to the ICNAF Area. Although the majority of its material is selected from papers which appear in the first instance as research documents presented to annual meetings of the Commission's Standing Committee on Research and Statistics, other papers are occasionally accepted for publication if their contents are considered relevant to the work of the Commission. In order to maintain a high standard of publication, each contribution is subjected to the scrutiny of one or more referees selected from a list of scientists directly engaged in the work of the Commission.

All papers contained in ICNAF *Research Bulletin*, No. 1 to 14, issued during 1964-79, are fully indexed by subject and author and their contents listed in the last part of this publication.

Selected Papers (Numbers 1 to 6)

The ICNAF *Selected Papers* series was established by STACRES in 1975 as a means of publishing certain research documents presented to scientific meetings of ICNAF but not of the standard required for publication in the *Research Bulletin*. All papers contained in *Selected Papers*, No. 1 to 6, issued in 1976-80, are fully indexed by subject and author and their contents listed in the last part of this publication.

Special Publication (Numbers 1 to 11)

These publications are issued at irregular intervals and contain the results of special ICNAF projects and contributions to symposia and special meetings, some of which were sponsored jointly by ICNAF, ICES and FAO. All were published by ICNAF, except No. 2, entitled "Proceedings of the Joint Scientific Meeting of ICNAF, ICES and FAO on Fishing Effort, the Effect of Fishing on the Resources, and the Selectivity of Fishing Gear-Reports", which was printed by FAO. The contributed papers to that meeting on the selectivity of fishing gear were subsequently published as *Special Publication* No. 5. Number 7 of this series, containing the results of the ICNAF Environmental Surveys carried out in 1963, was issued in 4 parts, namely Text, Atlas, Oceanographic Data Record (3 volumes), and Biological Data Record. Number 11 in the series, issued in 1975, is entitled "Index and List of Titles, ICNAF Publications, 1950-1974". The indexes and lists in that volume have now been revised and updated in the present volume to cover the period from 1950 to 1979. This issue of Vol. 11 (Revised) represents the termination of the *Special Publication* series insofar as ICNAF is concerned.

All individual contributions and summary reports in No. 1 to 11 are indexed by subject and author and the contents listed in the last part of this publication.

ICNAF PUBLICATIONS LISTED BUT NOT INDEXED

Statistical Bulletin (Volumes 1 to 28)

These bulletins are issued annually and contain statistics of nominal catch and effort for the fisheries of the Northwest Atlantic. The statistical tables include the data reported by member countries of the Commission and also by non-members when data were available. The first compilation of fishery statistics for the ICNAF Area is given in Part 4 of the Second Annual Report for the year 1951-52; that Part was subsequently referred to as *Statistical Bulletin* Vol. 1. The format of data presentation and the detail of reporting changed gradually over the years as ICNAF developed its statistical reporting system and as the system subsequently became incorporated into the STATLANT program, which is coordinated by the CWP (Coordinating Working Party on Atlantic Fishery Statistics), an inter-agency body composed of representatives from ICNAF, ICES, ICCATT, ICSEAF, and the Fisheries Division of FAO.

Statistics presented in Vol. 1 to 15 pertain to the ICNAF Convention Area (Subareas 1 to 5) and adjacent coastal waters. At the 1967 Annual Meeting, the ICNAF Statistical Area was extended to include waters southward to the latitude of Cape Hatteras, USA, the additional area being referred to as Statistical Area 6, and data for this area were included in Vol. 16 and subsequent issues. In 1974, the ICNAF Statistical Area was further extended to include waters westward of Subarea 1 off Baffin Island, this area being referred to as Statistical Area 0 (zero), and statistics were included in Vol. 23 and subsequent issues. The issue of Vol. 28 for the year 1978 terminates the publication of this series insofar as ICNAF is concerned.

Sampling Yearbook (Volumes 1 to 23)

This series commenced in 1958 for the purpose of providing fishery scientists and others engaged in the Commission's work with as complete a record as possible of the biological sampling carried out each year by member countries to determine length and age compositions of commercial catches of the principal species in their fisheries and other information relevant to assessment of the stocks of marine finfish and invertebrates. The contents of Vol. 1 to 12 were restricted to sampling data for the major groundfish species, but available data for all major fish species were included in Vol. 13 to 17.

The publication of detailed sampling data was discontinued following the issue of Vol. 17, as a result of a decision taken at the 1974 Annual Meeting, which stressed the need to provide assessment scientists with the data more promptly than is possible through the medium of *Sampling Yearbook*. It was also noted that the greatly increased volume of data necessitated the use of computer-processing techniques to facilitate rapid retrieval of the data and efficient utilization of the results. With the establishment of a computerized data base in the ICNAF Secretariat, subsequent issues of *Sampling Yearbook*, starting with Vol. 18, was relegated to the publication of lists of sampling data containing sufficient information for scientists to specify their need when requesting detailed data from the computer data base.

The issue of Vol. 23 for the year 1978 terminates the publication of this series insofar as ICNAF is concerned.

List of Fishing Vessels (1959 to 1977)

This publication is issued every three years and contains the national lists of fishing vessels over 50 gross tons operating in the ICNAF Area for the years specified, together with summary tables of fishing effort. Although national lists of fishing vessels were reported to the Secretariat for the years 1953 and 1956, the actual publication of such data commenced with the issue of *List of Fishing Vessels* for 1959. Subsequent volumes contained lists for 1962, 1965, 1968, 1971, 1974 and 1977.

ICNAF PUBLICATIONS NOT LISTED AND NOT INDEXED IN THIS VOLUME

Meeting Documents

These are multigraphed papers issued for use at annual and special meetings of the Commission. The series began at the First Annual Meeting of the Commission in 1951 and was continued under the title "Meeting Documents" until 1964. From 1965 to 1972, meeting documents were issued in two series, designated as "Commissioners' Documents" and "Research Documents". Starting in 1973, a further subdivision occurred with the issue of the "Summary Documents" series, and the three series were continued to 1979, when ICNAF was replaced by the Northwest Atlantic Fisheries Organization (NAFO).

(a) Commissioners' Documents. These are multigraphed papers issued for use by commissioners and advisers participating in Commission meetings and those directly involved in the Commission's work. They include conservation proposals, proposed amendments to the Convention, panel membership, administrative reports, status of conservation proposals, reports on infringements, etc.

(b) Summary Documents. These are multigraphed papers issued for use at the various meetings of the Commission. They include national research reports, reports of committees, subcommittees and working groups, statistical tabulations, reports on status of fisheries and research carried out, and the relevant reports or abstracts of the activities of other international agencies.

(c) Research Documents. These multigraphed papers, for use at scientific meetings of the Commission, include research contributions from scientists and others engaged in the work of the Commission. Some of these papers have been published in the Research Bulletin, Redbook, Selected Papers and Special Publication series.

The indexing by subject and author of all meeting documents issued during the period of the existence of ICNAF from 1951 to 1979 was completed in 1979. However, in view of the restricted distribution of these documents to meeting participants and others directly engaged in the work of the Commission, the index could not be included in the *Special Publication* series, but rather was issued in three volumes entitled "Index and List of Titles of Meeting Documents": No. 1 for the years 1951-1964; No. 2 for the years 1965-1974; and No. 3 for the years 1975-1979 (Hodder, 1978, 1979a, 1979b).

COMPILATION OF SUBJECT AND AUTHOR INDEXES

Subject Headings

As a guide in determining the appropriate subject headings for use in indexing the ICNAF publications, the author has made extensive reference to the indexes of Fisheries Research Board of Canada publications, compiled by Carter (1968, 1973), and has generally followed the procedure used to compile the earlier version of this index and list of titles of ICNAF publications for 1950-74 (Hodder, 1975). Some of the headings have been modified and new headings added where necessary. Many of the headings are supplemented by explanatory notes and cross-references to other related headings.

References to fish species having generally recognized English names are indexed under these names, followed by the scientific names in parentheses. Headings for the scientific names are also included, referring the reader to the corresponding common names. In cases where a species is known by more than one common name, references to that species are indexed under the common name generally recognized, but the other names are also included with appropriate cross-referencing to the name used for indexing. Other marine organisms having recognized common English names are similarly indexed under these names. However, the references to many marine invertebrates with no recognized common names are indexed under the actual scientific names or the generic part of the scientific names, if the research on those species was considered of sufficient importance for indexing at these levels; otherwise, they are indexed under more general headings (e.g. copepods).

A reference dealing mainly with a single species is indexed under the name of the species and under as many other subject headings as was considered appropriate to cover the objects of the research reported in the paper. When many species are mentioned in papers dealing with the results of plankton collections, lists of food items in fish stomachs, or lists of species in faunal surveys, only the more significant species are indexed individually and those of lesser importance are indexed under more general headings for groups of species such as zooplankton, benthos, copepods, etc. In addition to the nomenclature used in indexing the references to marine animals, the subject headings cover a wide variety of topics used in life history studies, population dynamics, oceanography, etc.

Nearly all of the papers could be indexed under subject headings for geographical areas. While some of the articles covered broad geographical regions and are thus indexed under such headings as "Atlantic, Northwest", "Atlantic, North", etc., most of the references could be assigned to one or more familiar areas, as the Greenland area, Labrador area, Northeast Newfoundland Shelf, Grand Bank, Flemish Cap, St. Pierre Bank, Scotian Shelf, Gulf of St. Lawrence, Georges Bank, Gulf of Maine, New England area, North Sea, Barents Sea, Iceland area, etc.

Author Headings

All papers referenced in the subject index are indexed by author in the second part of this publication. The names of all authors and co-authors are included when they were known. Reports of meetings sponsored by ICNAF and/or one or more other organizations are indexed under such headings as ICNAF, ICES, FAO, etc. Articles originating in the Secretariat are indexed under the heading "ICNAF Secretariat". Each author's name is followed by a country name or an appropriate abbreviation of the country name in parentheses. Papers without specific authorship are indexed under the heading "ANON" (anonymous), followed by the name of the country in parentheses.

Format Used in Indexing

Each of the ICNAF publications indexed in this publication is identified by a 2-character code, followed by arabic numerals to designate the actual volume number, issue number, or year of issue, the last being given in parentheses. The numerals following the colon (:) represent the first page number for the referenced paper, and this is followed in parentheses by a shortened version of the title or an expression which indicates to the reader the object of the referenced paper. For brevity, many ungrammatical expressions are used, some of which require the subject headings to be read into them in order for the expression to make sense. Examples of references with their descriptive expressions are as follows:

AR 4 : 67 (the waters of the Convention Area)
 RB 6 : 26 (catch/effort relations in cod stocks)
 R2(73): 59 (Polish research report, 1972)
 SE 5 : 25 (feeding of *Illex* in Newfoundland area)
 SP 7 :187 (feeding of cod and redfish larvae)

Abbreviations Used in Indexing

The following abbreviations are used for the indexed publications:

AR - Annual Report, Annual Proceedings (Vol. 1-29)
 MP - Meeting Proceedings (1951-79)
 RB - Research Bulletin (No. 1-14)

- R - Redbook (1958-61, 1974-79)
- R1 - Redbook Part I (1962-73)
- R2 - Redbook Part II (1962-73)
- R3 - Redbook Part III (1962-73)
- R4 - Redbook Part IV (1967)
- SE - Selected Papers (No. 1-6)
- SP - Special Publication (No. 1-11)

Abbreviations commonly used for some countries (and provinces or states), international agencies and standing committees are as follows:

- CWP - Coordinating Working Party on Atlantic Fishery Statistics
- EEC - European Economic Community
- FAO - Food and Agriculture Organization of the United Nations
- FRG - Federal Republic of Germany
- GDR - German Democratic Republic
- ICCAT - International Commission for the Conservation of Atlantic Tunas
- ICES - International Council for the Exploration of the Sea
- ICNAF - International Commission for the Northwest Atlantic Fisheries
- ICSEAF - International Commission for the Southeast Atlantic Fisheries
- IOC - International Oceanographic Commission
- NB - New Brunswick
- NEAFC - Northeast Atlantic Fisheries Commission
- Nfld - Newfoundland
- NS - Nova Scotia
- OECD - Organization for Economic Cooperation and Development
- Que - Quebec
- STACFAD - Standing Committee on Finance and Administration
- STACREM - Standing Committee on Regulatory Measures
- STACRES - Standing Committee on Research and Statistics
- STACTIC - Standing Committee on International Control
- UK - United Kingdom
- USA - United States of America
- USSR - Union of Soviet Socialist Republics

In many of the references the term "re" is used to imply "in relation to" or "in connection with". Major geographical regions of the Atlantic Ocean are designated by the letters N (north), E (east), S (south), W (west), NE (northeast), NW (northwest), and other abbreviations used in connection with species are G. halibut (Greenland halibut), A. plaice (American plaice), R. grenadier (roundnose grenadier), etc.

ACKNOWLEDGEMENTS

In the planning of this publication, the advice of Mr L. R. Day, Executive Secretary of ICNAF, was frequently sought and is gratefully acknowledged. Thanks are also due to all members of the Secretariat staff who assisted in the final preparation of this publication through typing, checking references, proofreading, and finally the printing.

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- HODDER, V. M. 1975. Index and list of titles of ICNAF publications, 1950-1974. *ICNAF Spec. Publ.* No. 11, 125 p.
- HODDER, V. M. 1978. Index and list of titles of meeting documents, 1965-1974. *ICNAF Index Meet. Doc.* No. 2, 140 p.
- HODDER, V. M. 1979a. Index and list of titles of meeting documents, 1950-1964. *ICNAF Index Meet. Doc.* No. 1, 67 p.
- HODDER, V. M. 1979b. Index and list of titles of meeting documents, 1975-1979. *ICNAF Index Meet. Doc.* No. 3, 117 p.

SUBJECT INDEX

A

Abundance; Abundance index

- RB 1 : 5 (yellowtail off New England, 1942-61)
 43 (haddock off SW Nova Scotia, 1956-61)
 2 : 31 (cod fishery off Nfld and Labrador)
 53 (zooplankton in Nfld area, 1958-61)
 3 : 55 (haddock fishery trends in SA 3)
 70 (estimating fish schools by acoustics)
 4 : 41 (*Calanus* in NW Atlantic, 1958-61)
 6 : 26 (catch/effort for N Atlantic cod stocks)
 47 (yellowtail stocks off New England)
 7 : 15 (forecasting cod re temperature in SA 1)
 8 : 15 (assessment of SA 1 cod stock)
 27 (*Sebastes* larvae in N Atlantic)
 49 (haddock on eastern Scotian Shelf)
 75 (re assessment of cod stock in SA 2)
 9 : 51 (Gulf St. Lawrence cod fishery, 1960-70)
 75 (assessment of S Nfld cod stock)
 81 (fluctuations in chlorophyll)
 117 (assessment of E Scotian Shelf cod)
 10 : 5 (yellowtail in SA 5 research surveys)
 53 (groundfish in Faroe Bank survey)
 83 (*G. halibut* stocks in NW Atlantic)
 141 (larval herring over egg beds in SA 5)
 11 : 61 (plankton in recorder surveys, 1961-71)
 111 (witch flounder eggs and larvae in SA 2 to 5)
 12 : 5 (mackerel in surveys off USA coast)
 91 (cod and redfish on Flemish Cap)
 13 : 31 (year-class success in Grand Bank haddock)
 81 (factors affecting catchability of trawls)
 14 : 73 (diurnal variation in witch catches in SA 3)
 85 (year-class fluctuations in Div. 3P haddock)
 R3(62): 31 (plankton in recorder surveys off Nfld)
 43 (larval redfish in N Atlantic, 1961)
 56 (plankton in SA 3 to 5, 1960-61)
 (65):178 (beaked redfish in SA 3)
 (66): 3 (working group report on SA 1 cod, 1966)
 (67): 26 (year-class fluctuations in SA 1 cod)
 (68): 3 (fluctuations in cod off Labrador)
 (69): 10 (assessing stock size of cod in SA 1)
 129 (indices from surveys in SA 4 and 5, 1968)
 144 (indices from USA-USSR surveys, 1968)
 (70): 56 (young cod abundance off Nfld)
 84 (haddock stocks in Div. 4T, 4V and 4W)
 159 (indices from USA-USSR surveys, 1969)
 (71):147 (scallop fishery on Georges Bank)
 211 (yellowtail from surveys in SA 5 and 6)
 221 (yellowtail from pre-recruit surveys)
 229 (indices for cod and haddock in SA 4)
 239 (indices for cod in Subdiv. 3Ps)
 249 (accuracy of indices from trawl surveys)
 (72): 35 (assessment of cod in Div. 2J+3KL)
 49 (red hake in SA 5 and 6, 1965-72)
 73 (assessment of yellowtail in Div. 3LN)
 (73): 37 (cod stocks in Div. 3NO and 3Ps)
 45 (evaluation of indices for cod in SA 2 and 3)
 79 (assessment of flatfishes on Scotian Shelf)
 105 (re stock size of Georges Bank herring)
 127 (capelin in Nfld waters)
 145 (assessment of squids in SA 5 and 6)
 SE 1 : 19 (diurnal variation in redfish in Div. 3P)
 41 (silver hake stock on Scotian Shelf)
 73 (grenadier stocks in SA 0 to 3)
 89 (plankton communities in Gulf of Maine)
 141 (environmental fluctuations re fisheries)
 171 (recruitment re cod stock in Div. 4T)
 2 : 15 (pollock in Div. 4VWX and SA 5)
 33 (mackerel abundance in SA 5 and 6)
 85 (*Illex* and *Loligo* in SA 5 and 6, 1963-74)
 3 : 33 (silver hake stock in Div. 4VWX)
 45 (indices for mackerel in SA 5 and 6)
 49 (indices for mackerel from survey data)
 57 (herring re temperature in Div. 5Z)
 61 (capelin spawning on SE Shoal, 1976)
 93 (*Illex* on Scotian Shelf, 1970-76)
 4 : 7 (exploitation of shrimp in SA 1)
 16 (data for shrimp from survey in SA 0)
 23 (biomass estimate for shrimp in SA 1)
 31 (assessment of shrimp in SA 1)
 35 (status of shrimp stocks in SA 1)
 47 (USSR studies on shrimp in SA 1, 1976)
 61 (shrimp density by photography in SA 1)
 68 (trawl survey for shrimp in SA 1)
 5 : 7 (environment re cod on Flemish Cap)
 19 (indices for silver hake in Div. 4W)
 61 (density-dependent processes re harp seals)
 6 : 35 (redfish re cod growth in Div. 3M)
 55 (1977 census of harp seals)
 SP 1 :148 (Canadian redfish catches, 1949-58)
 163 (redfish stocks in Iceland area)
 169 (*Sebastes* larvae off California)
 177 (redfish larvae in NE Atlantic)
 195 (redfish larvae in SA 4, 1954-55)
 201 (larval redfish in the N Atlantic)
 216 (redfish in plankton recorder surveys)
 220 (young redfish in Gulf of Maine)
 6 : 53 (Pacific sardine re environment)
 95 (groundfish re temperature in SA 5 and 6)
 131 (cod re temperature in SE Nfld area)
 149 (cod re temperature off Labrador)
 167 (cod re temperature in Div. 3P and 4VW)
 171 (haddock re temperature on Grand Bank)
 189 (haddock re temperature in Subdiv. 3Ps)
 199 (fish and shrimp re temperature in SA 1)
 209 (redfish re temperature in SA 1)
 213 (fish re temperature in Barents Sea)
 225 (cod re hydrography off Spitsbergen)
 291 (plankton re environment in N Atlantic)
 309 (redfish larvae in N Atlantic)
 317 (haddock larvae in Gulf of Maine)
 397 (Arcto-Norwegian cod re environment)
 411 (food organisms re feeding of cod larvae)
 417 (redfish larvae in Irminger Sea)
 535 (changes in Gulf St. Lawrence cod - Abstr.)
 541 (zooplankton and fishery problems)
 565 (stock density of haddock in Barents Sea)
 597 (herring re photography in SA 4 and 5)
 611 (zooplankton in Gulf of Maine, 1963)
 625 (herring larvae along Maine coast)
 7 :127 (cod eggs and larvae in NORWESTLANT surveys)
 145 (redfish larvae in NORWESTLANT surveys)
 157 (young redfish in recorder surveys, 1963)
 8 :167 (variability in plankton in N Atlantic)
 10 : 79 (iceberg numbers off Nfld, 1972)
 95 (plankton in recorder surveys, 1972)
- Acanthocephalans (spiny-headed worms)
 SE 6 : 41 (parasites of flounders in NW Atlantic)
- Acanthochondria cornuta (crustacean)
 SE 6 : 41 (parasite of wolffishes and flounders)
- Acanthopsolus anarhichae (trematode)
 SE 6 : 41 (parasite of wolffishes in NW Atlantic)

Acartia spp. (copepod)

- SP 6 :611 (seasonal distribution in Gulf of Maine)
8 :167 (distribution in recorder surveys)

Acoustics (see Hydroacoustics)Administrative reports (see ICNAF Annual reports
Vol. 1-29 in List of Titles)Age; Age composition; Age groups

- AR 9 :103 (cod investigations in SA 2, 1950-58)
RB 1 : 43 (haddock off SW Nova Scotia, 1956-61)
2 : 19 (cod stock on southern Grand Bank)
25 (random vs stratified sampling of cod)
31 (cod fishery off Nfld and Labrador)
48 (heterogeneity in groundfish samples)
73 (life-span re mortality in exploited stocks)
76 (homogeneity in SA 5 haddock samples)
3 : 49 (redfish in Nfld and Labrador areas)
55 (haddock catches in SA 3 fishery)
81 (argentine on Scotian Shelf)
106 (blueback and alewife in SA 5)
4 : 5 (salmon from Labrador Sea and Greenland)
91 (witch flounder off Nova Scotia)
5 : 5 (cod in west Nfld fishery)
49 (herring in SA 5 and adjacent areas)
62 (salmon taken off Nfld, 1966)
99 (haddock in fishery on Scotian Shelf)
6 : 5 (growth of yellowtail off New England)
47 (yellowtail catches off New England)
79 (redfish catches in Nfld area)
107 (growth of silver hake in SA 5)
7 : 5 (growth of A. plaice in SA 5)
52 (growth and mortality from age-length keys)
59 (juvenile herring in Bay of Fundy)
8 : 15 (assessment of W Greenland cod)
49 (haddock stock on Scotian Shelf)
59 (herring catches in Div. 3P and 4T)
67 (herring of SW Nfld and Scotian Shelf)
75 (assessment of Labrador cod stock)
9 : 51 (cod fishery in Div. 4T, 1960-70)
75 (assessment of S Nfld cod stock)
85 (growth of cusk on Scotian Shelf)
109 (growth and mortality of argentine in SA 4)
117 (assessment of Div. 4VSW cod stock)
10 : 5 (yellowtail in SA 5 survey catches)
15 (herring from Fortune Bay, Nfld, 1966-71)
63 (A. plaice stock on Grand Bank)
99 (A. plaice stock off Cape Breton, NS)
107 (growth of sand lance on Scotian Shelf)
11 : 37 (harp seal samples from NW Atlantic)
43 (S Gulf St. Lawrence herring stock)
93 (harp seals in SA 1, 1953-72)
107 (assessment of cod in Div. 3NO)
125 (yellowtail in Div. 3LNO)
135 (hooded seals off NE Nfld)
145 (herring in SW Nfld area, 1965-71)
12 : 29 (re growth of cod in SA 5)
37 (status of redfish in SA 2 and 3)
69 (method of analyzing catch-at-age data)
13 : 5 (G. halibut catches in SA 2 to 4)
21 (capelin ecology in SA 2 and 3)
31 (re growth of haddock on Grand Bank)
53 (re maturity of haddock on Grand Bank)
14 : 77 (re maturity of haddock in Div. 3P)
85 (re growth of haddock in Div. 3P)
R3(65):178 (redfish in Nfld area)
(66): 3 (cod in W Greenland area, 1966)
(67): 3 (utilization of SA 1 cod stocks)
22 (re growth of cod off Labrador)
26 (year-class fluctuations in SA 1 cod)

- 39 (herring on Georges Bank, 1966)
53 (salmon in Maine rivers, 1962-66)
(68): 53 (herring on Georges Bank, 1967)
(69): 3 (cod stock in Div. 2J and 3K, 1963-68)
23 (herring catches in SA 4 to 6, 1968)
96 (age-length key studies)
(70): 49 (cod stock on Flemish Cap)
56 (young cod in surveys off Nfld)
153 (redfish by depth on Flemish Cap)
(71):105 (herring catches at SW Nfld, 1965-70)
125 (roundnose grenadier stocks, 1967-70)
157 (harp seal catches in NW Atlantic)
185 (Norwegian studies on seals off Nfld)
(72): 35 (assessment of cod in Div. 2J+3KL)
55 (red hake stocks in SA 5 and 6)
73 (status of yellowtail in Div. 3LN)
(73): 41 (re length and weight for SA 1 cod)
51 (re growth for cod in SA 1)
53 (redfish by depth in SA 2 and 3)
79 (flatfish catches on Scotian Shelf)
101 (white hake in SA 3, 1969-72)
105 (herring stock on Georges Bank)
109 (herring stocks in SA 3 and 4)
121 (capelin stocks in SA 2 and 3, 1971-72)
127 (capelin stock on Grand Bank)
137 (re biology of capelin in Nfld area)
SE 1 : 7 (cod fishery in Div. 4VSW)
19 (redfish catches in Div. 3P)
41 (silver hake fishery in Div. 4VWX)
59 (summer flounder in SA 5 and 6)
2 : 11 (witch flounder in Subdiv. 3Ps)
15 (pollock in Div. 4VWX and SA 5)
45 (roundnose grenadier in SA 0 to 3)
55 (growth and life cycle of *Illex* and *Loligo*)
85 (squid catches in SA 5 and 6, 1963-74)
3 : 7 (dynamics of cod in Div. 3PN+4RS)
23 (witch flounder in Div. 2J+3KL)
33 (re growth of silver hake in Div. 4VWX)
61 (capelin spawning on SE Shoal, 1976)
73 (butterfish in SA 5 and 6)
79 (variation in mackerel in SA 5 and 6)
5 : 11 (length-at-age for silver hake in Div. 4VWX)
61 (composition of harp seal stock)
SP 3 : 12 (re biology of Pacific Ocean perch)
258 (redfish in Gothaab Fjord, Greenland)
285 (redfish in Barents Sea)
291 (*Sebastes viviparus* from Norway)
6 :515 (haddock re fecundity in SA 3)
557 (cod growth re temperature in SA 1)
565 (haddock growth in Barents Sea)
7 :251 (re 1963 year-class success in SA 1)

Age determination; Age validation

- RB 1 : 22 (cod otolith exchange, 1963)
36 (gadoid otolith photography)
79 (mechanical aids for otolith reading)
82 (photographing cod otoliths)
2 : 5 (standard terminology for age reading)
19 (validity of otolith ages for Div. 3NO cod)
78 (sawing otoliths for age reading)
3 :103 (validity of otolith ageing in A. plaice)
4 : 91 (ageing witch flounder by otoliths)
116 (validity of ageing SA 2 cod by otoliths)
5 : 5 (ageing west Nfld cod by otoliths)
6 : 5 (re growth of yellowtail in SA 5)
79 (age and growth of redfish in Nfld area)
107 (ageing silver hake by otoliths)
9 : 85 (ageing cusk in SA 4 by otoliths)
R3(63):131 (standard terminology for age readers)
135 (ageing whiting by otoliths)
(65):145 (age analysis from cod otolith exchange)
(68): 7 (ageing cod from otolith photographs)

- 53 (otolith ageing of SA 5 herring)
 (71):125 (ageing roundnose grenadier in SA 0 to 3)
 SE 1 : 41 (problems re analysis of silver hake data)
 3 : 73 (ageing of butterfish in SA 5 and 6)
 5 : 11 (ageing of silver hake from otoliths)
 SP 1 :113 (report on methods for age and growth)
 139 (instrumentation in fishery research)
 151 (methods used in fishery research)
 179 (cod by fin rays and otoliths)
 191 (consistency in haddock scale reading)
 199 (haddock scale-otolith comparisons - Abstr.)
 201 (haddock by otoliths and scales)
 207 (cod and haddock by otoliths)
 215 (redfish from Gulf of Maine - Abstr.)
 217 (age and growth of redfish)
 223 (otoliths of *Sebastes* species)
 227 (redfish in Nfld area - Abstr.)
 229 (Lee's phenomenon in haddock and plaice)
 243 (Lee's phenomenon in SA 5 haddock)
 3 : 90 (USSR studies on redfish growth)
 253 (age and growth of redfish in N Atlantic)
 262 (redfish in Gulf of Maine)
 276 (redfish in Hermitage Bay, Nfld)
 285 (redfish in Barents Sea)
 291 (young *Sebastes viviparus* from Norway)
 297 (otoliths of 0-group redfish)

Ageing techniques (meeting reports)

- R (58): 35 (subcommittee on age determination, 1958)
 (59): 48 (subcommittee on cod otolith exchange)
 (60): 37 (subcommittee on ageing techniques, 1960)
 (61): 48 (subcommittee on ageing techniques, 1961)
 R1(62): 46 (working group on ageing techniques, 1962)
 (63): 47 (working group on ageing techniques, 1963)
 (64): 33 (subcommittee on ageing techniques, 1964)
 (65): 71 (subcommittee on ageing techniques, 1965)
 (66): 83 (subcommittee on ageing techniques, 1966)
 (67): 76 (subcommittee on ageing techniques, 1967)
 (68): 87 (subcommittee on ageing techniques, 1968)
 SE 2 :154 (cod ageing workshop, Oct 1975)

Albacore (see Tuna, albacore)

Alewrie (*Alosa pseudoharengus*)

- RB 3 :106 (characteristics of Georges Bank stock)
 SE 5 : 49 (mesh selection studies in Div. 4VWX)

Alosa aestivalis (see Blueback herring)

Alosa pseudoharengus (see Alewife)

American angler (see Angler, American)

American lobster (see Lobster, American)

American plaice (see Plaice, American)

Amino acids (see Proteins)

Ammodytes spp. (see Sand lance)

Ammonia

- SP 7 : 65 (distribution in NORWESTLANT surveys)

Amphipods (see also under specific names)

- RD 4 : 5 (food of salmon in SA 1 and 2)
 5 : 62 (food of salmon off Nfld)
 9 : 27 (food of salmon in NW Atlantic)
 41 (food of silver and red hakes in SA 5)
 13 : 11 (food of cod in SA 2 to 4)

- R3(62):132 (food of redfish in SA 2 and 3)
 (73): 75 (food of yellowtail in SA 5 and 6)
 121 (food of capelin in SA 2 and 3)
 SP 6 :349 (food of young cod in Barents Sea)
 7 :101 (distribution in NORWESTLANT surveys)

Analyses (see Biochemical; Factor; Mathematical, Production model; Virtual population; etc.)

Anarhichus spp. (see Wolffishes)

Anchovy (*Engraulis* spp.)

- SP 1 :327 (summer spawning in North Sea)
 6 : 53 (distribution re environment in Pacific)

Angler, American (*Lophius americanus*)

- R3(69):144 (in USA-USSR trawl surveys, 1968)
 SP 6 : 95 (distribution re temperature in SA 5 and 6)

Anisakis spp. (nematode)

- RB 4 : 5 (parasite of salmon in SA 1 and 2)
 5 : 62 (parasite of salmon in Nfld area)
 8 : 5 (incidence in NW Atlantic herring)
 59 (in herring from Magdalen I. and SW Nfld)
 67 (in herring from SW Nfld and Scotian Shelf)
 10 : 10 (in herring from Fortune Bay, Nfld)
 79 (in herring and mackerel in SA 6)
 SE 6 : 41 (parasite of wolffishes and flounders)
 SP 3 :111 (parasite of redfish in NW Atlantic)

Annelids

- RB 12 : 23 (food of flounders on Grand Bank)
 13 : 11 (food of cod in SA 2 to 4)
 R3(73): 59 (food of *A. plaice* in Div. 3P and 4V)
 101 (food of white hake in SA 3)

Annual reports (see List of Titles)

Anomalies (hydrographic)

- AR 3 : 69 (hydrography re fish stock fluctuations)
 79 (hydrography re abundance of marine animals)
 4 : 67 (hydrography of ICNAF area waters)
 RB 5 :110 (temperature trends, Nova Scotia to Long I.)
 R3(68): 48 (temperature trends in Gulf of Maine)
 (69): 45 (temperatures in SA 4 and 5, 1962-68)
 57 (hydrographic trends in SA 1, 1968)
 (70): 22 (heat content variations in NW Atlantic)
 31 (temperature conditions in SA 5, 1968-69)
 (71): 17 (hydrographic trends in SA 1, 1970)
 49 (hydrographic conditions in ICNAF area, 1970)
 (72): 11 (hydrographic conditions in SA 2 and 3, 1971)
 (73): 13 (hydrography of SA 2 and 3, 1971-72)
 27 (hydrographic conditions in SA 1, 1972)
 R4(67): 3 (sea and air temperatures since 1950)
 6 (surface temperature trends in N Atlantic)
 24 (temperature variations in SA 4)
 33 (temperatures in Gulf of Maine, 1950-66)
 37 (temperature trends along New England coast)
 48 (surface temperatures in NW Atlantic)
 69 (sea and air temperatures at St. John's, Nfld)
 76 (temperature trends in SA 1 since 1950)
 86 (hydrographic fluctuations in SA 1, 1950-66)
 SE 3 : 57 (temperature re herring spawning in SA 5)
 SP 6 :557 (temperature and cod growth in SA 1)
 795 (sea and air temperatures at St. John's, Nfld)
 807 (long-term temperature trends in SA 4)
 817 (long-term temperature trends in SA 1)
 821 (surface temperatures in N Atlantic, 1976-1961)
 847 (hydrographic changes along USA coast)

- 855 (hydrographic trends in NE Atlantic)
 859 (surface temperatures at St. Andrews, NB)
 869 (water temperatures in Barents Sea)
 8 : 9 (temperatures in N Atlantic, 1960-70)
 35 (hydro-meteorological events in N Atlantic)
 63 (temperature conditions in SA 2 and 3)
 149 (water circulation in NW Atlantic, 1960-69)
 10 : 7 (1972 - an unusual year)
 17 (hydrographic conditions in SA 3, 1951-73)
 33 (temperature conditions in SA 2 and 3, 1971-73)
 69 (circulation in Nfld area, 1972-73)
 79 (international ice patrol operations, 1972)
- Anonyx spp. (gammarid)
 RB 13 : 11 (food of cod in SA 2 to 4)
- Aporocotyle simplex (trematode)
 SE 6 : 41 (parasite of flounders in NW Atlantic)
- Apparatus; Equipment; Instruments
 RB 1 : 36 (gadoid otolith photography)
 74 (auto-lab versus NIO salinometer)
 79 (mechanical aids for otolith reading)
 82 (photographing cod otoliths)
 2 : 42 (the sea-bed drifter)
 78 (sawing otoliths for age reading)
 3 : 70 (estimating fish abundance by hydroacoustics)
 7 : 46 (fishing effort recorder for trawls)
 8 : 45 (Gulf III and Bongo samplers)
 R (61):118 (mesh gauges for measuring codends)
 123 (mesh measuring with different gauges)
 R3(62):141 (ICNAF and Westhoff gauge comparisons)
 (67): 47 (application of mesh measuring gauges)
 SP 1 :139 (instrumentation for fishery research)
 277 (Hardy plankton recorder for surveys - Abstr.)
 4 :359 (for detecting radioactive herring tags)
 362 (for detecting fluorescent pigments in fish)
- Appendicularians
 R3(62):132 (food of redfish in SA 2 and 3)
- Arctic squid (see Squid, Arctic)
- Argentina silus (see Argentine, Atlantic)
- Argentine, Atlantic (*Argentina silus*)
 RB 3 : 81 (characteristics of, on Scotian Shelf)
 9 :109 (growth and mortality on Scotian Shelf)
 R3(69): 79 (size changes from icing and freezing)
 129 (in trawl surveys in SA 4 and 5, 1968)
 (70):159 (in USA-USSR trawl surveys, 1969)
- Ascarophis morrhuae (nematode)
 SE 6 : 41 (parasites of wolffishes and flounders)
- Assessments
 AR 8 : 82 (re proposal for mesh regulation
 11 : Supplement (fishery assessment re regulation problems)
 17 : 48 (conservation of N Atlantic stocks)
 RB 2 : 59 (catch/effort assessment in ICNAF fisheries)
 6 : 26 (catch/effort re Atlantic cod stocks)
 65 (cod stocks off W Greenland)
 7 : 32 (trawl mesh increase re Div. 3NO cod)
 8 : 15 (mortality and stock size in SA 1 cod)
 37 (trawl mesh increase re SA 2 and 3 cod)
 49 (haddock stock in Div. 4VW)
 75 (cod stock off Labrador)
 9 : 51 (cod in Gulf St. Lawrence, 1960-70)
 65 (virtual population analysis of fish stocks)
 75 (cod stocks off southern Nfld)
 117 (cod stocks in Div. 4VW)
 10 : 63 (A. plaice stocks on Grand Bank)
 11 : 5 (status of redfish stocks in SA 3)
 43 (herring stocks in Div. 4T and 3P)
 107 (cod stock in Div. 3NO)
 125 (yellowtail fishery in Div. 3LNO)
 12 : 37 (redfish stocks in SA 2 and 3)
 49 (finfish resources in SA 5 and 6)
 13 : 21 (capelin ecology and surplus yield)
 R3(66): 3 (working group on W Greenland cod, 1966)
 34 (re mesh regulation of SA 1 cod catches)
 48 (re selective closure for SA 1 cod)
 (69): 10 (stock size and catch quota for SA 1 cod)
 (70): 65 (catch/effort for cod in SA 2 and 3)
 84 (haddock stock in Div. 4TVW)
 (71):221 (yellowtail from pre-recruit surveys in SA 5)
 (72): 35 (status of cod stock in Div. 2J+3KL)
 49 (stock abundance of red hake, 1965-72)
 73 (yellowtail stock in Div. 3LM)
 (73): 37 (mortality estimates for Div. 3NO and 3Ps cod)
 71 (catch/effort for A. plaice in SA 3)
 79 (flounder stocks on Scotian Shelf)
 105 (herring stock on Georges Bank)
 145 (status of *Loligo* stock in SA 5 and 6)
 SE 1 : 7 (status of cod stock in Div. 4VSW)
 31 (redfish fishery in Div. 4VWX)
 41 (analysis of silver hake in Div. 4VWX)
 59 (summer flounder stock in SA 5 and 6)
 107 (groundfish resources in SA 2 and 3)
 117 (groundfish resources in Div. 4VWX)
 2 : 11 (witch flounder fishery in Subdiv. 3Ps)
 15 (pollock fishery in SA 4 and 5)
 45 (roundnose grenadier stocks in SA 0 to 3)
 71 (*Illex* and *Loligo* stocks in SA 5 and 6)
 3 : 7 (dynamics of cod stock in Div. 4RS)
 23 (status of witch stock in Div. 2J+3KL)
 4 : 23 (biomass estimate for shrimp in SA 1)
 31 (assessment of shrimp in SA 1)
 35 (status of shrimp stock in SA 1)
 43 (method of estimating TAC for shrimp)
 68 (shrimp biomass from surveys in SA 1)
 5 : 61 (harp seal stocks in Northwest Atlantic)
 SP 1 : 27 (requirements for population dynamic studies)
 77 (dynamic analysis of fisheries)
 97 (need to speed up fish stock analyses)
 2 : 5 (effect of fishing on marine resources)
- Assessments Subcommittee (reports)
 R (58): 25 (report on mesh regulations, 1958)
 (59): 56 (report on mesh regulations, 1959)
 83 (fishery assessment re regulations, 1959)
 (60): 38 (fishery assessment re regulations, 1960)
 (61): 18 (report to STACRES, Jun 1961)
 R1(62): 15 (report to STACRES, Jun 1962)
 (63): 24 (report to STACRES, Jun 1963)
 (64): 61 (report to STACRES, Jun 1964)
 (65): 29 (report to STACRES, Jun 1965)
 (66): 27 (report to STACRES, Jun 1966)
 (67): 28 (report to STACRES, Jun 1967)
 (68): 25 (report to STACRES, Jun 1968)
 (69): 27 (report to STACRES, Jun 1969)
 (70): 33 (report to STACRES, Jun 1970)
 (71): 23 (report to STACRES, Jun 1971)
 (72): 15 (report to STACRES, Jun 1972)
 (73): 8 (report to STACRES, Jan 1973)
 61 (report to STACRES, Jun 1973)
 R (74): 17 (report to STACRES, Jan 1974)

- 77 (report to STACRES, Jun 1974)
 (75): 23 (report to STACRES, Jun 1975)
 (76): 13 (report to STACRES, Sep 1975)
 67 (report to STACRES, Jun 1976)
 (77): 49 (report to STACRES, Jun 1977)
 (78): 51 (report to STACRES, Jun 1978)
 (79): 63 (report to STACRES, Jun 1979)
- Atlantic argentine (see Argentine, Atlantic)
- Atlantic butterfly (see Butterfly, Atlantic)
- Atlantic cod (see Cod, Atlantic)
- Atlantic halibut (see Halibut, Atlantic)
- Atlantic herring (see Herring, Atlantic)
- Atlantic mackerel (see Mackerel, Atlantic)
- Atlantic menhaden (see Menhaden, Atlantic)
- Atlantic Ocean, Central
- SP 6 :247 (effect of environment on tunas - Abstr.)
- Atlantic Ocean, North (references general to the North Atlantic as a whole) (see also under specific areas)
- AR 3 : 69 (hydrography re fish stock fluctuations)
 11 :103 (redfish larvae in plankton recorder surveys)
 17 : 48 (assessment of effects of conservation actions)
 74 (projection of fishing fleets to 1970)
- RB 1 : 39 (redfish over oceanic depths)
 107 (adult redfish over open ocean)
 6 : 26 (catch/effort relations in cod stocks)
 72 (spiny dogfish tagging and migrations)
 8 : 27 (distribution of *Sebastes* larvae)
 11 : 17 (sources of error in catch-effort regulations)
- R3(62): 43 (distribution of young redfish, 1961)
 (71):115 (feeding and migration of grenadiers)
 125 (age and growth of grenadiers)
- R4(67): 6 (sea surface temperature variations)
- SP 1 :217 (age and growth of redfish)
 223 (notes on *S. marinus* and *S. viviparus*)
 289 (drift of fish eggs and larvae)
 313 (distribution of some fish species)
- 3 : 1 (ICES/ICNAF redfish symposium)
 9 (redfish systematics and natural marks)
 28 (racial studies on redfish)
 100 (immunological studies on redfish)
 120 (studies on redfish distribution)
 154 (redfish distribution - Abstr.)
 167 (distribution of redfish larvae)
 201 (Danish studies on redfish distribution)
 216 (redfish larvae in plankton recorder surveys)
 236 (larval stages of *Sebastes* and *Helicolenus*)
 242 (redfish sex and maturity studies)
 245 (gametogenesis and redfish distribution)
 253 (redfish age and growth studies)
 254 (redfish population studies re ageing)
 300 (bibliography of N Atlantic redfish)
- 4 : 1 (N Atlantic fish marking symposium)
- 6 :267 (fish behaviour and distribution re light)
 291 (plankton variation re environment)
 309 (redfish larvae in plankton recorder surveys)
 417 (redfish larvae re temperature)
 523 (year-class success in some stocks)
 757 (wind and wave data from trawlers)
 821 (surface temperature variations, 1876-1961)
 897 (predicting temperature in open ocean)
 903 (forecasting oceanographic conditions)
- 7 : 1 (NORWESTLANT surveys, 1963)
- 8 : 9 (temperature conditions, 1960-70)
 35 (recent hydro-meteorological events)
 89 (ice conditions and drift)
 167 (distribution and abundance of plankton)
 223 (year-class success in cod and haddock)
- Atlantic Ocean, Northeast (see also Barents Sea, Iceland area, Irminger Sea, North Sea, Norwegian Sea, etc.)
- AR 17 : 69 (effect of conservation on cod and haddock)
 83 (control of fishing on several stocks)
- RB 10 : 53 (groundfish survey of Faroe Bank)
- SP 4 : 31 (parasites as biological tags)
 106 (effect of condition on tag return rate)
 156 (efficiency of tags and attachments)
 255 (efficiency of tag recovery and reporting)
 266 (tag reporting efficiency of Dutch vessels)
 327 (tagging long-finned tuna in Biscay Bay)
 336 (tagging methods in herring research)
- 5 : 18 (selection data for synthetic fibres)
 97 (escapement in different parts of trawl)
 116 (analysis of haddock selection data)
 156 (differing selectivities of trawls)
 158 (selection in different parts of trawl)
 171 (selection re effect of small-mesh covers)
 185 (methods used in selection experiments)
 189 (selectivity of longlines)
 218 (selectivity of trawls and drift-nets)
- Atlantic Ocean, Northwest (see also Baffin I., Davis Strait, Flemish Cap, Georges Bank, Grand Bank, Greenland, Gulf of Maine, Gulf of St. Lawrence, Labrador, New England, Newfoundland, Northeast Nfid Shelf, Scotian Shelf, St. Pierre Bank, etc.)
- AR 4 : 67 (waters of the ICNAF Convention Area)
 8 : 83 (summary of gear selection data)
 17 : 57 (effect of conservation on cod and haddock)
- RB 2 : 59 (catch/effort assessment for some fisheries)
 4 : 41 (seasonal distribution of *Calanus*)
 10 : 23 (spawning grounds of *A. plaice*)
 83 (distribution and abundance of *G. halibut*)
- 11 : 61 (plankton recorder surveys, 1961-71)
- R3(62): 79 (delineation of cod stocks)
 124 (delineation of haddock stocks)
 (69):124 (description of FAO fishery area 21)
 (71): 83 (haddock spawning stocks)
 157 (production of harp seals)
 275 (summary of NORWESTLANT surveys, 1963)
- R4(67): 3 (sea and air temperature variations, 1950-66)
 48 (surface temperature and pressure anomalies)
- SE 1 : 73 (distribution of grenadiers)
 2 :154 (report of cod ageing workshop, Oct 1975)
 3 :109 (ICNAF standard oceanographic stations)
 5 : 37 (standard data collection for *Illex*)
 61 (density-dependent processes in harp seals)
 6 : 41 (parasites of wolffishes and flounders)
 55 (1977 census of harp seals)
- SP 1 :333 (identification of haddock stocks - Abstr.)
 339 (report on knowledge of *A. halibut*)
 3 : 56 (vertebral numbers in redfish)
 111 (parasitological tags of redfish)
 118 (serological studies on redfish - Abstr.)
 119 (*Sphyrion lumpi* on redfish - Abstr.)
- 6 : 29 (recent hydrographic conditions)
 781 (bottom topography and trawling)
- 7 : 1 (NORWESTLANT surveys, 1963)
- 8 : 1 (symposium on environmental conditions)
 129 (bottom marine geology studies)
 149 (water circulation, 1960-69)
 187 (chemical basis for phytoplankton blooms)
- 10 : 7 (1972 - an unusual year)
 95 (plankton recorder surveys, 1972)

Atlantic redfish (see Redfish, Atlantic)
Atlantic sailfish (see Sailfish, Atlantic)
Atlantic salmon (see Salmon, Atlantic)
Atlantic saury (see Saury, Atlantic)
Atmospheric circulation (see Circulation, atmospheric)
Atmospheric pressure (see Pressure)
Australia
 SP 4 : 50 (methods used in tagging marine animals)
Availability (see Abundance; Catches)

B

Baffin Island area (Subarea 0) (see also Davis Strait)
 AR 4 : 67 (the waters of the ICNAF Convention Area)
 RB 10 : 83 (distribution and abundance of G. halibut)
 SE 2 : 45 (assessment of grenadier stocks in SA 0 to 3)
 4 : 16 (data on shrimp from a trawl survey)
 SP 3 : 157 (redfish distribution, 1959)
 8 : 71 (growth and decay of glaciers)
 129 (studies on bottom marine geology)
Balaenoptera physalus (see Whale, fin)
Baltic Sea (Northeast Atlantic)
 SP 6 : 381 (cod and herring recruitment re environment)
 541 (zooplankton production re fisheries)
Barents Sea (Northeast Atlantic)
 RB 6 : 26 (catch/effort relations in cod stocks)
 SP 1 : 201 (ageing haddock by otoliths)
 207 (fish otoliths and age determination)
 281 (distribution of larval cod)
 3 : 28 (racial studies on redfish)
 45 (typing redfish by otoliths)
 90 (review of USSR redfish studies)
 94 (*S. viviparus* and the redfish problem)
 177 (distribution of redfish larvae)
 188 (redfish larvae re hydrography)
 285 (age and growth of redfish)
 291 (growth of *Sebastes viviparus*)
 297 (otoliths of 0-group redfish)
 6 : 213 (fish distribution re temperature)
 221 (temperature as factor in fish migration)
 225 (cod distribution re hydrography)
 349 (factors affecting cod recruitment)
 355 (drift migrations and fish distribution)
 363 (survival of young re year-class strength)
 373 (factors affecting cod year-class strength)
 397 (year-class strength of cod)
 411 (plankton and feeding of cod larvae)
 477 (young salmon survival re environment)
 523 (year-class strength re fish stocks)
 565 (haddock growth and stock density)
 691 (endocrine changes re cod migration)
 717 (reactions of cod to temperature)
 747 (supercooling and osmoregulation in fish)
 791 (changes in benthos off Spitsbergen)
 869 (factors affecting temperature conditions)
 8 : 223 (year-class success in cod and haddock)

Bathymograph

RB 7 : 46 (fishing effort recorder for trawls)

Bathymetry

 (see Topography)

Bathypolypus spp.

 (cephalopod)

RB 13 : 11 (food of cod in SA 2 to 4)

Bay of Fundy

 (Subarea 4)

AR 3 : 57 (groundfish stocks in SA 4)
 4 : 67 (waters of the Convention Area)
 RB 1 : 43 (haddock fishery in SA 4, 1956-61)
 7 : 8 (haddock tagging off Digby, NS)
 19 (coastal currents in Gulf of Maine)
 59 (biology of juvenile herring)
 8 : 5 (larval nematodes in herring)
 R3(67): 69 (salmon tagging in E Canada, 1964-65)
 (70):134 (events in Canadian herring fisheries)
 148 (vertebral numbers in juvenile herring)
 (71): 93 (retention of Nova Scotia herring larvae)
 (73):119 (length-weight relation for herring)
 R4(67): 24 (temperature trends at St. Andrews, NB)
 SP 3 : 195 (summer distribution of redfish larvae)
 6 : 579 (effect of light on herring movements)
 807 (long-term variations in temperature)
 859 (temperature conditions since 1921)

Behavior

 (see also under such headings as Diurnal effects, Food, Light, Migration, Reproduction, Schooling, Spawning, Temperature, etc.)

6 : 75 (effect of environment on tuna)
 249 (reaction of fish to currents)
 267 (reaction of fish to light)
 317 (young haddock in Gulf of Maine)
 435 (effect of food on cod in SA 1)
 439 (vertical migrations of cod in SA 4)
 449 (cod and haddock re food in SA 2 and 3)
 645 (effect of oxygen on shoaling fish)
 647 (effect of light change on fish)
 663 (endocrine environment relations in fish)
 691 (cod affected by endocrine changes)
 753 (optomotor response and fish schooling)
 775 (re environment and fishing activity)

Benthos

SP 6 : 501 (food of groundfish in SA 5)
 791 (recent changes, off Spitsbergen)

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R (60): 77 (studies on Atlantic halibut)
 SP 3 : 300 (studies on N Atlantic redfish)

Bigeye tuna

 (see Tuna, bigeye)

Billfish

 (see Saury, Atlantic)

Biochemical analysis

RB 4 : 59 (hemogglutinins in marine fishes)
 5 : 44 (serum proteins of redfish re maturation)
 86 (serum proteins re redfish types)
 SP 3 : 51 (identification in Pacific *Sebastes*)
 100 (immunological studies on redfish)
 104 (studies on N Atlantic redfish problem)
 118 (serology studies on redfish - Abstr.)
 4 : 308 (blood groups re fish population studies)

Biological Surveys Subcommittee (see also Coordinated Surveys)

- R (75): 65 (report to STACRES, Jun 1975)
 (76):119 (report to STACRES, Jun 1976)
 (77): 71 (report to STACRES, Jun 1977)
 (78): 75 (report to STACRES, Jun 1978)
 (79): 85 (report to STACRES, Jun 1979)

Biological tags (see Tags, biological)Biomass (see Stock size; Abundance)Blue whiting (see Whiting, blue)Blueback herring (*Alosa aestivalis*)

- RB 3 :106 (characteristics of, on Georges Bank)

Bluefin tuna (see Tuna, bluefin)Body proportions (see Morphometrics)Bongo sampler

- RB 8 : 45 (selectivity of Bongo and Gulf III)
 10 :141 (use in SA 5 larval herring surveys)
 R3(68): 75 (catching efficiencies of Bongo and Gulf III)
 (70):123 (use in Georges Bank herring egg survey)

Brachyphallus crenatus (trematode)

- SE 6 : 41 (parasite of flounders in NW Atlantic)

Brevoortia tyrannus (see Menhaden)Brosme brosme (see Cusk)Buccinum spp. (mollusc)

- RB 13 : 11 (food of cod in SA 2 to 4)
 SP 4 :176 (marking experiments by painting)

Butterfish, Atlantic (*Peprilus triacanthus*)

- R3(69):129 (in USSR trawl surveys in SA 5, 1968)
 (73):163 (mixture of species in SA 5 and 6)
 SE 3 : 73 (study of age and growth in SA 5 and 6)
 SP 6 : 95 (distribution re temperature in SA 5 and 6)

By-catch

- RB 12 : 83 (yield allocation in multi-species fisheries)
 R3(73):217 (management of mixed species fisheries)
 SE 4 : 16 (with shrimp in survey off Baffin Island)
 35 (in squid fishery of SA 5 and 6)
 6 : 27 (in shrimp fishery of SA1, 1977-78)

CCabot Strait (see also Laurentian Channel)

- RB 10 : 99 (age and growth of A. plaice off Cape Breton)
 14 : 5 (cod migrations in Nfld area from tagging)
 R3(69): 45 (hydrographic observations, 1962-68)
 (70): 37 (hydrographic observations, 1969)
 (71): 29 (hydrographic observations, 1970)
 (72): 11 (hydrographic observations, 1971)

Calanus spp. (copepod)

- RB 2 : 53 (seasonal distribution in Nfld area)
 4 : 41 (seasonal distribution in ICNAF area)
 11 : 61 (plankton recorder surveys, 1961-71)
 R3(62): 31 (distribution in plankton records off Nfld)
 47 (in plankton surveys, Nfld to Boston)
 56 (distribution in SA 3 to 5, 1960-61)
 (71):275 (summary of NORWESTLANT surveys, 1963)
 (73):121 (food of capelin in SA 2 and 3)
 SE 5 : 43 (food of herring larvae in SA 5, 1965-75)
 SP 3 :199 (food of redfish in Iceland area)
 6 :289 (food of redfish larvae in N Atlantic -Abstr.)
 303 (food of young redfish in Irminger Sea)
 397 (food of cod larvae in NE Atlantic)
 411 (food of cod larvae in Barents Sea)
 583 (food of herring stocks in N Atlantic)
 611 (seasonal distribution in Gulf of Maine)
 7 :101 (distribution in NORWESTLANT surveys, 1963)
 123 (distribution in plankton recorder surveys)
 187 (food of cod and redfish larvae)
 8 :167 (plankton recorder surveys in N Atlantic)
 10 : 95 (plankton recorder surveys, 1972)

Caligus spp. (copepod)

- R (58): 36 (need for studies on parasites of cod)

Canada

- AR 3 : 25 (research report for 1952)
 4 : 23 (research report for 1953)
 5 : 19 (research report for 1954)
 6 : 21 (research report for 1955)
 7 : 21 (research report for 1956)
 8 : 19 (research report for 1957)
 9 : 20 (research report for 1958)
 10 : 19 (research report for 1959)
 11 : 23 (research report for 1960)
 R2(62): 3 (research report for 1961)
 (63): 3 (research report for 1962)
 (64): 3 (research report for 1963)
 (65): 3 (research report for 1964)
 (66): 3 (research report for 1965)
 (67): 3 (research report for 1966)
 (68): 3 (research report for 1967)
 (69): 3 (research report for 1968)
 (70): 3 (research report for 1969)
 (71): 3 (research report for 1970)
 (72): 5 (research report for 1971)
 (73): 5 (research report for 1972)

Capelin (*Mallotus villosus*)

- AR 3 : 79 (abundance re hydrographic changes)
 RB 4 : 5 (food of salmon in SA 1 and 2)
 9 : 27 (food of salmon in Nfld area)
 11 : 61 (larvae in plankton surveys, 1961-71)
 13 : 11 (predation of cod on capelin in SA 2 to 4)
 21 (ecology and surplus yield in SA 2 and 3)
 R3(62):132 (food of redfish in SA 2 and 3)
 (65):194 (food of salmon at W Greenland)
 (73):121 (USSR studies in SA 2 and 3, 1971-72)
 127 (Norwegian studies in SA 3)
 137 (Canadian studies in Nfld area)
 SE 3 : 61 (spawning stock on Grand Bank)
 SP 6 :137 (mass mortality re temperature in SA 3)
 171 (food of haddock on Grand Bank)
 221 (temperature as factor in migration)
 435 (food of cod at W Greenland)

- 439 (food of cod in Gulf St. Lawrence)
 449 (food of cod and haddock in SA 2 and 3)
 7 :163 (larvae in NORWESTLANT surveys)
 10 : 95 (larvae in plankton surveys, 1972)
- Capillaria katabai (nematode)
- SE 6 : 41 (parasite of wolffishes and flounders)
- Caranx trachurus (see Horse mackerel)
- Carbon, organic
- SP 7 : 65 (distribution in NORWESTLANT surveys, 1963)
 87 (primary production in NORWESTLANT surveys)
 99 (organic particles in NORWESTLANT surveys)
- Carcinides maenas (see Crab, green)
- Catches; Catch/effort
- AR 8 : 99 (Gulf St. Lawrence cod, spring 1958)
 11 : Supplement (assessment re regulation problems)
 15 : 47 (re conservation actions for ICNAF area)
 17 : 48 (state of cod and haddock stocks of N Atlantic)
 57 (re conservation of SA 5 haddock)
 62 (re conservation of SA 1 cod)
 69 (re conservation of NE Atlantic stocks)
 74 (fleet projections for N Atlantic in 1970)
 83 (control of fishing on several stocks)
- RB 1 : 5 (yellowtail off New England, 1942-61)
 28 (catch size re trawl selectivity)
 43 (haddock off SW Nova Scotia, 1956-61)
 2 : 31 (cod fishery off Nfld and Labrador)
 59 (catch/effort relations in some stocks)
 76 (homogeneity in SA 5 haddock catches)
 80 (cod and haddock on E Scotian Shelf)
 3 : 55 (trends in SA 3 haddock fishery)
 4 : 53 (diurnal variation in A. plaice catches)
 67 (offshore and inshore fisheries in SA 2)
 87 (trends for A. halibut in SA 3 and 4, 1954-64)
 5 : 5 (cod fishery in W Nfld area)
 99 (haddock fishery on Scotian Shelf)
 6 : 26 (catch/effort relations for N Atlantic cod)
 47 (yellowtail fishery off New England)
 65 (cod stocks off W Greenland)
 7 : 32 (effect of mesh increase on cod in Div. 3NO)
 8 : 15 (cod stocks off W Greenland)
 37 (effect of mesh increase on SA 2 and 3 cod)
 49 (haddock fishery on E Scotian Shelf)
 75 (assessment of Labrador cod stock)
 9 : 51 (cod in Gulf St. Lawrence, 1960-70)
 75 (assessment of S Nfld cod stock)
 85 (cusk catches on Scotian Shelf)
 117 (cod fishery on E Scotian Shelf)
 10 : 63 (A. plaice fishery on Grand Bank)
 11 : 5 (redfish stocks in SA 3)
 17 (error sources in catch and effort regulation)
 31 (re mortality of cod in Div. 2J+3KL)
 43 (assessment of Gulf St. Lawrence herring)
 93 (harp seal catches in SA 1, 1953-72)
 107 (assessment of cod in Div. 3NO)
 125 (yellowtail fishery in Div. 3LNO)
 12 : 5 (abundance of mackerel off USA coast)
 37 (re effort for redfish in SA 2 and 3)
 49 (effect of fishing on finfish in SA 5 and 6)
 69 (method of analyzing catch-at-age data)
 83 (yield allocation in multi-species fisheries)
 13 : 21 (surplus yield estimates SA 2 and 3 capelin)
 31 (fluctuations in Grand Bank haddock)
 81 (factors affecting trawl catchability)
 14 : 73 (diurnal variation in witch catches in SA 3)
 85 (fluctuations in St. Pierre Bank haddock)
- R3(65):164 (need for redfish statistics by depth)
 (66): 3 (assessment of W Greenland cod)
 34 (re possible regulation of SA 1 cod)
 48 (re possible closure of SA 1 cod fishery)
 159 (SA 1 salmon fishery effect on Miramichi stock)
 181 (salmon fishery off W Greenland)
 (68): 53 (Georges Bank herring fishery, 1967)
 62 (swordfish fishery in SA 3 to 5)
 67 (implications of Nfld herring fishery)
 89 (trends in Georges Bank scallop fishery)
 (69): 3 (cod fishery in Div. 2J and 3K, 1963-68)
 10 (stock size and catch quota for SA 1 cod)
 23 (herring fishery in SA 4 to 6, 1968)
 (70): 49 (cod stock on Flemish Cap)
 65 (catch/effort relations in SA 2 and 3 cod)
 103 (A. plaice fishery on Grand Bank)
 111 (effect of large mesh on yellowtail fishery)
 134 (events in Canadian herring fisheries)
 (71):105 (herring in SW Nfld fishery, 1965-70)
 147 (trends in scallop fishery in SA 5)
 157 (harp seal catches in NW Atlantic)
 221 (yellowtail fishery in SA 5 and 6)
 229 (cod and haddock on Scotian Shelf)
 239 (cod fishery on St. Pierre Bank)
 267 (commercial fish taken on shrimp grounds)
 (72): 35 (assessment of cod stock in Div. 2J+3KL)
 49 (red hake fishery in SA 5 and 6)
 73 (assessment of yellowtail in Div. 3LN)
 (73): 37 (mortality of cod in Div. 3NO and 3Ps)
 71 (catch/effort relation for A. plaice in SA 3)
 79 (flatfish fisheries on Scotian Shelf)
 145 (*Loligo* fishery in SA 5 and 6)
 153 (Canadian squid catches, 1920-68)
 163 (re species mixture in SA 5 and 6)
 209 (factors re catchability in SA 5 and 6)
 217 (by-catch re management of mixed fisheries)
- SE 1 : 7 (assessment of cod in Div. 4VSW)
 19 (diurnal variation in redfish in Div. 3P)
 31 (assessment of redfish in Div. 4VMX)
 41 (analysis of silver hake fishery in SA 4)
 59 (summer flounder fishery in SA 5 and 6)
 73 (grenadier stocks in NW Atlantic)
 107 (status of groundfish resource in SA 2 and 3)
 117 (status of groundfish resource in SA 4)
 2 : 11 (status of witch stock in Subdiv. 3Ps)
 15 (status of mackerel in SA 4 and 5)
 45 (assessment of grenadiers in SA 0 to 3)
 71 (assessment of *Illex* and *Loligo* in SA 5 and 6)
 85 (*Illex* and *Loligo* fisheries in SA 5 and 6)
 111 (variation in catchability coefficients)
 137 (effect of random fluctuations on fisheries)
 3 : 7 (dynamics of cod stock in Div. 4RS)
 17 (redfish by different trawls in Div. 3M)
 23 (witch flounder fishery in Div. 2J+3KL)
 61 (spawning capelin on SE Shoal, 1976)
 79 (composition of mackerel catches in SA 5 and 6)
 4 : 7 (exploitation of shrimp in SA 1)
 16 (shrimp in survey off Baffin Island)
 23 (biomass estimate for shrimp in SA 1)
 31 (assessment of shrimp in SA 1)
 35 (re effort for shrimp in SA 1)
 43 (estimating TAC for shrimp in SA 1)
 45 (diurnal variation in shrimp catches)
 68 (re effort for shrimp in SA 1)
 6 : 27 (re effort for shrimp in SA 1, 1977-78)
- SP 1 : 17 (characteristics of salt cod fishery)
 3 :142 (redfish in groundfish survey in SA 4)
 148 (Canadian redfish fishery, 1949-58)
 251 (sex ratio of redfish catches - Abstr.)
 6 :167 (cod re temperature in Div. 3P and 4VW)
 591 (herring fishery at Magdalen Islands)
 833 (cod re hydrography in SA 4 and 5)

- Catfishes (see Wolffishes)
- Central Atlantic (see Atlantic Ocean, Central)
- Centropages spp. (copepod)
- SE 5 : 43 (food of herring in SA 5, 1965-75)
 SP 6 : 583 (food of herring in NW Atlantic)
 611 (seasonal distribution in Gulf of Maine)
- Cephalopods (see also Squid)
- RB 13 : 11 (food of cod in SA 2 to 4)
 R3(62):132 (food of redfish in SA 2 and 3)
 (73):101 (food of white hake in SA 3)
 SP 7 : 225 (food of redfish in open ocean)
- Ceratomyxa spp. (myxosporidian)
- SE 6 : 41 (parasites of flounders in NW Atlantic)
- Cestodes (tapeworms)
- RB 4 : 5 (parasite of salmon in SA 1 and 2)
 5 : 62 (parasite of salmon in Nfld area)
 SE 6 : 41 (parasites of wolffishes and flounders)
- Cetaceans (see Dolphin, Porpoise, Whale)
- Chaetognaths (arrow worms)
- R3(62): 31 (in plankton surveys off Nfld)
 56 (in plankton surveys in SA 3 to 5)
 132 (food of redfish in SA 2 and 3)
 SP 6 : 611 (seasonal distribution in Gulf of Maine)
 7 : 101 (distribution in NORWESTLANT surveys)
 225 (food of redfish in open ocean)
- Chafer; Chafing gear
- AR 8 : 83 (gear selection information for ICNAF area)
 101 (effect of chafer on haddock escapement)
 9 : 101 (topside chafing gear studies)
 RB 10 : 117 (selectivity with Polish-type chafer)
 R (58): 40 (use of topside codend chafing gear)
 (59): 86 (effect on redfish selection)
 (60): 66 (selection studies using various chafers)
 R3(64):132 (selectivity of flap-type chafer)
 (66):105 (selection with approved ICNAF chafer)
 112 (effect of chafer on selection factor)
 122 (effect of ICNAF chafer on selectivity)
 132 (effect of chafers on trawl selectivity)
 (67): 82 (selection with large mesh chafer)
 90 (selection with large mesh chafer)
 101 (compilation of selection data, 1962-66)
 (68):110 (selection with Polish-type chafer)
 (69):109 (selection studies on Grand Bank, 1967)
- Chars (*Salvelinus* spp.)
- SP 4 : 17 (comparison of tags used in SA 1)
 130 (marking experiments in United Kingdom)
- Charts (see also NORWESTLANT Surveys, Part II)
- AR 1 : 53 (outline chart of the Convention Area)
 R3(69):124 (description of FAO Statistical Area 21)
 SE 3 : 109 (chart of standard oceanographic sections)
- Chionoecetes spp. (decapod)
- RB 13 : 11 (food of cod in SA 2 to 4)
- Chlamys spp. (pelecypod)
- RB 13 : 11 (food of cod in SA 2 to 4)
- Chlorophyll
- RB 9 : 81 (fluctuation in abundance in SA 4 to 6)
 SP 7 : 85 (distribution in NORWESTLANT surveys)
- Chondracanthopsis spp. (copepod)
- SP 3 : 111 (parasite of redfish in NW Atlantic)
- Chromatography
- SP 3 : 100 (studies on redfish mucous)
- Chromatophores (see also Melanophores)
- SE 6 : 7 (pattern in larval *Illex*)
 SP 3 : 234 (in larval stages of redfish)
- Circulation, atmospheric (see also Winds)
- R4(67): 6 (circulation type-tendencies in N Atlantic)
 SP 7 : 19 (meteorology during NORWESTLANT surveys)
 8 : 35 (meteorological events in N Atlantic)
- Circulation, water (see Currents)
- Cladocerans
- SP 6 : 411 (food of cod larvae in Barents Sea)
 611 (seasonal distribution in Gulf of Maine)
 7 : 101 (distribution in NORWESTLANT surveys)
 187 (food of cod and redfish larvae)
- Clavella spp. (copepod)
- R (58): 36 (need for studies on cod parasites)
- Clavellodes rugosa (copepod)
- SE 6 : 41 (parasite of wolffishes in NW Atlantic)
- Clupea harengus (see Herring, Atlantic)
- Clupea pilchardus (see Pilchard)
- Clupea sprattus (see Sprat)
- Coalfish (see Pollock)
- Cod, Atlantic (*Gadus morhua*)
- AR 3 : 57 (identification of major stocks in SA 4)
 63 (knowledge of major stocks in SA 2 and 3)
 69 (fluctuations re hydrographic factors)
 79 (fluctuations re hydrography in SA 2 and 3)
 8 : 83 (summary of trawl selection information)
 99 (spring fishery in Gulf St. Lawrence, 1958)
 9 : 103 (investigations in SA 2, 1950-58)
 11 : Supplement (assessment re regulation problems)
 17 : 48 (assessment of effects of conservation actions)
 62 (effect of conservation on SA 1 cod)
 69 (effect of conservation on NE Arctic stocks)
 83 (control of fishing on several stocks)
 RB 1 : 22 (otolith exchange program, 1962)
 28 (trawl selection and catch size in SA 2)
 36 (gadoid otolith photography)
 82 (photographing cod otoliths)
 2 : 8 (selectivity and girth-length studies in SA 2)

- 19 (otolith age validation for Grand Bank stock)
 25 (random versus stratified sampling for age)
 31 (fishery trends off Nfld and Labrador)
 48 (heterogeneity in catch sampling in SA 4)
 59 (catch/effort assessment of ICNAF stocks)
 80 (fishery trends on E Scotian Shelf)
- 4 : 67 (offshore and inshore Labrador fisheries)
 116 (otolith age validation for SA 2 stock)
- 5 : 5 (biology and fishery of W Nfld stock)
- 6 : 26 (catch/effort relations in N Atlantic stocks)
 53 (experimental snella fishing in SA 1)
 65 (assessment of stock in SA 1)
- 7 : 15 (forecasting distribution off W Greenland)
 32 (effect of trawl mesh increase in Div. 3NO)
- 8 : 15 (fishing mortality and stock size in SA 1)
 37 (effect of mesh increase on SA 2 and 3 stocks)
 75 (assessment of stock in Div. 2J)
- 9 : 51 (fishery in Gulf St. Lawrence, 1960-70)
 75 (assessment of S Nfld stock)
 117 (assessment of E Scotian Shelf stock)
- 10 : 117 (selection with Polish-type chafer)
- 11 : 17 (error sources in catch and effort regulation)
 31 (natural mortality in Div. 2J+3KL stock)
 107 (assessment of stock in Div. 3NO)
- 12 : 29 (growth and mortality in SA 5 stock)
 91 (study of year-class success in Div. 3M)
- 13 : 11 (predation of cod on capelin in SA 2 to 4)
 21 (capelin ecology and cod predation)
- 14 : 5 (migrations in Nfld area from tagging)
- R (58): 36 (need for studies on ectoparasites)
 50 (present and long-term research needs)
 59 (cod otolith exchange program)
- R3(62): 62 (distribution in SA 2 to 4)
 69 (distribution in Nfld-Labrador area)
 79 (delineation of stocks in NW Atlantic)
- (63): 127 (workshop on ageing techniques, 1962)
 131 (standard terminology for otolith readers)
 150 (selection in codends of different materials)
- (64): 132 (trawl selection with flap-type chafer)
- (65): 145 (analysis of otolith exchange data)
 148 (tagging in Greenland area, 1959-64)
 172 (defects in reporting of tags in SA 1)
- (66): 3 (working group on cod in SA 1, 1966)
 34 (effect of regulation on SA 1 stocks)
 48 (effect of closure on SA 1 fishery)
 85 (selection in synthetic codends)
 97 (trawl selection studies in SA 1)
 105 (selection in trawls with ICNAF chafer)
 112 (effect of chafers on selection factor)
 122 (codend selection with ICNAF chafer)
 132 (effect of chafers on trawl selection)
- (67): 3 (efficient use of cod stocks in SA 1)
 22 (growth studies on cod off Labrador)
 26 (year-class fluctuations in SA 1 stocks)
 75 (trawl selection studies in SA 1)
 82 (selection with large mesh chafer)
 101 (compilation of selection data, 1962-66)
- (68): 3 (distribution in Labrador area)
 7 (otolith photograph exchange, 1963-67)
 21 (comparative fishing by research vessels)
 95 (selection in kapron and manila codends)
 110 (selection with Polish-type chafer)
- (69): 3 (catches in Div. 2J and 3K, 1963-68)
 10 (stock size and catch quota in SA 1)
 17 (yield-per-recruit function for SA 1 cod)
 79 (size changes from icing and freezing)
 90 (various length conversion factors)
 109 (selection experiments on Grand Bank, 1967)
 129 (in trawl surveys in SA 4 and 5, 1968)
 144 (in USA-USSR trawl surveys in SA 5, 1968)
- (70): 49 (Div. 3M cod stock for experimental regulation)
 56 (abundance of young off Nfld)
- 65 (catch/effort assessment for SA 2 and 3)
 159 (in USA-USSR trawl surveys in SA 5, 1969)
- (71): 57 (selection in polyamide codends)
 73 (distribution re temperature in SA 1)
 229 (abundance indices for SA 4 stocks)
 239 (abundance indices for Div. 3Ps stock)
 249 (abundance indices from research surveys)
 275 (eggs and larvae in NORWESTLANT surveys)
- (72): 35 (assessment of stock in Div. 2J+3KL)
 39 (diurnal vertical migrations of fishes)
- (73): 37 (mortality of Div. 3NO and 3Ps stocks)
 41 (mean length and weight by age in SA 1)
 45 (abundance of stocks in SA 2 and 3)
 51 (mean length by age groups in SA 1)
 137 (predation on capelin in Nfld area)
 163 (mixture of species in SA 5 and 6)
- SE 1 : 7 (assessment of stock in Div. 4VsW)
 163 (mixed cod and redfish fisheries in SA 2+3K)
 171 (recruitment re management of Div. 4RST stocks)
- 2 : 154 (results of cod ageing workshop, Oct 1975)
- 3 : 7 (dynamics of cod stock in Div. 3Pn+4RS)
- 4 : 35 (by-catch in SA 1 shrimp fishery)
- 5 : 7 (environment re year-classes in Div. 3M)
 47 (mesh selection studies on Scotian Shelf)
- 6 : 27 (by-catch in SA 1 shrimp fishery, 1977-78)
 35 (cod growth re redfish abundance in Div. 3M)
- SP 1 : 17 (characteristics of salt cod fleet catches)
 113 (methods used for age and growth studies)
 179 (ageing by fin rays and otoliths)
 207 (otoliths for age determination)
 281 (larval distribution in Barents Sea)
 313 (distribution in N Atlantic)
 331 (stocks in Nfld-Labrador area - Abstr.)
- 4 : 17 (comparison of tags used in SA 1)
 22 (non-reporting of tags in SA 1)
 66 (tagging data for growth studies in SA 4)
 71 (mortality rates from SA 4 tagging data)
 89 (tags and techniques used in SA 4)
 101 (factors re tag returns in Div. 4X and 5Y)
 106 (effect of fish condition on tag return rate)
 156 (efficiency of various tags and attachments)
 272 (tags and attachments used in Nfld area, 1954-55)
 294 (tags and attachments used in Nfld area, 1950)
 318 (*Lernaecera* as indicator of cod movements)
- 5 : 18 (selection data for synthetic fibres)
 131 (codend and hook selection in SA 4)
 185 (method used in mesh selection studies)
 189 (selection studies using longlines)
 201 (trawl selection studies in Nfld area)
- 6 : 95 (distribution in SA 5 re temperature)
 111 (distribution in SA 4 re temperature - Abstr.)
 131 (effect of low temperatures in Nfld area)
 137 (mass mortalities re temperature in Nfld area)
 149 (distribution re temperature off Labrador)
 167 (distribution re temperature in Div. 3P and 4V)
 199 (distribution re temperature in SA 1)
 213 (distribution re temperature in Barents Sea)
 221 (effect of temperature on migrations)
 225 (distribution re temperature off Spitsbergen)
 267 (effect of light on cod behaviour)
 349 (factors affecting recruitment in Barents Sea)
 355 (drift migrations of young in N Atlantic)
 363 (survival of young re year-class strength)
 373 (factors re year-classes in Barents Sea)
 381 (recruitment variations re environment)
 389 (larvae in SA 1 re currents and temperature)
 397 (year-class success in NE Atlantic cod)
 411 (feeding of larvae re plankton abundance)
 425 (eggs and larvae re temperature in SA 2 and 3)
 435 (effect of food on behaviour in SA 1)
 439 (food and migrations in Gulf St. Lawrence)
 449 (behaviour re food in Nfld-Labrador area)

- 523 (year-class strength in N Atlantic stocks)
 535 (growth and feeding in Gulf St. Lawrence)
 537 (growth re temperature at Iceland)
 545 (growth re temperature in Nfld area)
 557 (growth re temperature in SA 1)
 571 (growth re environment in Barents Sea)
 691 (endocrine changes re migration and maturation)
 717 (physiological reactions to temperature)
 743 (energy metabolism and migrations)
 747 (supercooling and osmoregulation)
 817 (re long-term temperature trends in SA 1)
 827 (re hydrographic variations in SA 1 to 3)
 833 (recruitment re environment in SA 4 and 5)
 7 :127 (eggs and larvae in NORWESTLANT surveys)
 187 (stomach contents of larvae)
 219 (trawl catches in NORWESTLANT surveys)
 251 (strength of 1963 year-class in SA 1)
 8 :223 (year-class success in N Atlantic stocks)
 10 : 17 (effect of hydrographic conditions off Nfld)
- Coelenterates
- RB 12 : 23 (food of flounders on Grand Bank)
- Cohort analysis (see Virtual population analysis)
- Colus spp. (gastropod)
- RB 13 : 11 (food of cod in SA 2 to 4)
- Commission meetings (see List of Titles for complete list of proceedings of annual and special meetings of ICNAF held during 1951-79)
- Common grenadier (see Grenadier, common)
- Comparative fishing
- RB 13 : 81 (factors affecting catchability of trawls)
 R3(68): 21 (by Canadian and FRG research vessels)
- Competition (see also Predation)
- SP 6 : 53 (Pacific sardine re environment factors)
- Conservation (see Management)
- Conservation proposals (see Management proposals)
- Continuous plankton records
- AR 11 :103 (distribution of young redfish, 1955-60)
 RB 8 : 27 (*Sebastes* larvae in N Atlantic)
 11 : 61 (plankton in recorder surveys, 1961-71)
 R3(62): 31 (plankton distribution off Nfld
 43 (*Sebastes* larvae in N Atlantic)
 47 (plankton sampling, Nfld to Boston)
 SP 1 :277 (Hardy recorder for plankton surveys)
 3 :216 (redfish larvae in N Atlantic)
 6 :291 (plankton variation in N Atlantic)
 303 (*Sebastes* larvae in Irminger Sea)
 309 (*Sebastes* larvae in N Atlantic)
 7 : 95 (phytoplankton in NW Atlantic)
 123 (zooplankton in NW Atlantic)
 157 (young redfish in NW Atlantic)
 8 :167 (variability in plankton distribution)
 10 : 95 (plankton in surveys, 1972)
- Contracaecum aduncum (nematode)
- SE 6 : 41 (parasite of flounders in NW Atlantic)
- Conversion factors
- RB 5 :137 (length conversion factors for haddock)
 R3(69): 90 (length conversion factors for cod)
- Coordinated surveys (see also Biological surveys)
- R1(70): 81 (report of working group, Jun 1970)
 (71): 65 (report of working group, Jun 1971)
 (72): 67 (report of working group, Jun 1972)
 (73): 99 (report of working group, Jun 1973)
 R (74): 57 (report of working group, Jan 1974)
 121 (report of working group, Jun 1974)
- Copepods (see also under individual genus names)
- AR 3 : 62 (*Lernaeocera* as biological tag of cod)
 RB 2 : 53 (*Calanus* distribution off Nfld, 1958-61)
 3 :111 (*Sphyrion* as parasite on silver hake)
 4 : 5 (*Lepeophtheirus* as parasite of salmon)
 41 (*Calanus* in NW Atlantic, 1958-61)
 5 : 62 (*Lepeophtheirus* in salmon off Nfld)
 8 : 27 (food of redfish larvae in N Atlantic)
 9 : 41 (food of silver hake in SA 4 and 5)
 11 : 61 (in plankton recorder surveys, 1961-71)
 R (58): 36 (need for studies on cod parasites)
 R3(62): 31 (in plankton surveys off Nfld)
 47 (in plankton surveys, Nfld to Boston)
 56 (in plankton surveys in SA 3 to 5, 1960-61)
 132 (food of redfish off Nfld and Labrador)
 (71):275 (distribution in NORWESTLANT surveys)
 (73):121 (food of capelin in SA 2 and 3, 1971-72)
 SE 5 : 43 (food of larval herring in SA 5, 1965-75)
 6 : 41 (parasite of flounders and wolffishes)
 SP 3 :111 (parasites of redfish in NW Atlantic)
 199 (food of *Sebastes* fry in Iceland area)
 4 :318 (*Lernaeocera* as indicator of cod movements)
 6 :289 (food of *Sebastes* larvae - Abstr.)
 303 (food of redfish in Irminger Sea)
 397 (food of cod larvae in NE Atlantic)
 411 (food of cod larvae in Barents Sea)
 481 (*Sphyrion* on redfish in SA 5)
 583 (food of herring in N Atlantic areas)
 611 (seasonal distribution in Gulf of Maine)
 7 :101 (distribution in NORWESTLANT surveys)
 123 (distribution in plankton recorder surveys)
 187 (food of cod and redfish larvae)
 225 (food of redfish in the open ocean)
 8 :167 (distribution in plankton recorder surveys)
 10 : 95 (in plankton recorder surveys, 1972)
- Corynosoma strumosum (acanthocephalan)
- SE 6 : 41 (parasite of flounders in NW Atlantic)
- Cottus scorpius (see Sculpin)
- Crab, Green (*Carcinus maenas*)
- AR 3 : 68 (distribution re temperature in SA 5 - Abstr.)
- Crab, king (*Paralithodes camchatica*)
- SP 4 : 59 (Bering Sea tagging experiments)
 262 (tagging methods used in Alaska)
- Crabs (general)
- RB 11 : 11 (food of cod in SA 2 to 4)
 SE 5 : 31 (food of *Illex* and *Loligo* in SA 4-6, 1974-75)
 SP 4 :188 (marking for growth and mortality studies)

Crustaceans (see also Amphipods, Cirripedia, Cladocera, Copepods, Decapods, Euphausiids, Isopods, Ostracods, Crabs, Lobsters, Shrimp, etc.)

- RB 12 : 23 (food of flounders in SA 3)
 13 : 11 (food of cod in SA 2 to 4)
 R3(73): 59 (food of A. plaice in Div. 3P and 4V)
 101 (food of white hake in SA 3)
 SE 5 : 25 (food of *Illex* in Nfld area)
 31 (food of *Illex* and *Loligo* in SA 4 to 6)
 6 : 41 (parasites of wolffishes and flounders)
 SP 6 : 449 (food of cod and haddock in Nfld area)
 611 (distribution of eggs in Gulf of Maine)

Ctenophores

- R3(62):132 (food of redfish in SA 2 and 3)
 (73):121 (food of capelin in SA 2 and 3)

Currents

- AR 4 : 67 (waters of the ICNAF Convention Area)
 RB 2 : 42 (sea-bed drifter for bottom currents)
 7 : 19 (coastal currents of Gulf of Maine)
 9 : 81 (re changes in chlorophyll abundance)
 R3(62): 3 (hydrographic conditions in SA 1, 1961)
 14 (hydrographic conditions in SA 2-3, 1961)
 23 (hydrographic conditions in SA 5, 1961)
 (66):143 (hydrographic conditions in SA 1-3, 1965)
 (68): 37 (hydrographic conditions in SA 3, 1967)
 40 (hydrographic conditions in SA 2-3, 1967)
 (69): 39 (hydrographic conditions in SA 3, 1968)
 57 (hydrographic conditions in SA 1, 1968)
 66 (hydrographic conditions in SA 2-3, 1968)
 (70): 3 (hydrographic conditions in SA 1, 1969)
 11 (hydrographic conditions in SA 3, 1969)
 37 (hydrographic conditions in SA 2-5, 1969)
 (71): 5 (hydrographic conditions in SA 3, 1970)
 17 (hydrographic conditions in SA 1, 1970)
 49 (hydrographic conditions in SA 1-3, 1970)
 (72): 11 (hydrographic conditions in SA 2-3, 1971)
 19 (hydrographic conditions in SA 3, 1971)
 27 (water circulation in SA 2 and 3, 1970-71)
 (73): 13 (hydrographic conditions in SA 2-3, 1971-72)
 19 (hydrographic conditions in SA 3, 1972)
 27 (hydrographic conditions in SA 1, 1972)
 SE 1 : 89 (re plankton communities in Gulf of Maine)
 91 (re year-class success of Div. 3M stocks)
 119 (physical oceanography of Georges Bank)
 2 : 145 (Gulf Stream eddies in SA 5 and 6)
 3 : 97 (geostrophic circulation in SA 4 and 5)
 5 : 7 (effect on cod year-classes in Div. 3M)
 6 : 47 (observations on Flemish Cap, 1977-78)
 53 (geostrophic circulation in SA 0 to 3)
 SP 1 : 281 (re cod larvae in Barents Sea)
 289 (egg and larval drift in NE Atlantic)
 3 : 124 (re redfish larvae in Irminger Sea)
 157 (redfish larval drift in Labrador Sea)
 188 (re redfish larvae in Barents Sea)
 6 : 29 (hydrographic aspects of NW Atlantic)
 225 (re cod distribution off Spitsbergen)
 249 (effect on distribution for fish)
 257 (effect on fish migrations)
 335 (dispersal of fish eggs and larvae)
 355 (drift migrations of food fish)
 373 (year-class success of Barents Sea cod)
 389 (distribution of cod larvae in SA 1)
 397 (year-class success of NE Atlantic cod)
 425 (effect on cod eggs and larvae in SA 2 and 3)
 523 (re cod, haddock and herring in N. Atlantic)
 673 (effect on young stages of fish)
 767 (effect on fishing off SE Greenland)
 827 (effect on cod stocks in SA 1 to 3)
 847 (hydrographic changes off USA coast)

- 869 (effect on temperatures in Barents Sea)
 881 (oceanographic forecasting for fisheries)
 903 (oceanographic forecasting in NE Atlantic)
 7 : 31 (studies during NORWESTLANT surveys)
 55 (water movements off Greenland)
 89 (drift of ice in NW Atlantic)
 149 (circulation in N Atlantic, 1960-69)
 223 (re year-class success of cod and haddock)
 8 : 63 (temperature variation in SA 2 and 3)
 89 (ice and its drift in the N Atlantic)
 149 (aspects of circulation in NW Atlantic)
 223 (re year-class success of cod and haddock)
 9 : 7 (drift of polar ice off W. Greenland, 1900-72)
 29 (effect on ice drift off eastern Canada)
 41 (effect on ice pack off E Greenland)
 10 : 7 (1972 - an unusual year)
 17 (hydrographic conditions off Nfld, 1951-73)
 41 (circulation east of the Grand Bank, 1972)
 57 (circulation in Nfld ridge area, 1972)
 69 (circulation in Nfld area, 1972-73)
 79 (international ice patrol operations, 1972)
 121 (circulation east of the Grand Bank, 1973)

Cusk (*Brosme brosme*)

- RB 9 : 85 (biology of cusk on Scotian Shelf)
 SP 1 : 313 (distribution in the N Atlantic)

CWP (Coordinating Working Party on Atlantic Fishery Statistics)

- R3(69):124 (description of FAO fishing area 21)

Cyclopterus lumpus (see Lumpfish)

Cyrtodaria spp. (pelecypod)

- RD 13 : 11 (food of cod in SA 2 to 4)

Cystophora cristata (see Seal, hooded)

D

Davis Strait (Subareas 0 and 1) (see also under Greenland and Baffin Island areas)

- AR 4 : 67 (waters of the ICNAF Convention Area)
 R3(62): 3 (hydrographic conditions, 1961)
 (66):143 (hydrographic conditions, 1965)
 (71): 49 (hydrographic conditions, 1970)
 SE 3 : 16 (data from survey in SA 0, 1977)
 6 : 57 (geostrophic circulation in SA 0 to 3)

Decapods (see also under specific names)

- RB 9 : 41 (food of red hake in SA 4 to 6)
 13 : 11 (food of cod in SA 2 to 4)
 R3(62):132 (food of redfish in SA 2 and 3)
 (73): 75 (food of yellowtail off New England)
 SE 5 : 31 (food of *Illex* and *Loligo* in SA 4-6, 1974-75)
 SP 1 : 611 (distribution of larvae in SA 5)

Denmark

- AR 3 : 28 (research report for 1952)
 4 : 28 (research report for 1953)
 5 : 28 (research report for 1954)
 6 : 27 (research report for 1955)
 7 : 28 (research report for 1956)
 8 : 27 (research report for 1957)
 9 : 31 (research report for 1958)
 10 : 32 (research report for 1959)

- 11 : 37 (research report for 1960)
 R2(62): 33 (research report for 1961)
 (63): 28 (research report for 1962)
 (64): 35 (research report for 1963)
 (65): 36 (research report for 1964)
 (66): 25 (research report for 1965)
 (67): 26 (research report for 1966)
 (68): 24 (research report for 1967)
 (69): 23 (research report for 1968)
 (70): 30 (research report for 1969)
 (71): 27 (research report for 1970)
 (72): 19 (research report for 1971)
 (73): 15 (research report for 1972)

Derogenes spp. (trematodes)

- SE 6 : 41 (parasites of flounders in NW Atlantic)

Developmental stages

- RB 10 : 23 (A. plaice eggs and larvae in SA 2 and 3)
 14 : 67 (maturity and fecundity of *Illex*)
 SP 3 : 234 (larvae of *Sebastes* and *Helicolenus*)

Diatoms

- R3(62): 56 (distribution in SA 3 to 5, 1960-61)

Diptherostomum microacetabulum (trematode)

- SE 6 : 41 (parasite of wolffishes in NW Atlantic)

Discards (discarding fish at sea)

- AR 8 : 99 (in Gulf St. Lawrence cod fishery, 1958)
 RB 9 : 51 (in Div. 4T cod fishery, 1960-70)
 13 : 31 (in haddock fishery on Grand Bank)
 R3(66): 48 (re mesh regulation for cod in SA 1)
 (68): 29 (summary of discards statistics, 1966)
 (69): 115 (summary of discards statistics, 1967)
 (70): 111 (discards in SA 5 yellowtail fishery)
 181 (summary of discards statistics, 1968)
 (71): 297 (summary of discards statistics, 1969)
 (72): 97 (summary of discards statistics, 1970)
 (73): 249 (summary of discards statistics, 1971)
 SE 4 : 35 (in shrimp fishery in SA 1)
 6 : 27 (in shrimp fishery in SA 1, 1977-78)

Discriminant function

- RB 9 : 5 (use in classifying spring and autumn spawning herring by meristics)

Disease

- SP 6 : 603 (of herring stocks in NW Atlantic)

Distribution (see also Abundance)

- AR 3 : 62 (major groundfish stocks in SA 2 and 3)
 68 (marine animals re temperature - Abstr.)
 69 (cod and hydrography in SA 1)
 79 (marine animals re hydrography in SA 2-3)
 11 : 103 (redfish in plankton surveys, 1955-60)
 RB 2 : 53 (zooplankton seasonally off Nfld)
 3 : 26 (redfish fry in Greenland area)
 49 (redfish in Nfld-Labrador area)
 64 (young redfish in SA 2 and 3)
 81 (argentine on Scotian Shelf)
 4 : 41 (*Calanus* in NW Atlantic)
 76 (silver hake re temperature in SA 5 and 6)
 101 (herring re food and temp. in SA 5)

- 5 : 62 (Atlantic salmon off Nfld)
 7 : 15 (cod re temperature at W Greenland)
 8 : 27 (*Sebastes* larvae in N Atlantic)
 10 : 23 (A. plaice eggs and larvae in SA 2 and 3)
 83 (G. halibut in NW Atlantic areas)
 141 (larval herring over egg beds in SA 5)
 11 : 61 (plankton in recorder surveys, 1961-71)
 111 (witch eggs and larvae in SA 2 to 5)
 12 : 5 (mackerel abundance off USA coast)
 R3(62): 31 (zooplankton in Nfld area)
 43 (young redfish in N Atlantic, 1961)
 47 (plankton in surveys in SA 3 to 5)
 56 (plankton in SA 3 to 5, 1960-61)
 62 (cod, haddock and redfish in SA 2 to 4)
 69 (cod and haddock in SA 2 and 3)
 79 (cod stocks in NW Atlantic)
 124 (haddock stocks in NW Atlantic)
 (68): 3 (cod stocks in Labrador area)
 67 (herring fishery in Nfld area)
 89 (sea scallops on Georges Bank)
 (69): 129 (species in surveys in SA 4 and 5, 1968)
 144 (species in USA-USSR surveys, 1968)
 (70): 56 (cod in surveys off Nfld)
 153 (redfish by depth on Flemish Cap)
 159 (species in USA-USSR surveys, 1969)
 (71): 29 (zooplankton in Div. 3P and 4V, 1970)
 73 (index for cod re temperature in SA 1)
 83 (haddock eggs and larvae in NW Atlantic)
 93 (herring larvae in Bay of Fundy)
 105 (herring in SW Nfld fishery, 1965-70)
 185 (harp seals off Nfld and Labrador)
 211 (yellowtail in SA 5 and 6)
 (73): 53 (redfish by depth in SA 2 and 3)
 101 (white hake in SA 3, 1969-72)
 121 (USSR studies on capelin in SA 2 and 3)
 127 (Norwegian studies on capelin in SA 3)
 137 (Canadian studies on capelin in SA 3)
 145 (*Loligo* in SA 5 and 6)
 163 (mixture of species in SA 5 and 6)
 SE 1 : 19 (diurnal variation in redfish in Div. 3P)
 41 (analysis of silver hake in Div. 4VWX)
 73 (grenadier stocks in NW Atlantic)
 2 : 15 (pollock in Div. 4VWX and SA 5)
 33 (mackerel in SA 5 and 6 surveys)
 85 (squids from surveys in SA 5 and 6)
 3 : 33 (silver hake in Div. 4VWX)
 93 (*Illex* on Scotian Shelf, 1970-76)
 4 : 7 (biology of shrimp in SA 1)
 16 (shrimp in survey off Baffin Island)
 23 (shrimp in surveys off W Greenland)
 47 (USSR studies on shrimp in SA 1)
 68 (trawl survey for shrimp in SA 1)
 SP 1 : 281 (larval cod in Barents Sea)
 311 (redfish in Gulf St. Lawrence - Abstr.)
 313 (various fish species in N Atlantic)
 327 (summer spawning stocks in North Sea)
 3 : 12 (Pacific ocean perch and its fishery)
 90 (USSR studies on redfish stocks)
 119 (*Sphyrion lumpi* on redfish)
 120 (redfish populations in N Atlantic)
 122 (redfish in Gulf St. Lawrence, 1957)
 124 (redfish re hydrography in Irminger Sea)
 142 (redfish in SA 4 surveys, 1957-59)
 148 (Canadian redfish catches, 1949-58)
 154 (redfish in N Atlantic - Abstr.)
 157 (redfish in SA 0 and 2, 1959)
 163 (redfish in Iceland area)
 167 (redfish larval distribution studies)
 169 (rockfish larvae off California)
 177 (redfish in NE Atlantic areas)
 188 (redfish larvae in Barents Sea)
 194 (redfish larvae at Ocean Station A)

- 195 (redfish larvae in SA 4, 1954-55)
 199 (*Sebastes* larvae in Iceland area - Abstr.)
 201 (redfish larvae in N Atlantic)
 216 (redfish larvae in plankton records)
 220 (young redfish in Gulf of Maine)
 6 : 53 (Pacific sardine re environment)
 75 (tuna distribution re environment)
 95 (groundfish re temperature in SA 5)
 111 (cod re temperature in SA 4 - Abstr.)
 113 (haddock re temperature in SA 4)
 149 (cod re temperature off Labrador)
 167 (cod re temperature in Div. 3P and 4V)
 171 (haddock re temperature in Div. 3NO)
 189 (haddock re temperature in Subdiv. 3Ps)
 199 (fish and shrimp re temperature in SA 1)
 209 (redfish re temperature in SA 1)
 213 (fish re temperature in Barents Sea)
 225 (cod re hydrography off Spitsbergen)
 247 (tuna re environment in Cent. Atlantic)
 249 (fish distribution re currents)
 267 (and behaviour of fish re light)
 289 (redfish larvae in Irminger Sea - Abstr.)
 291 (plankton re environment in N Atlantic)
 303 (redfish larvae in Irminger Sea)
 309 (redfish larve in N Atlantic)
 317 (haddock eggs and larvae in SA 5)
 335 (dispersal and survival of eggs and larvae)
 355 (fish eggs and larvae in NE Atlantic)
 389 (cod larvae re temperature in SA 1)
 397 (factors affecting Arcto-Norwegian cod)
 411 (food organisms re feeding of cod larvae)
 417 (redfish larvae re temperature)
 425 (cod eggs and larvae in SA 2 and 3)
 481 (*Sphyrion lumpi* on redfish in SA 5)
 501 (groundfish re food in SA 5 and 6)
 583 (plankton re herring food in SA 5)
 597 (plankton re herring in SA 4 and 5)
 611 (zooplankton of Gulf of Maine, 1963)
 625 (herring larvae along Maine coast)
 635 (herring re temperature in NE Atlantic)
 717 (cod re temperature in Barents Sea)
 7 : 57 (phosphates, silicates and oxygen in
 NORWESTLANT surveys)
 65 (ammonia and carbon in NORWESTLANT surveys)
 73 (phytoplankton in NORWESTLANT surveys)
 85 (chlorophyll in NORWESTLANT surveys)
 87 (primary production in NORWESTLANT surveys)
 95 (phytoplankton in recorder surveys, 1963)
 99 (organic particles in NORWESTLANT surveys)
 101 (zooplankton in NORWESTLANT surveys)
 123 (zooplankton in recorder surveys, 1963)
 127 (cod eggs and larvae in NORWESTLANT surveys)
 139 (re life cycle of cod in SA 2)
 145 (redfish larvae in NORWESTLANT surveys)
 157 (redfish larvae in recorder surveys, 1963)
 163 (capelin larvae in NORWESTLANT surveys)
 175 (halibut larvae in NORWESTLANT surveys)
 181 (plaice eggs and larvae in NORWESTLANT surveys)
 8 : 167 (variability of plankton in N Atlantic)
 10 : 95 (plankton in recorder surveys, 1972)
- Diurnal effects (see also Light)
 RB 4 : 53 (effect on A. plaice catches in SA 3)
 6 : 35 (effect on redfish availability in SA 3)
 13 : 81 (factor affecting catchability of trawls)
 14 : 73 (variation in witch catches in SA 3)
 R3(72): 39 (vertical migration in marine fish)
 SE 1 : 19 (variation in redfish in Div. 3P)
 3 : 17 (variation in redfish catches in Div. 3M)
 45 (mackerel catches in SA 5 and 6)
 4 : 23 (variation in shrimp catches in SA 1)
 45 (variation in shrimp catches in SA 1)
 68 (variation in survey catches of shrimp)
 5 : 31 (variation in feeding of squids in SA 4-6)
 43 (variation in feeding of larval herring in SA 5)
 SP 3 : 220 (young redfish in Gulf of Maine)
 263 (redfish behaviour at Eastport, Maine)
 6 : 53 (effect on Pacific sardine)
 249 (fish distribution re currents)
 267 (fish behaviour re light)
 317 (behaviour of young haddock in SA 5)
 439 (food and vertical migration of cod)
 579 (effect of light on herring movements)
 647 (effect of light intensity on fish)
 775 (fish behaviour re environment)
- Dogfish, spiny (*Squalus acanthias*)
 RB 6 : 72 (tagging and migration in N Atlantic)
 R3(69):129 (in trawl surveys in SA 4 and 5, 1968)
 144 (in USA-USSR surveys in SA 5, 1968)
 (70):159 (in USA-USSR surveys in SA 5, 1969)
 SP 6 : 137 (mortality re temperature in Nfld area)
- Dolphins; Porpoises
 SP 7 : 241 (sightings during NORWESTLANT surveys)
- Dredge
 RB 3 : 15 (efficiency and selection for scallops)
 R3(68): 89 (used in Georges Bank scallop fishery)
 (70):123 (used in herring egg surveys, 1969)
 (72): 79 (selectivity of scallop dredge used in SA 5)
- Drift bottles
 RB 7 : 19 (re coastal currents in Gulf of Maine)
- Drift nets (see Gillnets)
- Drifter, sea-bed
 RB 2 : 42 (use for determining bottom currents)
 7 : 19 (re coastal currents in Gulf of Maine)
- Dynamic topography
 SE 3 : 97 (geostrophic circulation in SA 4 and 5)
 6 : 47 (USSR observations in Div. 3M, 1977-78)
 53 (geostrophic circulation in SA 0 to 3)
- E**
- East Greenland (see Greenland area)
- Echinoderms
 RB 12 : 23 (food of flounders on Grand Bank)
 13 : 11 (food of cod in SA 2 to 4)
 R3(73): 59 (food of A. plaice in Div. 3P and 4V)
 101 (food of white hake in SA 3)
- Echinorhynchus gadi (acanthocephalan)
 SE 6 : 41 (parasite of flounders in NW Atlantic)
- Echo-sounding (see Hydroacoustics)
- Ecology (see under specific behavioral and environmental aspects)

Economics

- AR 17 : 48 (biol. and economic aspects of conservation)
 57 (effects of conservation on SA 5 haddock)
 62 (effects of conservation on SA 1 cod)
 69 (effects of conservation on Arctic fisheries)

Effort (see Fishing effort)Eggs; Ova (see also Fecundity)

- RB 7 : 56 (egg production curves for haddock)
 9 : 99 (egg size for herring in Nfld area)
 10 : 23 (distribution for A. plaice in SA 2 and 3)
 125 (herring spawning on Georges Bank, 1970)
 131 (observations on herring spawning beds)
 141 (larval herring over egg beds in SA 5)
 11 : 111 (spawning of witch in SA 2 to 5)
 14 : 67 (maturity and fecundity of *Illex* in SA 4)
 R3(70): 96 (haddock spawning from egg surveys in SA 5)
 123 (USA-USSR herring egg survey in SA 5)
 (71): 29 (and larvae of groundfish in Div. 3P and 4V)
 83 (haddock eggs and larvae in NW Atlantic)
 275 (and larvae in NORWESTLANT surveys)
 SE 5 : 7 (environment re cod year-classes in Div. 3M)
 6 : 7 (reproduction in captive *Illex*)
 SP 1 : 267 (report on differentiation of fish stocks)
 279 (re haddock year-class strength - Abstr.)
 289 (drift with currents in NE Atlantic)
 3 : 241 (and larvae of fish off Norway)
 6 : 53 (Pacific sardine re environment)
 317 (haddock distribution in Gulf of Maine)
 335 (factors affecting dispersal and survival)
 355 (drift migrations in N Atlantic)
 363 (survival and year-class success in fish)
 397 (cod re environment in NE Atlantic)
 425 (distribution of cod in SA 2 and 3)
 673 (and larvae re abiotic factors)
 683 (fecundity and egg size re environment)
 7 : 127 (of cod in NORWESTLANT surveys)
 139 (re life cycle pattern in SA 2 cod)
 175 (of halibut in NORWESTLANT surveys)
 181 (of A. plaice in NORWESTLANT surveys)

Electrophoresis (see Biochemical analysis)Endocrinology (see Hormones)Energy metabolism

- SP 6 : 743 (and fish migrations)

England (see United Kingdom)Engraulis spp. (see Anchovy)

Environment (because of the general nature of this heading, references to many papers that could be listed here are indexed under more specific headings: Feeding, Hydrography, Light, Oceanography, Plankton, Salinity, Temperature, etc.)

- SP 6 : 1 (Environmental Symposium, 1964, 912 pages)
 7 : 1 (Environmental Surveys, 1963 - see under NORWESTLANT Surveys)
 8 : 1 (Symposium on Environmental Conditions in NW Atlantic, 1972, 254 pages)
 9 : 1 (Special Session on Ice, 1976, 51 pages)
 10 : 1 (Symposium on Environmental Conditions in the Grand Bank Area, 1972, 136 pages)

Environmental Subcommittee (meeting reports)

- R (58): 28 (report to STACRES, Jun 1958)
 (59): 63 (report to STACRES, Jun 1959)
 (60): 22 (report to STACRES, Jun 1960)
 (61): 27 (report to STACRES, Jun 1961)
 R1 (62): 19 (report to STACRES, Jun 1962)
 (63): 56 (report to STACRES, Jun 1963)
 (64): 46 (report to STACRES, Jun 1964)
 (65): 54 (report to STACRES, Jun 1965)
 (66): 67 (report to STACRES, Jun 1966)
 (67): 71 (report to STACRES, Jun 1967)
 (68): 79 (report to STACRES, Jun 1968)
 (69): 52 (report to STACRES, Jun 1969)
 (70): 73 (report to STACRES, Jun 1970)
 (71): 79 (report to STACRES, Jun 1971)
 (72): 75 (report to STACRES, Jun 1972)
 (73): 119 (report to STACRES, Jun 1973)
 R (74): 135 (report to STACRES, Jun 1974)
 (75): 89 (report to STACRES, Jun 1975)
 (76): 135 (report to STACRES, Jun 1976)
 (77): 77 (report to STACRES, Jun 1977)
 (78): 93 (report to STACRES, Jun 1978)
 (79): 101 (report to STACRES, Jun 1979)

Equipment (see Apparatus)*Esox masquinongy* (see Maskinonge)*Eubothrium spp.* (cestode)

- RB 4 : 5 (parasite of salmon in SA 1 and 2)
 5 : 62 (parasite of salmon in Nfld area)

Euchaeta spp. (copepod)

- SP 7 : 123 (distribution in NORWESTLANT surveys)
 10 : 95 (in plankton recorder surveys, 1972)

Euphausiids (see also under specific names)

- RB 5 : 62 (food of salmon off Nfld)
 9 : 27 (food of salmon in NW Atlantic areas)
 41 (food of silver and red hake in SA 4-6)
 11 : 61 (in plankton recorder surveys, 1961-71)
 13 : 11 (food of cod in SA 2 to 4)
 R3(62): 31 (in plankton surveys off Nfld)
 56 (in plankton surveys in SA 3-5, 1960-61)
 132 (food of redfish in SA 2 and 3)
 (65): 194 (food of salmon taken in SA 1)
 (73): 75 (food of yellowtail off New England)
 121 (food of capelin in SA 2 and 3, 1971-72)
 SE 5 : 31 (food of *Illex* and *Loligo* in SA 4-6, 1974-75)
 SP 6 : 303 (food of redfish larvae in Irminger Sea)
 349 (food of cod larvae in Barents Sea)
 435 (food of cod in W Greenland area)
 439 (food of cod in Gulf St. Lawrence)
 583 (food of herring in N Atlantic areas)
 7 : 101 (distribution in NORWESTLANT surveys)
 123 (in continuous plankton surveys, 1963)
 187 (food of cod and redfish larvae)
 225 (food of redfish in open ocean)
 10 : 95 (in plankton recorder surveys, 1972)

European hake (see Hake, European)European plaice (see Plaice, European)*Euthynnus pelamis* (see Tuna, skipjack)

Evadne spp. (cladoceran)

- SP 6 :411 (food of cod larvae in Barents Sea)
7 :187 (food of cod and redfish larvae)

Evolution

- SP 3 :243 (comments on evolution of *Sebastinae*)

Exploitation rate (see Mortality)Exploration (see Surveys)**F**Factor analysis

- RB 3 : 5 (of data on fishing power of vessels)
R3(73):209 (of catchability estimates in SA 5 and 6)

FAO (Food and Agriculture Organization)

- R (58): 44 (collaboration with ICNAF, 1957/58)
(59): 27 (collaboration with ICNAF, 1958/59)
(60): 70 (collaboration with ICNAF, 1959/60)
(61):145 (collaboration with ICNAF, 1960/61)
R3(62):181 (collaboration with ICNAF, 1961/62)
(69):124 (description of FAO Stat. Area 21)

Faroe Islands

- RB 10 : 53 (a groundfish survey of Faroe Bank)
SP 6 :335 (dispersal of eggs and larvae)
855 (long-term hydrographic trends)
901 (environmental conditions in Faroe-Shetland Channel)

Fat content

- RB 11 :145 (herring of SW Nfld area, 1965-71)
R3(71):115 (roundnose grenadier in SA 1 to 3)
(73):101 (white hake in SA 3)
109 (herring in SA 3 and 4)
137 (capelin in Nfld area)
SP 6 :349 (Barents Sea cod re environment)
541 (zooplankton production re fisheries)
735 (changes in herring re environment)

Fecundity

- RB 9 : 85 (cusk on Scotian Shelf)
99 (herring in Nfld area)
14 : 67 (*Illex* in Nova Scotia area)
R3(69): 33 (herring in Gulf of Maine)
(70):117 (herring on Georges Bank)
SE 6 : 23 (silver hake on Scotian Shelf)
SP 3 : 12 (Pacific ocean perch)
6 :515 (re temperature for haddock in SA 3)
687 (and egg size re environment)
7 :225 (redfish caught in open ocean)

Federal Republic of Germany

- AR 6 : 39 (research report for 1955)
7 : 37 (research report for 1956)
8 : 39 (research report for 1957)
9 : 46 (research report for 1958)
10 : 45 (research report for 1959)
11 : 45 (research report for 1960)
R2(62): 55 (research report for 1961)
(63): 39 (research report for 1962)

- (64): 42 (research report for 1963)
(65): 52 (research report for 1964)
(66): 33 (research report for 1965)
(67): 48 (research report for 1966)
(68): 42 (research report for 1967)
(69): 31 (research report for 1968)
(70): 41 (research report for 1969)
(71): 65 (research report for 1970)
(72): 37 (research report for 1971)
(73): 37 (research report for 1972)

Feeding; Food; Food chain

- RB 2 : 53 (*Calanus* as fish food in Nfld area)
3 :106 (blueback and alewife in SA 5)
4 : 5 (salmon in SA 1 and 2)
101 (re herring distribution in Div. 5Z)
5 : 62 (salmon taken off Nfld)
9 : 27 (salmon in coastal and oceanic waters)
41 (silver and red hake in SA 4 to 6)
11 :145 (studies on herring in SW Nfld, 1965-71)
12 : 23 (study on flounders in SA 3)
91 (cod and redfish on Flemish Cap)
13 : 11 (studies on cod in SA 2 to 4)
21 (predation of cod on capelin in SA 2 and 3)
R3(62):132 (redfish in Nfld-Labrador area)
(65):194 (salmon at W Greenland)
(69): 23 (herring in SA 4 to 6, 1968)
(71):115 (roundnose grenadier in SA 1 to 3)
(72): 39 (re migrations of cod and haddock)
(73): 59 (A. plaice in Div. 3P and 4V)
75 (yellowtail in SA 5 and 6)
101 (white hake in SA 3)
109 (herring in Div. 3P, 4T and 4V)
121 (capelin in SA 2 and 3)
137 (capelin in the Nfld area)
SE 5 : 25 (study on *Illex* in Nfld area)
31 (*Illex* and *Loligo* in SA 4 to 6, 1974-75)
43 (larval herring in SA 5, 1965-75)
6 : 16 (feeding and growth in captive *Illex*)
35 (redfish as food for cod in Div. 3M)
SP 3 : 90 (USSR studies on redfish)
199 (redfish fry in Iceland area)
263 (redfish at Eastport, Maine)
6 :171 (predation of haddock on capelin in SA 3)
225 (re cod distribution off Spitsbergen)
247 (effect on tuna distribution - Abstr.)
249 (effect on fish distribution)
289 (redfish larvae in Irminger Sea)
303 (young redfish in N Atlantic)
349 (studies on cod in Barents Sea)
355 (effect on fish migration in Barents Sea)
363 (effect on year-class success of fish)
373 (effect on year-class strength of cod)
381 (effect on recruitment to fish stocks)
397 (and year-class success in N Atlantic cod)
411 (cod larvae re plankton distribution)
435 (studies on cod in SA 1)
439 (effect on vertical distribution of cod)
449 (effect on cod and haddock in SA 2 and 3)
477 (effect on survival of salmon fry)
501 (groundfish stocks in SA 5 and 6)
535 (effect on cod growth in SA 4 - Abstr.)
571 (effect on cod growth in Barents Sea)
583 (herring and plankton in NW Atlantic)
611 (zooplankton in Gulf of Maine)
625 (herring larvae along Maine coast)
647 (effect on fish behaviour)
735 (as limiting factor in herring)
775 (and fish behavior re environment)
7 :185 (cod and redfish larvae in NW Atlantic)
225 (redfish taken in open ocean)
8 :201 (food chains and fish production)

Fellodistomum spp. (trematodes)

SE 6 : 41 (parasites of wolffishes in NW Atlantic)

Fin rays (meristics)

RB 4 : 5 (ray counts in salmon from SA 1 and 2)
 5 : 62 (ray counts in salmon from Nfld area)
 91 (ray counts in herring from Div. 5Y)
 8 : 59 (ray counts in Div. 3P and 4T herring)
 67 (ray counts in Div. 3P and 4V herring)
 9 : 5 (ray counts in spring and autumn herring)
 10 : 37 (ray counts in Nfld herring stocks)
 R3(73):109 (ray counts in herring of SA 3 and 4)
 SP 1 :179 (use of rays for ageing cod)
 3 : 28 (ray counts in N Atlantic redfish)
 42 (re racial studies on redfish - Abstr.)

Fin whale (see Whale, fin)Finfish (see also Groundfish and names of species)

RB 12 : 49 (effect of fishing on biomass in SA 5 and 6)
 13 : 81 (factors affecting catchability of trawls)

Fisheries (see Catches)Fishing effort; Fishing intensity

AR 11 : Supplement (assessment re regulation problems)
 17 : 48 (re conservation of cod and haddock)
 RB 1 : 5 (yellowtail fishery in SA 5, 1942-61)
 43 (haddock fishery in Div. 4X, 1956-61)
 2 : 31 (cod fishery in SA 2 and 3)
 59 (re assessment of some ICNAF fisheries)
 80 (cod and haddock on Scotian Shelf)
 3 : 55 (haddock fishery in SA 3)
 4 : 67 (offshore and inshore cod fishery in SA 2)
 5 : 5 (cod fishery in W Nfld area)
 6 : 26 (re catch in N Atlantic cod stocks)
 47 (yellowtail fishery off New England)
 7 : 46 (fishing effort recorder for trawls)
 8 : 15 (re assessment of cod in SA 1)
 75 (re assessment of cod in Div. 2J)
 9 : 51 (cod fishery in Gulf St. Lawrence, 1960-70)
 117 (cod fishery in Div. 4VW)
 10 : 63 (re assessment of A. plaice in Div. 3LNO)
 11 : 5 (status of redfish stocks in SA 3)
 17 (sources of error in effort regulations)
 31 (re mortality of cod in Div. 2J+3KL)
 43 (assessment of Gulf St. Lawrence herring)
 125 (status of yellowtail fishery in Div. 3LNO)
 12 : 37 (status of redfish fisheries in SA 2 and 3)
 49 (effect on finfish biomass in SA 5 and 6)
 13 : 81 (factors affecting catchability of trawls)
 R3(65):164 (need for redfish catch/effort by depth)
 (66): 3 (assessment of cod stocks in SA 1)
 (68): 89 (scallop fishery on Georges Bank)
 (69): 3 (cod fishery in Div. 2J+3K, 1963-68)
 23 (herring fishery in SA 4 to 6, 1968)
 (70): 49 (cod stock on Flemish Cap)
 65 (catch/effort assessment of cod in SA 2-3)
 103 (status of A. plaice fishery in SA 3)
 (71):147 (trends in SA 5 scallop fishery)
 229 (cod and haddock fisheries in SA 4)
 239 (cod fishery in Subdiv. 3Ps)
 (72): 73 (yellowtail fishery in Div. 3LN)
 (73): 71 (catch/effort relations for A. plaice in SA 3)
 79 (flatfish fisheries on Scotian Shelf)
 145 (squid fishery of SA 5 and 6)
 209 (catchability estimates for SA 5 and 6)

R (75): 83 (working group report to STACRES, Jun 1975)
 (76): 29 (report on effort regulation in SA 2 to 4)
 133 (working group report to STACRES, Jun 1976)
 SE 1 : 7 (assessment of cod in Div. 4VsW)
 31 (assessment of redfish in Div. 4VWX)
 107 (status of groundfish resource in SA 2 and 3)
 117 (status of groundfish resource in SA 4)
 129 (non-equilibrium regulation of fisheries)
 2 : 85 (squid fishery in SA 5 and 6, 1963-74)
 111 (variation in catchability coefficients)
 3 : 17 (redfish fishery in Div. 3M)
 61 (capelin fishery on SE Shoal, 1976)
 4 : 23 (re biomass estimate for shrimp in SA 1)
 31 (assessment of shrimp in SA 1)
 35 (Norwegian studies on shrimp in SA 1)
 45 (diurnal variation in shrimp catches)
 67 (re shrimp catches at W Greenland)
 6 : 27 (re catch in SA 1 shrimp fishery, 1977-78)

Fishing gears (see under specific gears)Fishing power

AR 9 :106 (relation to vessel characteristics)
 RB 3 : 5 (estimation for individual vessels)
 11 : 17 (sources of error in effort regulation)
 13 : 81 (factor affecting catchability of trawls)
 R3(69):144 (re USA-USSR trawl surveys, 1968)
 (70):159 (re USA-USSR trawl surveys, 1969)
 (73):233 (analysis of fishing effort measures)
 SE 2 :111 (variation in catchability coefficients)
 SP 1 : 27 (and selectivity of fishing gear)
 5 : 12 (effect of mesh size on trawl operation)
 24 (and trawl selection in SA 5 and 6)

Fishing vessels

FV(59): 1 (ICNAF list of fishing vessels, 1959)
 (62): 1 (ICNAF list of fishing vessels, 1962)
 (65): 1 (ICNAF list of fishing vessels, 1965)
 (68): 1 (ICNAF list of fishing vessels, 1968)
 (71): 1 (ICNAF list of fishing vessels, 1971)
 (74): 1 (ICNAF list of fishing vessels, 1974)
 (77): 1 (ICNAF list of fishing vessels, 1977)

Flatfishes (see names of various species)Flemish Cap (Subareas 3)

AR 3 : 62 (groundfish stocks in SA 2 and 3)
 11 : Supplement (fishery re regulation problems)
 RB 1 : 85 (hydrographic conditions, autumn 1962)
 2 : 53 (zooplankton distribution, 1958-61)
 3 : 64 (distribution of beaked redfish)
 4 : 41 (*Calanus* distribution, 1958-61)
 6 : 79 (age and growth of redfish)
 8 : 27 (distribution of *Sebastes* larvae)
 10 : 23 (spawning of A. plaice)
 83 (distribution of G. halibut)
 12 : 37 (status of redfish fishery in SA 2 and 3)
 91 (area for study of year-class success)
 14 : 5 (cod migrations in Nfld area from tagging)
 R3(62): 62 (distribution of cod and redfish)
 69 (distribution of cod and haddock)
 79 (re cod stocks in the NW Atlantic)
 132 (feeding and distribution of redfish)
 (65):178 (age composition of redfish catches)
 (66):143 (hydrographic conditions, 1965)
 (68): 37 (hydrographic conditions, 1967)
 (69): 39 (hydrographic conditions, 1968)
 66 (hydrographic conditions, 1968)

- 90 (cod length conversion factors)
 (70): 11 (hydrographic conditions, 1969)
 37 (hydrographic observations, 1969)
 49 (cod stock for experimental regulation)
 75 (variation in haddock vertebral numbers)
 153 (depth distribution of redfish)
 (71): 5 (hydrographic conditions, 1970)
 49 (hydrographic conditions, 1970)
 (72): 11 (hydrographic conditions, 1971)
 19 (hydrographic conditions, 1971)
 27 (water circulation, 1970-71)
 (73): 13 (hydrographic conditions, 1971-72)
 19 (hydrographic conditions, 1972)
 R (77): 83 (report of working group, 1977)
 (78):101 (report of working group, 1978)
 SE 3 : 17 (variation in trawl catches of redfish)
 5 : 7 (environment re cod year-classes)
 6 : 35 (cod growth re redfish abundance in Div. 3M)
 47 (USSR oceanographic studies, 1977-78)
 53 (geostrophic circulation in SA 0 to 3)
 SP 3 : 56 (vertebral numbers in redfish)
 119 (*Sphyrion Lumpi* on redfish - Abstr.)
 6 :449 (cod behaviour re food supply)
 545 (cod growth and temperature)
 8 :129 (bottom marine geology of NW Atlantic)
 10 : 17 (hydrographic conditions, 1951-73)
 33 (temperature conditions, 1971-73)
 41 (currents east of Grand Bank, 1972)
 69 (circulation off Nfld, 1972-73)
 75 (salinity conditions, 1972-73)
 79 (international ice patrol operations, 1972)
 121 (circulation east of Grand Bank, 1973)

Flounder, summer (*Paralichthys dentatus*)

- R3(73):163 (mixed species fisheries in SA 5 and 6)
 SE 1 : 59 (status of stock in SA 5 and 6)
 SP 6 : 95 (distribution re temperature in SA 5 and 6)

Flounder, winter (*Pseudopleuronectes americanus*)

- R3(69): 79 (size changes from icing and freezing)
 (73): 79 (assessment of stock on Scotian Shelf)
 163 (mixed species fisheries in SA 5 and 6)
 SP 5 :131 (codend selection studies in SA 4)

Flounder, witch (*Glyptocephalus cynoglossus*)

- AR 8 : 83 (gear selection data for ICNAF area)
 RB 4 : 91 (ageing by otoliths on Scotian Shelf)
 121 (length-weight relation for SA 4)
 11 :111 (spawning and development in SA 2 to 5)
 12 :135 (length-weight relation for Nfld area)
 14 : 73 (diurnal variation in catches in SA 3)
 R3(69):129 (in trawl surveys in SA 4 and 5, 1968)
 (73): 79 (assessment of fishery in SA 4)
 SE 2 : 11 (status of stock in Subdiv. 3Ps)
 3 : 23 (status of fishery in Div. 2J+3KL)
 5 : 49 (selection studies in Div. 4VMX)
 6 : 41 (investigations of parasitic fauna)
 SP 5 :201 (trawl selection studies in Nfld area)

Flounder, yellowtail (*Limanda ferruginea*)

- AR 11 : Supplement (assessment re regulation problems)
 RB 1 : 5 (characteristics of fishery in SA 5 and 6)
 4 :121 (length-weight relation for SA 4)
 6 : 5 (growth studies in SA 5 and 6)
 47 (characteristics of SA 5 and 6 stocks)
 10 : 5 (mortality estimates from SA 5 surveys)
 11 :125 (status of fishery in Div. 3LNO)
 12 : 23 (food types in stomachs from SA 3)

- R3(66):112 (effect of chafing gear on selection)
 (67):101 (compilation of selection data, 1962-66)
 (68):101 (selection in nylon codends in SA 5)
 (69):129 (in trawl surveys in SA 4 and 5, 1968)
 144 (in USA-USSR trawl surveys, 1968)
 (70):111 (selection in large-mesh codends in SA 5)
 159 (in USA-USSR trawl surveys, 1969)
 (71):211 (abundance from surveys in SA 5 and 6)
 221 (stock size predicted from survey data)
 249 (abundance indices from trawl survey)
 (72): 73 (assessment of stock in Div. 3LN)
 (73): 75 (mixed species fisheries in SA 5 and 6)
 : 79 (assessment of stock on Scotian Shelf)
 163 (mixed species fisheries in SA 5 and 6)
 SP 5 :131 (codend selection studies in SA 4)

Flounders (see also under names of various species)

- SE 6 : 41 (investigations of parasitic fauna)
 SP 6 :267 (behaviour re light in NE Atlantic)
 10 : 17 (re hydrography off Nfld, 1951-73)

Fluctuations (see also Diurnal effects)

- AR 3 : 68 (marine animals re temperature - Abstr.)
 69 (fish stocks re hydrography in SA 1)
 79 (marine animals re hydrography in SA 2 and 3)
 11 :103 (redfish larvae in plankton surveys, 1955-60)
 RB 9 : 81 (in chlorophyll abundance in SA 4 to 6)
 11 : 61 (plankton in recorder surveys, 1961-71)
 12 : 91 (cod and redfish on Flemish Cap)
 13 : 31 (year-classes of haddock on Grand Bank)
 53 (spawning of haddock on Grand Bank)
 14 : 77 (spawning of haddock on St. Pierre Bank)
 85 (year-classes of haddock on St. Pierre Bank)
 R3(67): 26 (cod year-classes off W Greenland)
 (68): 3 (cod distribution off Labrador)
 67 (herring fishery of the Nfld area)
 (70): 56 (abundance of young cod in SA 2)
 (71): 73 (cod abundance re temperature in SA 1)
 SE 1 :141 (environmental factors re fisheries)
 171 (cod recruitment in Gulf St. Lawrence)
 2 :111 (variation in catchability coefficients)
 137 (hypothetical fishery re random fluctuations)
 3 : 57 (herring spawning on Georges Bank)
 93 (*Illex* abundance in SA 4, 1970-76)
 5 : 7 (environment re cod year-classes in Div. 3M)
 61 (density-dependent processes in harp seals)
 SP 1 :279 (year-class strength of haddock - Abstr.)
 6 :381 (recruitment changes re environment)
 523 (year-class success in some Atlantic stocks)
 827 (cod re hydrography in SA 1 to 3)
 833 (cod recruitment re environment in SA 4-5)
 8 : 71 (size of glaciers re environment changes)
 167 (plankton abundance in N Atlantic)
 223 (year-class success in cod and haddock)
 9 : 7 (polar ice variation in SA 1, 1900-72)
 29 (variation in ice seasons off E Canada)
 41 (time-space variation in E Greenland ice pack)
 10 : 79 (icebergs off Nfld, 1900-72)

Food (see Feeding)

France

- AR 3 : 34 (research report for 1952)
 4 : 37 (research report for 1953)
 5 : 39 (research report for 1954)
 6 : 39 (research report for 1955)
 7 : 36 (research report for 1956)
 8 : 38 (research report for 1957)
 9 : 46 (research report for 1958)

- 10 : 45 (research report for 1959)
 11 : 45 (research report for 1960)
 R2(62): 47 (research report for 1961)
 (63): 36 (research report for 1962)
 (66): 32 (research report for 1965)
 (67): 35 (research report for 1966)
 (68): 30 (research report for 1967)
 (71): 34 (research report for 1970)
 (72): 29 (research report for 1971)
 (73): 21 (research report for 1972)
- Front area (pertains to seal hunting off Labrador and northeastern Newfoundland)
- RB 11 : 37 (mortality and reproduction in harp seals)
 135 (Norwegian studies on hooded seals)
 R3(71):157 (production of harp seals in NW Atlantic)
 185 (research on harp seals off Nfld)
 SE 5 : 61 (density-dependent processes re harp seals)
 6 : 55 (1977 census of harp seals)

Fungus disease (*Ichthyosporidium*)

- SP 3 :111 (parasite of redfish in NW Atlantic)
 6 :603 (disease of herring in NW Atlantic)

G

Gadus merlangus (see Whiting)

Gadus morhua (see Cod, Atlantic)

Gammarids (amphipods)

- RB 13 : 11 (food of cod in SA 2 to 4)
 SE 5 : 31 (food of *Illex* and *Loligo* in SA 4 to 6)
 SP 6 :349 (food of young cod in Barents Sea)

Gaspereau (see Alewife)

Gastropods (molluscs)

- RB 13 : 11 (food of cod in SA 2 to 4)
 SP 7 :101 (distribution in NORWESTLANT surveys)
 123 (distribution in plankton recorder surveys)

Gauge, mesh (see Mesh gauge)

Gear and Selectivity (meeting reports)

- MP(56): - (report to STACRES, 1956: proc. 18)
 R (58): 24 (subcommittee report to STACRES, 1958)
 50 (research needs in the ICNAF area)
 (59): 59 (subcommittee report to STACRES, 1959)
 (60): 44 (working group report to STACRES, 1960)
 (61): 40 (working group report to STACRES, 1961)
 R1(62): 42 (subcommittee report to STACRES, 1962)
 (63): 49 (subcommittee report to STACRES, 1963)
 (64): 40 (subcommittee report to STACRES, 1964)
 (65): 60 (subcommittee report to STACRES, 1965)
 (66): 62 (subcommittee report to STACRES, 1966)
 (67): 63 (subcommittee report to STACRES, 1967)
 (68): 76 (subcommittee report to STACRES, 1968)
 (69): 57 (working group report to STACRES, 1969)
 (70): 76 (working group report to STACRES, 1970)
 R (74):139 (working group report to STACRES, 1974)

Gear, fishing (see under names of gears: Harpoons, Line gears, Purse seines, Gillnets, Trawls, etc.)

Genolinea laticauda (trematode)

- SE 6 : 41 (parasite of flounders and wolffishes)

Geology

- SP 8 :129 (bottom marine geology in NW Atlantic)

Georges Bank (Subarea 5)

- AR 2 : 23 (mesh regulation to increase yield of haddock)
 4 : 67 (waters of the Convention Area)
 11 : Supplement (fisheries re regulation problems)
 17 : 57 (biological effects of haddock conservation)
 59 (economic effects of haddock conservation)
 RB 1 : 5 (yellowtail fishery off New England)
 88 (natural mortality of sea scallops)
 2 : 59 (catch/effort assessment of major fisheries)
 76 (homogeneity in haddock samples, 1962)
 3 : 15 (efficiency and selection of scallop dredge)
 32 (length-weight relation for sea scallops)
 106 (characteristics of blueback and alewife)
 4 : 76 (silver hake distribution re temperature)
 101 (herring distribution re temperature)
 5 : 49 (age, length and maturity of herring)
 91 (meristics of adult herring)
 110 (temperature trends, 1940-66)
 6 : 5 (age and growth of yellowtail)
 47 (yellowtail fishery off New England)
 7 : 56 (studies on spawning of haddock)
 8 : 87 (*Merluccius albidus* and *M. bilinearis*)
 9 : 21 (T-S analysis of water masses)
 41 (food habits of silver and red hake)
 81 (seasonal variation in chlorophyll)
 10 : 5 (yellowtail abundance from surveys)
 125 (herring spawning in 1970)
 131 (observations on herring spawning beds)
 141 (larval herring over egg beds)
 151 (sedimentology of herring spawning beds)
 11 :111 (spawning and development of witch)
 12 : 5 (abundance of mackerel off USA coast)
 29 (growth and mortality studies on cod)
 49 (effect of fishing on finfish biomass)
 119 (review of physical oceanography)
 13 : 81 (factors affecting catchability of trawls)
 R (59): 19 (variation in haddock growth)
 (60): 62 (selection of sea scallops)
 R3(62): 23 (hydrographic conditions, 1961)
 56 (plankton studies, 1960-61)
 79 (cod stocks in NW Atlantic)
 124 (haddock stocks in NW Atlantic)
 (66): 93 (codend selection for haddock)
 (67): 39 (Polish herring studies, 1966)
 (68): 48 (subsurface temperature trends)
 53 (Polish herring studies, 1967)
 62 (size composition of swordfish catches)
 89 (developments in the scallop fishery)
 101 (codend selection for yellowtail)
 (69): 23 (Polish herring studies, 1968)
 33 (fecundity studies on herring)
 45 (annual temperature variations, 1962-68)
 129 (USSR trawl surveys, 1968)
 144 (USA-USSR trawl surveys, 1968)
 (70): 22 (annual temperature variations)
 31 (temperature conditions, 1968-69)
 37 (hydrographic observations, 1969)
 96 (haddock spawning from egg surveys)
 111 (codend selection of yellowtail)
 117 (fecundity studies on herring)
 123 (USA-USSR herring egg survey, 1969)
 159 (USA-USSR trawl surveys, 1969)

- (71): 83 (observations on haddock spawning)
 147 (trends in sea scallop fishery)
 211 (yellowtail abundance from trawl surveys)
 221 (pre-recruit surveys for yellowtail)
 249 (abundance indices from trawl surveys)
 267 (commercial fish taken on shrimp grounds)
- (72): 49 (stock abundance of red hake)
 55 (mortality of red hake stock)
 79 (dredge selection and scallop mortality)
- (73): 5 (hydrographic conditions, 1972)
 75 (feeding patterns of yellowtail)
 105 (herring mortality and stock size)
 145 (assessment of squid fisheries)
 163 (mixture of species in SA 5 and 6)
 209 (factors affecting catchability estimates)
 217 (effect of by-catch on mixed fisheries)
- R4(67): 42 (temperature trends in SA 4 to 6)
- SE 1 : 59 (status of summer flounder in SA 5 and 6)
 89 (overview of plankton communities)
- 2 : 15 (assessment of pollock fishery)
 33 (distribution of mackerel from surveys)
 55 (growth and life cycle of *Illex* and *Loligo*)
 71 (assessment of squid fisheries)
 85 (squid fishery in SA 5 and 6, 1963-64)
 111 (variation in catchability coefficients)
 145 (Gulf Stream eddies on continental shelf)
- 3 : 45 (abundance indices for mackerel)
 49 (mackerel abundance from surveys)
 57 (temperature re herring spawning)
 73 (age and growth of butterfish)
 79 (variance in mackerel age composition)
 97 (geostrophic circulation in SA 4 and 5)
- 5 : 31 (feeding of *Illex* and *Loligo*, 1974-75)
 43 (feeding of herring larvae, 1965-75)
- SP 1 : 111 (effect of haddock mesh regulation)
 193 (formation of scale annuli in haddock)
 199 (haddock scale-otolith comparison - Abstr.)
 243 (Lee's phenomenon in haddock)
 279 (haddock year-class variations - Abstr.)
- 4 : 104 (factors affecting cod tag returns)
 194 (field experiments with haddock tags)
 214 (analysis of silver hake tag returns)
 216 (haddock tagging and fish condition)
 268 (population estimates from tagged scallops)
- 5 : 24 (selection of haddock and silver hake)
- 6 : 317 (distribution of young haddock)
 501 (food relations to groundfish abundance)
 583 (herring feeding re plankton)
 597 (herring abundance re hydrography)
 611 (seasonal distribution of zooplankton)
 833 (cod recruitment re environment)
- 8 : 149 (water circulation in NW Atlantic)
 223 (year-class success of cod and haddock)
- 10 : 107 (temperature conditions, 1960-68)
 115 (hydrographic conditions, 1972)

Geostrophic circulation

- SE 3 : 97 (monthly charts for SA 4 and 5)
 5 : 7 (re cod year-classes in Div. 3M)
 6 : 47 (USSR studies on Flemish Cap, 1977-78)
 53 (mean pattern for SA 0 to 3, 1962-78)

Germany, Federal Republic of (see Federal Republic of Germany)

Gillnets

- R3(71):139 (selectivity in SA 1 salmon fishery)
 (73):233 (studies on fishing unit measures)
- SP 1 : 27 (report on selectivity of fishing gears)
 5 : 106 (analysis of selectivity data)

- 128 (selection data for perch)
 218 (selectivity of drift nets)

Gillrakers; Gills

- RB 4 : 5 (raker counts in salmon in SA 1 and 2)
 5 : 62 (raker counts in salmon off Nfld)
 8 : 67 (raker counts in herring of SA 3 and 4)
 9 : 5 (raker counts in spring and autumn herring)
 10 : 37 (raker counts in SA 3 and 4 herring)
- R3(73):109 (raker counts in SA 4 herring)
- SP 3 : 28 (raker counts in N Atlantic redfish)
 42 (the racial problem in redfish - Abstr.)

Girth; Girth/length

- RB 2 : 8 (length relation for cod in SA 2)
 4 : 5 (length relation for salmon in SA 1 and 2)
 5 : 5 (length relation for cod off W Nfld)
 14 : 51 (length relation for silver hake in Div. 4VWX)
- R3(66): 85 (length relation for cod, haddock, whiting)
 97 (length relation for cod in SA 1)
 (67): 75 (length relation for cod off Spitsbergen)
 (69): 94 (length relation for haddock in SA 3)
 (71): 57 (length relation for cod in Div. 4V)
- SP 5 : 24 (and selection for fish in SA 4 and 5)
 116 (and haddock selection in trawls)
 128 (length relation for perch in gillnets)
 201 (re cod, haddock, redfish selection in SA 3)

Glaciers (see Ice)

Glyptocephalus cynoglossus (see Flounder, witch)

Gonatus fabricii (see Squid, Arctic)

Gonocerca phycidis (trematode)

- SE 6 : 41 (parasite of flounders in NW Atlantic)

Goosefish (see Angler, American)

Grand Bank (Subarea 3)

- AR 3 : 62 (major groundfish stocks in SA 2 and 3)
 79 (abundance of marine animals re hydrography)
- 4 : 67 (the waters of the Convention Area)
- 11 : Supplement (fisheries re regulation problems)
- RB 1 : 28 (effect of catch size on trawl selectivity)
 85 (hydrographic conditions, autumn 1962)
- 2 : 19 (otolith age validation for cod)
 31 (trends in the cod fisheries)
 53 (zooplankton distribution, 1958-61)
 59 (catch/effort assessment of some stocks)
- 3 : 55 (trends in the haddock fishery)
 64 (distribution of redfish)
- 4 : 41 (*Calanus* abundance, 1958-61)
 53 (diurnal variation in *A. plaice* catches)
 87 (trends in *A. halibut* fishery, 1954-64)
- 6 : 26 (catch/effort relations for cod stocks)
 35 (diurnal variation in redfish catches)
 79 (age and growth of redfish)
- 7 : 32 (mesh assessment for cod in Div. 3N0)
- 8 : 27 (*Sebastes* larvae distribution)
 37 (effect of mesh increase on SA 2 and 3 cod)
- 10 : 23 (spawning grounds of *A. plaice*)
 63 (assessment of *A. plaice* stocks)
 83 (distribution and abundance of *G. halibut*)
- 11 : 5 (status of redfish stocks in SA 3)
 31 (natural mortality of cod in Div. 2J+3KL)
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- Hake, European (*Merluccius merluccius*)
 SP 1 :313 (distribution in N Atlantic)
 6 :267 (behaviour re light in NE Atlantic)
- Hake, offshore (*Merluccius albidus*)
 RB 8 : 87 (*M. bilinearis* and *M. albidus*)
- Hake, red (*Urophycis chuss*)
 RB 3 : 86 (selection in nylon codends)
 9 : 41 (food habits in SA 4 to 6)
 R3(67): 35 (designation of hakes in ICAF statistics)
 101 (compilation of selection data, 1962-66)
 (69):129 (in trawl surveys in SA 4 and 5, 1968)
 144 (in USA-USSR trawl surveys, 1968)
 (70):159 (in USA-USSR trawl surveys, 1969)
 (71):249 (abundance from trawl surveys)
 (72): 49 (stock abundance in SA 5 and 6, 1965-72)
 55 (mortality in SA 5 and 6 stocks)
 (73):163 (in mixed species fishery in SA 5 and 6)
 SE 5 : 49 (mesh selection studies on Scotian Shelf)
 SP 1 :313 (distribution in N Atlantic)
 6 : 95 (distribution re temperature in SA 5 and 6)
- Hake, silver (*Merluccius bilinearis*)
 AR 3 : 68 (abundance re temperature off New England)
 8 : 83 (summary of gear selection studies)
 11 : Supplement (fishery re regulation problems)
 RB 3 : 86 (selection in nylon codends in SA 5)
 111 (*Sphyrion lumpi* as a parasite)
 4 : 76 (distribution re temperature in SA 5 and 6)
 6 :107 (ageing from otoliths in SA 5 and 6)
 8 : 87 (*M. bilinearis* and *M. albidus*)
 9 : 41 (feeding habits in SA 4 to 6)
 14 : 51 (mesh selection studies on Scotian Shelf)
 R3(63):150 (studies on selectivity in trawls)
 (67):101 (compilation of selection data, 1962-66)
 (69):129 (in USSR trawl surveys in SA 4 to 6)
 144 (in USA-USSR surveys in SA 5, 1968)
 (70):159 (in USA-USSR surveys in SA 5, 1969)
 (71):249 (abundance from surveys in SA 4 to 6)
 (73):163 (mixed species fishery in SA 5 and 6)
 R (77): 19 (working group on Div. 4VWX stock, Dec 1976)
 SE 1 : 41 (analysis of fishery in Div. 4VWX)
 3 : 29 (natural mortality in Div. 4VWX)
 33 (age and growth in Div. 4VWX)
 5 : 11 (length-at-age from otoliths)
 19 (abundance indices for Div. 4W)
 31 (food of squids in SA 4 to 6, 1974-75)
 49 (mesh selection studies in Div. 4VWX)
 6 : 23 (fecundity study on silver hake)
 SP 1 :313 (distribution in N Atlantic)
 4 :214 (analysis of tag returns in SA 5)
 5 : 24 (trawl selection studies in SA 4 and 5)
 6 : 95 (distribution re temperature in SA 5 and 6)
- Hake, white (*Urophycis tenuis*)
 RB 8 : 21 (tagging and migrations in Div. 4RST)
 R3(67): 35 (designation of hakes in ICAF statistics)
 (73):101 (biological studies in SA 3, 1969-72)
 SP 1 :313 (distribution in N Atlantic)
- Halibut, Atlantic (*Hippoglossus hippoglossus*)
 AR 11 : Supplement (fishery re regulation problems)
 RB 4 : 87 (fishery trends in SA 3 and 4, 1954-64)
 R (58): 50 (research needs in the ICAF area)
 (59): 51 (report on halibut research, 1959)
 (60): 31 (report on halibut research, 1960)
 77 (bibliography on A. halibut)
 SE 6 ; 41 (investigations of parasitic fauna)
 SP 1 :313 (distribution in the N Atlantic)
 339 (status of knowledge about halibut)
 7 :175 (eggs and larvae in NORWESTLANT surveys)
- Halibut, Greenland (*Reinhardtius hippoglossoides*)
 RB 6 :119 (length-weight relation for SA 3)
 10 : 83 (distribution in NW Atlantic)
 13 : 5 (studies on age and growth in SA 2 to 4)
 11 (food of cod in SA 2 to 4)
 R3(71):275 (eggs and larvae in NORWESTLANT surveys)
 SE 4 : 16 (by-catch with shrimp off Baffin Island)
 35 (by-catch in shrimp fishery of SA 1)
 6 : 27 (by-catch in shrimp fishery of SA 1, 1977-78)
 41 (investigations of parasitic fauna)
 SP 6 :137 (mass mortality re temperature in SA 3)
 199 (stocks affected by cold water in SA 1)
 7 :175 (eggs and larvae in NORWESTLANT surveys)

- Halibut, Pacific (*Hippoglossus stenolepis*)
 SP 4 : 42 (errors inherent in tagging data)
- Hamilton Inlet Bank (see Labrador)
- Harp seal (see Seal, harp)
- Harpooning
 R3(68): 62 (size composition of swordfish catches)
- Hatschekia hippoglossi (crustacean)
 SE 6 : 41 (parasite of flounders in NW Atlantic)
- Helicolenus dactylopterus (see Redfish, black-bellied)
- Hemagglutinins
 RB 4 : 59 (studies on marine fishes)
- Hemiurus levinsoni (trematode)
 SE 6 : 41 (parasite of flounders in NW Atlantic)
- Hermaphroditism
 RB 13 : 53 (in haddock of the Grand Bank)
- Herring, Atlantic (*Clupea harengus*)
 RB 4 : 101 (distribution re temperature in SA 5)
 5 : 49 (characteristics of, in SA 5)
 91 (meristics studies in Gulf of Maine)
 7 : 59 (juveniles in Bay of Fundy)
 8 : 5 (incidence of *Anisakis* in SA 3 and 4)
 59 (studies on Magdalen I. and SW Nfld herring)
 67 (studies on SW Nfld and Scotian Shelf herring)
 9 : 5 (classifying spring and autumn spawners)
 27 (food of salmon in NW Atlantic areas)
 99 (fecundity of stocks in Nfld area)
 10 : 15 (studies on Fortune Bay, Nfld, stock)
 37 (meristics of stocks in SA 3 and 4)
 79 (*Anisakis* in herring from SA 6)
 125 (spawning on Georges Bank in 1970)
 131 (herring spawning beds in SA 5)
 141 (larvae over egg beds in Div. 5Z)
 151 (sedimentology of spawning beds in SA 5)
 11 : 43 (assessment of Div. 3P and 4T stock).
 73 (morphometric studies in SA 3 and 4)
 145 (biology of SW Nfld herring, 1965-71)
 13 : 11 (food of cod in SA 2 to 4)
 67 (migration from tagging in Div. 3P and 4T)
 R3(65):181 (size changes from freezing and salting)
 190 (size changes from frozen storage)
 (67): 39 (studies on Georges Bank stock, 1966)
 (68): 53 (studies on Georges Bank stock, 1967)
 67 (implications of Nfld herring fishery)
 (69): 23 (studies on stocks in SA 4 to 6, 1968)
 33 (fecundity of stocks in SA 4 to 6)
 129 (in trawl surveys in SA 4 to 6, 1968)
 (70):117 (fecundity of Georges Bank stock)
 123 (in USA-USSR egg survey in SA 5, 1968)
 134 (recent trends in Canadian catches)
 148 (meristics of juveniles in Bay of Fundy)
 159 (in USA-USSR trawl surveys, 1969)
 (71): 93 (retention of larvae in Bay of Fundy)
 105 (status of Nfld stocks, 1965-70)
 (73):105 (mortality and stock size in Div. 5Z)
 109 (biological data for SA 3 and 4 stocks)
 119 (length-weight data for Bay of Fundy)
 163 (in SA 5 and 6 mixed species fishery)
 SE 3 : 57 (temperature re spawning on Georges Bank)
 5 : 43 (feeding of larvae in SA 5, 1965-75)
 SP 4 : 323 (tagging studies in North Sea)
 336 (external tagging methods in Europe)
 359 (a radioactive tag for herring)
 5 : 97 (escapement in different parts of trawl)
 158 (selection in different parts of trawl)
 6 : 335 (factors re dispersal of larvae)
 355 (drift migration of young in N Atlantic)
 381 (recruitment re environment in Baltic)
 439 (feeding and migration in Div. 4RST)
 523 (year-class success in N Atlantic)
 541 (abundance re plankton distribution)
 579 (movements re light in Bay of Fundy)
 583 (feeding re plankton in N Atlantic areas)
 591 (fishery re temperature at Magdalen I.)
 597 (abundance re water masses in SA 5 and 6)
 603 (diseases re environment in NW Atlantic)
 625 (ecology of larvae along Maine coast)
 635 (distribution re temperature in NE Atlantic)
 645 (effect of oxygen on shoaling fish)
 687 (fecundity and egg size re environment)
 735 (physiological reactions to environment)
 743 (energy metabolism and migration)
- Herring, blueback (see Blueback)
- Herring research (meeting reports)
 R1(64): 23 (working group report, 1964)
 (65): 20 (working group report, 1965)
 (66): 73 (working group report, 1966)
 (67): 76 (working group report, 1967)
 (68): 82 (working group report, 1968)
 (72): 43 (working group report, 1972)
 (73): 31 (working group report, Jan 1973)
 95 (working group report, Jun 1973)
 R (74): 37 (working group report, Jan 1974)
 105 (working group report, Jun 1974)
 R (76): 35 (working group report, Jan 1976)
 153 (working group report, Jun 1976)
- Hippoglossoides platessoides (see Plaice, American)
- Hippoglossus hippoglossus (see Halibut, Atlantic)
- Hippoglossus stenolepis (see Halibut, Pacific)
- Hirudinea
 SE 6 : 41 (parasites of wolffishes and flounders)
- Homarus americanus (see Lobster, American)
- Hooded seal (see Seal, hooded)
- Hooks (see Line gears)
- Hormones
 SP 6 : 663 (environment/endocrine relations in fish)
 691 (effect on fish maturation and migration)
 717 (reactions of cod to temperature)
- Horse mackerel (*Caranx trachurus*)
 SP 1 : 327 (summer spawning in North Sea)
- Hyas spp. (decapod)
 RB 13 : 11 (food of cod in SA 2 to 4)

Hydroacoustics

RB 3 : 70 (for estimating fish concentrations)

Hydrography (see also under specific headings,
e.g. Temperature, Salinity, Currents, etc.)

- AR 3 : 68 (long-term effects on fish stocks - Abstr.)
69 (long-term effects on N Atlantic stocks)
79 (long-term effects on SA 2 and 3 stocks)
4 : 67 (the waters of the Convention Area)
- RB 1 : 74 (auto-lab vs N.I.O. salinometers)
85 (conditions in Nfld-Labrador area, 1962)
4 : 76 (and silver hake distribution in SA 4 and 5)
101 (and herring distribution in SA 5)
5 : 110 (temperature trends, Nova Scotia to Long I.)
7 : 15 (and cod distribution off Greenland)
19 (coastal currents in Gulf of Maine)
9 : 21 (T-S analysis of water masses in SA 4 and 5)
12 : 91 (re year-class success of fish in Div. 3M)
119 (review of conditions on Georges Bank)
13 : 31 (effect on haddock year-classes in SA 3)
- R3(62): 3 (conditions off W Greenland, 1961)
14 (conditions in Nfld-Labrador area, 1961)
18 (dissolved oxygen in Nfld area)
23 (conditions off New England, 1961)
(65):167 (conditions on Scotian Shelf, 1964)
(66):143 (conditions in SA 1 to 3, 1965)
(68): 3 (effect on cod distribution in SA 2)
21 (conditions off Labrador, 1967)
37 (conditions off eastern Nfld, 1967)
40 (conditions in SA 2 and 3, 1967)
48 (subsurface temperatures in Div. 5Y)
(69): 39 (conditions off eastern Nfld, 1968)
45 (conditions in SA 2 and 3, 1968)
57 (conditions off W Greenland, 1968)
66 (conditions in SA 2 and 3, 1968)
- (70): 3 (conditions in W Greenland area, 1969)
11 (conditions off eastern Nfld, 1969)
22 (heat content variations in NW Atlantic)
31 (conditions in Gulf of Maine, 1968-69)
37 (conditions in SA 2 to 5, 1969)
- (71): 5 (conditions off eastern Nfld, 1970)
17 (conditions off W Greenland, 1970)
29 (conditions in Laurentian Channel, 1970)
49 (conditions in SA 1 to 3, 1970)
73 (and cod distribution in SA 1)
275 (in NORWESTLANT surveys, 1963)
- (72): 5 (conditions off W Greenland, 1971)
11 (conditions in SA 2 and 3, 1971)
19 (conditions off eastern Nfld, 1971)
27 (water circulation in SA 2 and 3, 1970-71)
- (73): 5 (conditions in SA 4 and 5, 1972)
13 (conditions in SA 2 and 3, 1971-72)
19 (conditions off eastern Nfld, 1972)
27 (conditions off W Greenland, 1972)
33 (conditions in Laurentian Channel)
- R4(67): 3 (fluctuations in NW Atlantic)
6 (variations in the N Atlantic)
24 (variations in SA 4)
33 (variations at Boothbay Hr., Maine)
37 (trends along the New England coast)
42 (trends from Nova Scotia to Long I.)
48 (anomalies in the NW Atlantic)
69 (anomalies at St. John's, Nfld)
76 (variations in SA 1, 1950-66)
86 (fluctuations off W Greenland, 1959-66)
- SE 1 : 41 (re abundance of silver hake in SA 4)
171 (re cod recruitment in Div. 4T)
2 : 145 (Gulf Stream eddies along continental shelf)
3 : 57 (effect on herring spawning in Div. 5Z)
61 (effect on capelin spawning in Div. 3N)
97 (geostrophic circulation in SA 4 and 5)
- 109 (ICNAF standard oceanographic stations)
4 : 47 (effect on shrimp distribution in SA 1)
5 : 7 (environment re cod year-classes in Div. 3M)
6 : 47 (USSR observations in Div. 3M, 1977-78)
53 (geostrophic circulation in SA 0 to 3)
- SP 3 : 124 (and redfish distribution in Irminger Sea)
154 (redfish distribution in N Atlantic - Abstr.)
188 (larval redfish in Barents Sea)
6 : 29 (recent conditions in NW Atlantic)
95 (effect on fish abundance in SA 5 and 6)
113 (effect on haddock distribution in SA 4)
131 (effect on cod in St. Mary's Bay, Nfld)
137 (effect on fish mortalities in SA 2 and 3)
149 (effect on cod distribution in SA 2)
167 (effect on cod in Div. 3P and 4W)
171 (effect on haddock in Div. 3NO)
189 (effect on haddock in Subdiv. 3Ps)
199 (effect on fish and prawn stocks in SA 1)
209 (effect on redfish distribution in SA 1)
213 (effect on fish distribution in Barents Sea)
221 (effect on fish migration in Barents Sea)
225 (effect on cod off Spitsbergen)
247 (effect on tunas in Cent. Atlantic - Abstr.)
249 (currents and fish distribution)
257 (currents and fish migrations)
289 (redfish larvae in Irminger Sea - Abstr.)
291 (effect on plankton in N Atlantic)
309 (effect on redfish larvae in Irminger Sea)
335 (effect on dispersal of eggs and larvae)
349 (effect on recruitment of Barents Sea cod)
363 (effect on year-class strength of cod)
373 (effect on year-class success of cod)
389 (effect on cod larvae survival in SA 1)
397 (effect on Arcto-Norwegian cod stock)
417 (effect on redfish larvae in N Atlantic)
425 (effect on cod eggs and larvae in SA 2 and 3)
477 (effect on survival of Pacific salmon fry)
515 (effect on fecundity of Grand Bank haddock)
537 (effect on growth of Icelandic cod)
545 (effect on cod growth in Nfld area)
557 (effect on cod growth in SA 1)
571 (effect on haddock in Barents Sea)
591 (effect on herring fishery at Magdalen I.)
597 (effect on herring abundance in SA 4 and 5)
625 (effect on herring larvae along Maine coast)
635 (re herring distribution in Barents Sea)
673 (effect on fish eggs and larvae)
687 (effect on fish fecundity and egg size)
691 (effect on physiology of cod)
717 (effect on cod in Barents Sea)
747 (effect on osmoregulation in teleosts)
767 (effect on fishing off SE Greenland)
775 (effect on fish behavior and fishing)
795 (anomalies off St. John's, Nfld)
807 (long-term variations on Scotian Shelf)
817 (long-term trends at W Greenland)
821 (surface temperatures in N Atlantic, 1876-1961)
827 (variations re cod in SA 1 to 3)
833 (effect on cod recruitment in SA 4 and 5)
847 (variations along the Maine coast)
855 (long-term trends in NE Atlantic)
859 (surface temperatures at St. Andrews, NB)
869 (conditions in the Barents Sea)
881 (oceanographic forecasting re fisheries)
885 (effect on weather in N Pacific)
897 (surface temperatures in open ocean)
901 (forecasting conditions in NE Atlantic)
903 (conditions re fisheries in N Atlantic)
909 (aspects of oceanographic prediction)
- 7 : 31 (physical oceanography, NORWESTLANT surveys)
57 (chemical oceanography, NORWESTLANT surveys)
- 8 : 9 (temperatures in N Atlantic, 1960-70)
35 (hydro-meteorological events in N Atlantic)

- 63 (temperature variations in SA 2 and 3)
- 149 (water circulation in NW Atlantic)
- 187 (re phytoplankton blooming in N Atlantic)
- 10 : 7 (1972 - an unusual year)
- 17 (conditions off Nfld, 1951-73)
- 33 (temperatures in SA 2 and 3, 1971-73)
- 41 (current system east of Grand Bank, 1972)
- 57 (circulation in Nfld ridge area, 1972)
- 69 (circulation in SA 2 and 3, 1972-73)
- 75 (salinity conditions in SA 2 and 3, 1972-73)
- 79 (international ice patrol operations, 1972)
- 107 (temperatures in SA 4 and 5, 1960-68)
- 115 (temperatures in SA 4 and 5, 1972)
- 121 (circulation east of Grand Bank, 1973)

Hydroids

- R3(62):132 (food of redfish in SA 2 and 3)

Hyperfiids

- RB 13 : 11 (food of cod in SA 2 to 4)
- SP 7 : 225 (food of redfish in open ocean)

IIce; Ice conditions

- AR 4 : 67 (the waters of the ICNAF Convention Area)
- RB 13 : 31 (effect on year-class success in haddock)
- R3(72): 5 (conditions off W Greenland, 1971)
- SP 6 : 523 (effect on year-class strength of fish)
- 591 (effect on herring fishery at Magdalen I.)
- 767 (effect on fishing off E Greenland)
- 817 (effect on cod at W Greenland)
- 7 : 29 (conditions at Greenland, 1963)
- 8 : 35 (re meteorological events in N Atlantic)
- 71 (growth and decay of glaciers)
- 89 (ice and its drift in N Atlantic)
- 9 : 7 (polar ice off W Greenland, 1900-72)
- 29 (variation in ice season off E Canada)
- 41 (time-space variation in Greenland ice pack)
- 47 (outline of sea ice services in Japan)
- 10 : 7 (1972 - an unusual year)
- 79 (international ice patrol operations, 1972)

Iceland

- AR 3 : 38 (research report for 1952)
- 4 : 38 (research report for 1953)
- 5 : 42 (research report for 1954)
- 6 : 42 (research report for 1955)
- 7 : 39 (research report for 1956)
- 8 : 42 (research report for 1957)
- 9 : 54 (research report for 1958)
- 10 : 59 (research report for 1959)
- 11 : 53 (research report for 1960)
- R2(62): 69 (research report for 1961)
- (63): 49 (research report for 1962)
- (64): 52 (research report for 1963)
- (65): 66 (research report for 1964)
- (66): 57 (research report for 1965)
- (67): 64 (research report for 1966)
- (68): 65 (research report for 1967)
- (69): 52 (research report for 1968)
- (70): 77 (research report for 1969)

Iceland area (Northeast Atlantic)

- RB 5 : 44 (serum proteins re redfish maturation)
- 86 (serum proteins re redfish types)

- 130 (redfish taxonomy re muscle thermostability)
- 6 : 26 (catch/effort relations in cod stocks)
- 8 : 27 (redfish larvae in N Atlantic)
- R3(65):194 (tagged salmon recaptured in SA 1, 1964)
- (66):181 (tagged salmon recaptured in SA 1, 1965)
- (68): 81 (tagged salmon recaptured in SA 1, 1967)
- SP 3 : 42 (the race problem in redfish - Abstr.)
- 45 (typing redfish by otoliths)
- 104 (biochemical studies on redfish)
- 124 (redfish distribution re hydrography)
- 163 (observations on redfish)
- 199 (distribution on redfish fry - Abstr.)
- 201 (Danish studies on redfish distribution)
- 216 (young redfish in recorder surveys)
- 251 (redfish migration and sex ratio - Abstr.)
- 6 : 523 (year-class strength of fish stocks)
- 537 (growth of cod re temperature)
- 8 : 223 (year-class success in cod and haddock)

Ichthyosporidium (see Fungus disease)Illex illecebrosus (see Squid, short-finned)Immunology (see Biochemical analysis)Instruments (see Apparatus)Ireland

- R3(65):194 (tagged salmon recaptured in SA 1, 1964)
- (66):181 (tagged salmon recaptured in SA 1, 1965)
- (68): 81 (tagged salmon recaptured in SA 1, 1967)

Irminger Sea (see also NORWESTLANT Surveys)

- AR 4 : 67 (the waters of the ICNAF Convention area)
- RB 1 : 39 (redfish over oceanic depths)
- 107 (adult redfish in the open ocean)
- 8 : 27 (redfish larvae in the N Atlantic)
- R3(62): 43 (redfish larval distribution in N Atlantic)
- SP 3 : 124 (redfish distribution re hydrography)
- 194 (redfish larvae at Ocean Weather Stations)
- 199 (distribution of redfish fry - Abstr.)
- 201 (Danish studies on redfish distribution)
- 216 (redfish larvae in recorder surveys)
- 6 : 289 (redfish larvae re environment - Abstr.)
- 303 (redfish larvae re plankton distribution)
- 417 (redfish larvae re temperature)

Isopods

- R3(73): 75 (food of yellowtail off New England)

Isotopes

- SP 4 : 64 (marking salmon from with trace elements)
- 248 (non-mutilation marks for fish)
- 359 (a radioactive tag for herring)

Istiophorus albicans (see Sailfish, Atlantic)Italy

- AR 11 : 54 (research report for 1960)
- R2(62): 76 (research report for 1961)

JJapan

- R2(71): 90 (research report for 1970)

- (72): 55 (research report for 1971)
 (73): 53 (research report for 1972)
 SP 9 : 47 (outline of sea ice services in Japan)

K

King crab (see Crab, king)

L

Labrador area (Subarea 2) (see also NORWESTLANT Surveys which contain several papers relevant to this area)

- AR 3 : 62 (knowledge of groundfish stocks)
 79 (hydrography re marine animal abundance)
 4 : 67 (the waters of the ICNAF Convention Area)
 9 : 103 (cod investigations, 1950-58)
 11 : Supplement (fishery re regulation problems)
 RB 1 : 28 (cod catch size and trawl selectivity)
 85 (hydrographic conditions, 1962)
 2 : 8 (trawl selection and girth-length for cod)
 31 (trends in the cod fishery)
 59 (catch/effort assessment for cod)
 3 : 49 (studies on deep-sea redfish)
 64 (distribution of redfish)
 4 : 5 (studies on salmon in SA 1 and 2)
 67 (offshore and inshore cod fisheries)
 116 (age validation of cod by otoliths)
 5 : 130 (redfish taxonomy re muscle thermostability)
 6 : 26 (catch/effort relation for cod)
 79 (age and growth of redfish)
 8 : 27 (redfish larval distribution)
 37 (effect of mesh increase on cod fishery)
 75 (assessment of Div. 2J cod stock)
 9 : 27 (food and feeding of salmon)
 10 : 23 (spawning of A. plaice)
 83 (distribution of G. halibut)
 117 (cod selection with Polish-type chafer)
 11 : 31 (natural mortality in Div. 2J+3KL cod)
 111 (spawning and development of witch)
 12 : 37 (status of redfish fisheries in SA 2 and 3)
 13 : 5 (age and growth of G. halibut)
 11 (predation of cod on capelin)
 21 (capelin ecology and surplus yield)
 14 : 5 (cod migrations in Nfld area from tagging)
 R3(62): 14 (hydrographic conditions, 1961)
 31 (plankton in recorder surveys)
 56 (USSR plankton studies, 1960-61)
 62 (cod and redfish distribution)
 79 (cod stocks in NW Atlantic)
 132 (feeding patterns of redfish)
 (66): 143 (hydrographic conditions, 1965)
 (67): 22 (age and growth of cod)
 (68): 3 (changes in cod distribution)
 21 (comparative fishing experiments)
 40 (hydrographic conditions, 1967)
 (69): 3 (cod stocks in Div. 2J and 3K, 1963-68)
 66 (hydrographic conditions, 1968)
 (70): 11 (hydrographic conditions, 1969)
 37 (hydrographic observations, 1969)
 65 (catch/effort assessment for cod)
 (71): 5 (hydrographic conditions, 1970)
 49 (hydrographic conditions, 1970)
 115 (feeding and migration of grenadier)
 125 (age and growth of grenadier)
 157 (production of harp seals in NW Atlantic)
 185 (Norwegian studies on harp seals)
 275 (summary of NORWESTLANT surveys)
 (72): 11 (hydrographic conditions, 1971)
 19 (hydrographic conditions, 1971)
 27 (variation in water circulation, 1970-71)
 35 (assessment of cod in Div. 2J+3KL)
 65 (tagged salmon recaptured in SA 1)
 (73): 13 (hydrographic conditions, 1971-72)
 19 (hydrographic conditions, 1972)
 53 (depth distribution of redfish)
 121 (USSR studies on capelin)
 153 (Canadian squid catches, 1920-68)
 SE 1 : 107 (status of groundfish resources)
 163 (mixed cod and redfish fishery in SA 2)
 2 : 45 (assessment of roundnose grenadier)
 3 : 23 (status of witch stock in Div. 2J+3KL)
 6 : 53 (geostrophic circulation in SA 0 to 3)
 SP 1 : 331 (cod stocks in Nfld area - Abstr.)
 3 : 28 (racial studies on redfish)
 56 (vertebral numbers in redfish)
 119 (*Sphyrion lumpi* on redfish - Abstr.)
 140 (observations on redfish types)
 148 (Canadian redfish catches, 1949-58)
 157 (redfish distribution, 1959)
 251 (redfish migration and distribution - Abstr.)
 4 : 318 (*Lernaeocera* as indicator of cod movements)
 6 : 29 (hydrographic aspects of NW Atlantic)
 137 (mass fish mortalities re temperature)
 149 (cod distribution re temperature)
 425 (cod eggs and larvae re hydrography)
 449 (cod behaviour re food)
 545 (cod growth and temperature)
 781 (bottom topography and trawling)
 827 (cod stocks re hydrographic changes)
 7 : 1 (NORWESTLANT surveys, 1963)
 8 : 63 (temperature variations in SA 2 and 3)
 129 (bottom marine geology of NW Atlantic)
 149 (water circulation in NW Atlantic)
 9 : 29 (variation in ice season off Canada)
 10 : 17 (hydrographic conditions, 1951-73)
 33 (temperature conditions, 1971-73)
 69 (circulation in SA 2 and 3, 1972-73)
 75 (salinity conditions, 1972-73)

Lake Michigan

- SP 4 : 38 (population studies from walleye tagging)

Lance (see Sand lance)Lancetfishes

- RB 4 : 5 (food of salmon in SA 1 and 2)
 9 : 27 (food of salmon in NW Atlantic)
 SP 6 : 449 (food of cod and haddock in Nfld area)

Landings (see Catches)Lanternfishes (myctophids)

- RB 5 : 62 (food of salmon off Nfld)
 9 : 27 (food of salmon in NW Atlantic)
 13 : 11 (food of cod in SA 2 to 4)
 SE 5 : 31 (food of squid in SA 4 to 6)

Larvae

- AR 11 : 103 (redfish in plankton surveys, 1955-60)
 RB 3 : 26 (redfish off E and W Greenland)
 8 : 27 (redfish distribution in N Atlantic)
 10 : 23 (A. plaice distribution in NW Atlantic)
 125 (herring spawning in SA 5, 1970)
 141 (herring over egg beds in Div. 5Z)
 11 : 61 (in plankton recorder surveys, 1961-71)
 111 (spawning and development of witch flounder)
 14 : 67 (maturity and fecundity of *Illlex* in SA 4)

- R3(62): 43 (redfish distribution in N Atlantic)
 (70):123 (herring from Georges Bank spawning)
 (71): 29 (distribution in Div. 3P and 4V, 1970)
 83 (distribution of haddock in SA 3 to 5)
 93 (retention of herring in Bay of Fundy)
 275 (distribution in NORWESTLANT surveys)
- SE 5 : 7 (environment re cod year-classes in Div. 3M)
 43 (feeding of herring larvae in SA 5, 1965-75)
 6 : 7 (reproduction in captive *Illex*)
- SP 1 :267 (re differentiation of fish stocks)
 279 (re haddock year-class success - Abstr.)
 281 (cod distribution in Barents Sea)
 289 (drift migrations in NE Atlantic)
 3 :124 (redfish re hydrography in N Atlantic)
 157 (redfish in Davis Strait and Labrador Sea)
 167 (redfish distribution in N Atlantic)
 169 (*Sebasteoides* larvae off California)
 177 (redfish in Norwegian and Barents Sea)
 188 (redfish in western Barents Sea)
 194 (redfish at Ocean Weather Stations)
 195 (redfish in SA 4 surveys, 1954-55)
 199 (redfish in Iceland area - Abstr.)
 201 (redfish distribution in N Atlantic)
 216 (redfish in recorder surveys)
 220 (vertical distribution of redfish in SA 5)
 234 (stages of *Sebastes* and *Helicolenus* spp.)
 241 (caudal pigmentation in redfish - Abstr.)
 241 (distribution in Norwegian waters - Abstr.)
 6 : 53 (Pacific sardine re environment)
 289 (redfish in Irminger Sea - Abstr.)
 303 (redfish re plankton in Irminger Sea)
 309 (redfish in N Atlantic)
 317 (haddock in Gulf of Maine)
 335 (factors affecting dispersal and survival)
 355 (drift migrations in N Atlantic)
 363 (survival re year-class strength of cod)
 381 (changes in survival re environment)
 389 (survival of cod in SA 1)
 397 (abundance of cod in Barents Sea)
 411 (cod feeding re plankton distribution)
 417 (redfish distribution re temperature)
 425 (cod re hydrography in SA 2 and 3)
 625 (herring ecology in Gulf of Maine)
 673 (effect of abiotic factors on young)
 7 :127 (redfish off E and W Greenland)
 145 (redfish in NORWESTLANT surveys)
 157 (redfish in plankton recorder surveys)
 163 (capelin in NORWESTLANT surveys)
 175 (halibut species in NORWESTLANT surveys)
 181 (A. plaice in NORWESTLANT surveys)
 183 (wolffishes in NORWESTLANT surveys)
 187 (feeding of cod and redfish larvae)
 8 :223 (year-class success in cod and haddock)
 10 : 95 (in plankton recorder surveys, 1972)
- Laurentian Channel (see also Cabot Strait)
- AR 4 : 67 (the waters of the ICAF Convention Area)
 R3(71):267 (commercial fish caught on shrimp grounds)
 (73): 13 (hydrographic conditions, 1971-72)
 33 (hydrographic conditions, 1972)
 RB 14 : 5 (cod migrations in Nfld area from tagging)
- Leucithaster spp. (trematodes)
- SE 6 : 41 (parasites of flounders in NW Atlantic)
- Lee's phenomenon
- SP 1 :229 (in North Sea haddock and plaice)
 243 (in Georges Bank haddock)
- Length; Length composition (see Selection for length data pertaining to gear selection studies)
- AR 8 : 99 (fishery for cod in Gulf St. Lawrence)
 9 :103 (cod investigations in SA 2, 1950-58)
 11 :103 (redfish larvae from recorder surveys)
- RB 1 : 43 (haddock off SW Nova Scotia, 1956-61)
 88 (sea scallops on Georges Bank)
 2 : 8 (and girth relation for SA 2 cod)
 31 (cod fishery off Nfld and Labrador)
 48 (groundfish species in SA 4)
 76 (homogeneity in SA 5 haddock catches)
 3 : 32 (and weight relations for SA 5 scallops)
 49 (redfish in Nfld-Labrador area)
 55 (catch in SA 3 haddock fishery)
 64 (redfish in Nfld-Labrador area)
 81 (argentine on Scotian Shelf)
 106 (blueback and alewife in SA 5)
 4 : 5 (salmon from Labrador Sea and Greenland)
 53 (catches of A. plaice in SA 3)
 76 (silver hake in SA 4 and 5)
 91 (re growth of witch on Scotian Shelf)
 116 (re age validation of SA 2 cod by otoliths)
 121 (and weight relation for flounders in SA 4)
 5 : 5 (cod in W Nfld fishery)
 49 (herring fishery in SA 5)
 62 (and weight relation for salmon in SA 3)
 99 (haddock fishery on Scotian Shelf)
 137 (conversion factors for SA 3 haddock)
 6 : 5 (re growth of yellowtail in SA 5 and 6)
 35 (redfish fishery on Grand Bank)
 53 (cod in snella catches off Greenland)
 79 (redfish catches in the Nfld area)
 107 (re growth of silver hake in SA 5)
 119 (and weight relation for G. halibut)
 7 : 5 (re growth of A. plaice in SA 5)
 32 (re mesh changes for cod in Div. 3NO)
 52 (re growth estimates from age-length keys)
 59 (juvenile herring in Bay of Fundy)
 8 : 21 (white hake tagged in Gulf St. Lawrence)
 27 (redfish larvae in N Atlantic surveys)
 37 (re mesh changes in SA 2 and 3 cod)
 49 (haddock fishery on eastern Scotian Shelf)
 59 (herring from Magdalen I. and SW Nfld)
 67 (herring from SW Nfld and Scotian Shelf)
 75 (re assessment of cod in Div. 2J)
 87 (*Merluccius bilinearis* and *M. albidus*)
 9 : 51 (cod fishery in south Gulf St. Lawrence)
 75 (cod fishery on St. Pierre Bank)
 85 (cusk on Scotian Shelf)
 99 (re fecundity of herring in Nfld area)
 109 (argentine on Scotian Shelf)
 117 (cod on eastern Scotian Shelf)
 10 : 15 (herring stock in Fortune Bay, Nfld)
 63 (A. plaice stock on Grand Bank)
 99 (A. plaice in Div. 4Vn off Cape Breton)
 163 (and weight relation for salmon in SA 1)
 11 : 5 (redfish fisheries in SA 3)
 43 (herring stock in Div. 3P and 4T)
 107 (cod fishery in Div. 3NO)
 125 (re growth of yellowtail in Div. 3LNO)
 145 (herring in SW Nfld area, 1965-71)
 12 : 29 (re growth of cod in SA 5)
 37 (redfish fishery in SA 2 and 3)
 135 (re weight of witch in Nfld area)
 13 : 5 (growth of G. halibut in SA 2 to 4)
 21 (re age of capelin in SA 2 and 3)
 31 (age and growth of haddock in Div. 3NO)
 53 (re maturity of haddock in Div. 3NO)
 67 (herring stock in Div. 3P and 4T)
 14 : 51 (re selection of silver hake and squid)

- 73 (re diurnal variation in witch flounder)
 77 (re maturity of haddock in Div. 3P)
 85 (age and growth of haddock in Div. 3P)
 R3(62): 62 (cod, haddock and redfish in SA 2 to 4)
 69 (cod and haddock in SA 2 and 3)
 (65): 164 (need for redfish data by depth zones)
 178 (redfish catches in Nfld area)
 181 (size changes in herring from freezing)
 190 (size changes in herring from freezing)
 194 (tagged salmon recaptured in SA 1, 1964)
 (66): 3 (report of working group on SA 1 cod, 1966)
 34 (cod catches off W Greenland)
 48 (re age and weight of cod in SA 1)
 85 (re girth for cod and haddock)
 97 (re girth for cod off W Greenland)
 181 (salmon in fishery off Greenland, 1965)
 (67): 3 (cod stocks off W Greenland)
 22 (re growth of cod off Labrador)
 39 (herring fishery in SA 5, 1966)
 53 (and weight for salmon in Maine)
 75 (re girth for cod off W Greenland)
 (68): 21 (catches in comparative fishing experiments)
 53 (herring in SA 5 fishery, 1967)
 62 (swordfish catches in SA 3 and 5)
 (69): 3 (cod catches in Div. 2J+3K, 1963-68)
 23 (herring catches in SA 4 to 6, 1968)
 79 (size changes in fish from freezing)
 90 (conversion factors for cod)
 94 (re girth for haddock in SA 3)
 96 (age-length key studies)
 (70): 56 (young cod in surveys off Labrador)
 111 (yellowtail in fishery off New England)
 153 (redfish by depth on Flemish Cap)
 (71): 57 (re girth of cod on Scotian Shelf)
 93 (herring in Bay of Fundy)
 105 (herring catches in Nfld area, 1965-70)
 125 (roundnose grenadier catches, 1967-70)
 147 (re weight relation for SA 5 scallops)
 211 (yellowtail in trawl surveys in SA 5 and 6)
 239 (cod in survey catches in Subdiv. 3Ps)
 (72): 45 (A. plaice catches in Subdiv. 3Ps)
 79 (scallops in Georges Bank fishery)
 (73): 41 (and weight re age for cod in SA 1)
 51 (re growth in cod off W Greenland)
 53 (redfish by depth in SA 2 and 3)
 79 (flatfish species on Scotian Shelf)
 101 (white hake catches in SA 3)
 109 (herring catches in SA 3 and 4)
 119 (re weight for herring in Bay of Fundy)
 121 (capelin catches in SA 2 and 3)
 127 (capelin catches on Grand Bank)
 137 (capelin catches in Nfld area)
 145 (re squid assessment in SA 5 and 6)
 SE 1 : 7 (re growth of cod in Div. 4Vsw)
 19 (diurnal variation in Div. 3P redfish)
 31 (redfish fishery in Div. 4VWX)
 41 (silver hake fishery in Div. 4VWX)
 59 (summer flounder catches in SA 5 and 6)
 2 : 11 (witch flounder fishery in Subdiv. 3Ps)
 15 (re weight for pollock in SA 4 and 5)
 45 (roundnose grenadier in SA 0 to 3)
 55 (growth of *Illex* and *Loligo* in ICAAF stocks)
 85 (re weight for *Illex* and *Loligo* in SA 5 and 6)
 3 : 7 (dynamics of cod stock in Div. 4RS)
 17 (redfish in trawl catches in Div. 3M)
 23 (witch flounder in Div. 2J+3KL)
 33 (growth of silver hake in Div. 4VWX)
 73 (growth of butterfish in SA 5 and 6)
 4 : 16 (biological data for shrimp in SA 0)
 35 (Norwegian studies on shrimp in SA 1)
 47 (USSR studies on shrimp in SA 1)
 51 (life cycle of shrimp in SA 1)
 5 : 11 (re age for silver hake in SA 4)
 49 (re selection studies in Div. 4VWX)
 6 : 27 (shrimp fishery in SA 1, 1977-78)
 SP 1 : 113 (methods used in fish age and growth)
 139 (instrumentation for fisheries research)
 151 (methods used in fishery research)
 3 : 12 (catches of Pacific ocean perch)
 45 (otolith size re redfish types)
 94 (otolith size re redfish types)
 122 (redfish catches in Div. 4RST)
 140 (redfish catches off Labrador)
 142 (redfish in groundfish surveys in SA 4)
 148 (redfish catches in SA 2 to 4, 1949-58)
 157 (redfish catches in SA 0 and 2, 1959)
 163 (redfish in Iceland area)
 177 (redfish larvae in NE Atlantic)
 188 (redfish larvae in Barents Sea)
 194 (redfish larvae at Ocean Station A)
 195 (redfish larvae in SA 4, 1954-55)
 199 (redfish fry at Iceland - Abstr.)
 201 (redfish larvae in N Atlantic)
 220 (young redfish in Gulf of Maine)
 258 (redfish in Godthaab Fjord, Greenland)
 263 (redfish at Eastport, Maine)
 276 (redfish in Hermitage Bay, Nfld)
 285 (redfish catches in Barents Sea)
 291 (*Sebastes viviparus* from Norway)
 5 : 180 (sampling catches at sea)
 6 : 481 (parasitized redfish in Gulf of Maine)
 515 (haddock re fecundity in SA 3)
 7 : 127 (cod larvae in NORWESTLANT surveys)
 139 (cod catches off Labrador)
 145 (redfish larvae in NORWESTLANT surveys)
 157 (redfish larvae in recorder surveys)
 163 (capelin larvae in NORWESTLANT surveys)
 175 (G. halibut larvae in NORWESTLANT surveys)
 219 (adult fish from NORWESTLANT surveys)
 251 (cod year-classes off W Greenland)
- Lepeophtheirus spp. (copepod)
 SE 6 : 41 (parasite of flounders in NW Atlantic)
 RB 4 : 5 (parasite of salmon in SA 1 and 2)
 5 : 62 (parasite of salmon off Nfld)
- Lepidophyllum steenstrupii (trematode)
 SE 6 : 41 (parasite of wolffishes in NW Atlantic)
- Leptothecca spp. (myxosporidian)
 SE 6 : 41 (parasites of flounders in NW Atlantic)
- Lernaecera spp. (copepod)
 AR 3 : 62 (parasite of cod in SA 2 and 3)
 R (58): 36 (need for information on ectoparasites)
 SP 4 : 318 (indicator of cod movements in Nfld area)
- Light, reactions to (see also Diurnal effects)
 SP 6 : 647 (intensity effect on fish behaviour)
 673 (effect on young stages of fish)
 691 (reactions to, in Barents Sea cod)
 8 : 187 (and phytoplankton blooming in N Atlantic)
- Limanda ferruginea (see Flounder, yellowtail)
- Line gears (longlines, handlines, etc.)
 AR 8 : 83 (gear selection data for NW Atlantic)
 R3(68): 62 (swordfish catches in SA 3 to 5)
 (73): 233 (fishing unit measures for hooked gears)
 SP 1 : 27 (report on selectivity of fishing gears)

- 5 : 5 (capture with baits re fish behaviour)
131 (hook selection for groundfish in SA 4)
189 (selection studies on longlines)
- Lings (*Molva* spp.)
- SP 1 :313 (distribution in N Atlantic)
- Load elongation curves (fish net twines)
- R3(66): 85 (for manila and synthetic twines)
(71): 57 (for synthetic twines)
SP 1 :253 (measurement of trawl meshes)
5 : 18 (and selection for synthetic twines)
193 (the stretch of trawl net meshes)
- Lobster, American (*Homarus americanus*)
- AR 3 : 68 (abundance re hydrography in SA 5)
79 (abundance re hydrography in SA 3)
R3(69):144 (in USA-USSR trawl surveys, 1968)
(73):163 (in trawl surveys in SA 5 and 6)
- Lobsters (general)
- SP 4 :188 (tagging for growth and mortality studies)
- Logbook
- RI(71): 67 (proposed format for international use)
MP(75):118 (report of ICNAF/NEAFC working group, 1975)
- Loligo pealei (see Squid, long-finned)
- Long-finned squid (see Squid, long-finned)
- Lophius americanus (see Angler, American)
- Lumpfish (*Cyclopterus lumpus*)
- SP 6 :199 (affected by cold water in SA 1)
747 (supercooling and osmoregulation)

M

- Mackerel, Atlantic (*Scomber scombrus*)
- AR 3 : 68 (abundance re hydrography in SA 5 - Abstr.)
79 (distribution re hydrography in SA 3)
RB 10 : 79 (incidence of *Anisakis* in SA 6)
12 : 5 (abundance in surveys off USA coast)
R3(70):159 (in USA-USSR trawl surveys, 1969)
(73):163 (species mix in SA 5 and 6 fisheries)
SE 2 : 33 (distribution in SA 5 and 6)
3 : 45 (abundance indices for SA 5 and 6)
49 (abundance in SA 5 and 6 from surveys)
79 (variance in age composition of catches)
SE 5 : 49 (mesh selection studies in Div. 4VWX)
SP 1 :327 (summer spawning in North Sea)
6 :137 (mortality re temperature in Nfld area)
- Mackerel research (meeting reports)
- RI(73): 87 (report of working group, 1973)
R (74): 31 (report of working group, Jan 1974)
117 (report of working group, Jun 1974)
(76):157 (report of working group, Jun 1976)
(77): 25 (report of working group, Dec 1976)
- Macrourus berglax (see Grenadier, roughhead)

Macrourus rupestris (see Grenadier, roundnose)

Macrozoarces americanus (see Ocean pout)

Maine (see Gulf of Maine)

Makaira albida (see Marlin, white)

Mallotus villosus (see Capelin)

Mammals (see under specific names)

Management (only selected references to the Commission's conservation program are given below: see also under Management proposals)

- AR 2 : 23 (mesh regulation for haddock in SA 5)
8 : 82 (assessment of mesh regulation proposal)
103 (report on exemptions to mesh regulations)
9 : 98 (report on exemptions to mesh regulations)
10 :120 (report on exemptions to mesh regulations)
11 : Supplement (fisheries re regulation problems)
15 : 47 (possible conservation actions for ICNAF)
17 : 48 (assessment of conservation actions)
57 (biological aspects for SA 5 haddock)
59 (economic aspects for SA 5 haddock)
62 (biological aspects for SA 1 cod)
64 (economic aspects for SA 1 cod)
69 (biological aspects for NE Arctic fisheries)
73 (economic aspects for NE Arctic fisheries)
83 (control of fishing on several stocks)
22 : 43 (23 conservation proposals for 1973)
23 : 28 (7 conservation proposals for 1973)
62 (31 conservation proposals for 1974)
24 : 27 (2 conservation proposals for SA 5 and 6)
52 (3 conservation proposals for 1974)
87 (14 conservation proposals for 1975)
25 : 29 (8 conservation proposals for 1975)
48 (conservation proposal for capelin in 1975)
84 (11 conservation proposals for 1976)
26 : 34 (7 conservation proposals for 1976)
61 (9 conservation proposals for 1976)
105 (8 conservation proposals for 1977)
27 : 33 (10 conservation proposals for 1977)
67 (conservation proposal re 1978 quotas)
28 : 40 (conservation proposal re 1979 quotas)
29 : 31 (3 conservation proposals for 1979)
51 (3 conservation proposals for 1980)
RB 7 : 32 (effect of mesh increase on Div. 3NO cod)
8 : 37 (effect of mesh increase on SA 2 and 3 cod)
RB 11 : 17 (error sources in catch and effort regulation)
12 : 83 (yield allocation in multi-species fisheries)
R (58): 25 (assessment of benefits of mesh regulation)
(59): 56 (assessment of mesh regulations)
83 (fishery assessment re regulation problems)
(60): 38 (fishery assessment re regulation problems)
(61):114 (report on exemptions to mesh regulations)
R3(64):143 (mesh size equivalents for ICNAF regulations)
(66): 34 (effect of possible regulation on SA 1 cod)
48 (effect of closure to trawling SA 1 cod)
(67): 3 (efficient use of SA 1 cod stocks)
(69): 10 (stock size and catch quota for SA 1 cod)
(70): 49 (Flemish Cap cod for experimental regulation)
(73):217 (mixed species fisheries in SA 5 and 6)
R (76): 29 (report on effort regulation in SA 2 to 4)
SE 1 :129 (non-equilibrium regulation of fisheries)
141 (environment and fisheries management)
171 (cod recruitment re management in Div. 4T)
4 : 7 (protective measures for shrimp in SA 1)
43 (determining the TAC for shrimp in SA 1)
5 : 61 (re density-dependent processes in harp seals)
SP 1 :111 (effect of mesh regulation in SA 5 haddock)

Management proposals (the numerous resolutions and proposals relevant to the Commission's conservation program prior to 1972 were not set out separately but were written into the reports of Panel and Plenary meetings: only those proposals listed separately in the Annual Reports from 1972 are referenced below)

- AR 22 : 43 (salmon conservation in NW Atlantic)
 45 (cod quotas for 2J+3KL stock, 1973)
 46 (cod quotas for 3Ps stock, 1973)
 47 (cod quotas for 3NO stock, 1973)
 48 (cod quotas for 4Vsw stock, 1973)
 49 (cod quotas for 5Y stock, 1973)
 50 (cod quotas for SA 5 stock, 1973)
 51 (A. plaice quotas for 3LNO stock, 1973)
 52 (yellowtail quotas for 3LNO stock, 1973)
 53 (yellowtail quotas for 5(east of 69°), 1973)
 54 (yellowtail quotas for 5(west of 69°), 1973)
 55 (silver hake quotas for 5Y stock, 1973)
 56 (silver hake quotas for 5Ze stock, 1973)
 57 (silver hake quotas for 5Zw+6 stock, 1973)
 58 (red hake quotas for 5Zw+6 stock, 1973)
 59 (amended haddock regulations for SA 5)
 60 (haddock quota for SA 5 stock, 1973)
 61 (haddock quota for 4X stock, 1973)
 62 (haddock quota for 4W stock, 1973)
 63 (hake trawl regulations for SA 5)
 64 (amended trawl regulation for SA 4)
 65 (amended trawl regulation for SA 5)
 66 (scallop size limit for 5Z stock)
 70 (herring quotas for 5Z+6 stock, 1972)
 71 (herring quotas for 5Y stock, 1972)
 72 (herring quotas for 4XW(b) stock, 1972)
 73 (herring size limit for SA 4 and 5)
 23 : 28 (herring quotas for 5Z+6 stock, 1973)
 30 (herring quotas for 5Y stock, 1973)
 31 (herring quotas for 4XW(b) stock, 1973)
 32 (flounder quotas for SA 5+6, 1973)
 33 (mackerel quotas for SA 5+6, 1973)
 34 (pollock quotas for 4X+5 stock, 1973)
 35 (redfish quotas for SA 5, 1973)
 62 (cod quotas for SA 1 stock, 1974)
 63 (cod quotas for 2GH stock, 1974)
 64 (cod quotas for 2J+3KL stock, 1974)
 65 (witch quotas for 2J+3KL stock, 1974)
 66 (cod quotas for 3M stock, 1974)
 67 (cod quotas for 3NO stock, 1974)
 68 (cod quotas for 3Ps stock, 1974)
 69 (A. plaice quotas for 3LNO stock, 1974)
 70 (yellowtail quotas for 3LNO stock, 1974)
 71 (redfish quotas for 3M stock, 1974)
 72 (redfish quotas for 3LN stock, 1974)
 73 (redfish quotas for 3O stock, 1974)
 74 (redfish quotas for 3P stock, 1974)
 75 (witch quotas for 3NO stock, 1974)
 76 (witch quotas for 3Ps stock, 1974)
 77 (cod quotas for 4Vsw stock, 1974)
 78 (haddock regulations for 4X stock, 1974)
 79 (haddock regulations for 4VW stock, 1974)
 80 (herring quota for 4VW(a) stock, 1974)
 81 (herring quotas for 4XW(b) stock, 1974)
 82 (redfish quotas for 4VWX stock, 1974)
 83 (silver hake quotas for 4VWX stock, 1974)
 84 (flounder quotas for 4VWX stock, 1974)
 85 (pollock quotas for 4VWX+5 stock, 1974)
 86 (haddock regulations for SA 5 stock, 1974)
 87 (herring quota for 5Z+6 stock, 1974)
 88 (herring quota for 5Y stock, 1974)
 89 (mackerel quota for 5+6 stock, 1974)
 90 (hake trawl regulations for SA 5)
 91 (seal regulations for 1974)
 92 (amended joint enforcement scheme)
 24 : 27 (quotas for SA 5 and 6 stocks, 1974)
 30 (fishing gear regulations for SA 5+6)
 52 (herring size limit for SA 4 and 5)
 53 (quotas for deferred SA 5+6 stocks, 1974)
 54 (amended quotas for SA 2 to 4 stocks, 1974)
 87 (amended scheme of joint enforcement)
 90 (capelin quotas for SA 2 and 3 stocks, 1975)
 91 (seal regulations for 1975)
 92 (amended trawl regulations for SA 3)
 93 (amended trawl regulations for SA 4)
 94 (amended trawl regulations for SA 5)
 95 (haddock regulation for 4X stock)
 96 (haddock regulation for SA 5 stock)
 97 (haddock regulation for 4VW stock)
 98 (amended herring size limit regulation)
 99 (fishing gear regulations for SA 5+6)
 100 (yellowtail regulation for 5(west of 69°)
 101 (quotas for stocks in SA 0 to 6, 1975)
 105 (management of quota regulations)
 25 : 29 (fishing gear restrictions for SA 5 and 6)
 30 (yellowtail quotas west of 69° in SA 5, 1975)
 31 (yellowtail quotas east of 69° in SA 5, 1975)
 32 (herring quotas for 5Y stock, 1975)
 33 (haddock closed area in Div. 4X)
 34 (haddock by-catches for 4VW stock)
 35 (haddock by-catches for 4X stock)
 36 (haddock regulations for SA 5 stock, 1975)
 48 (capelin quotas for 2+3 stocks, 1975)
 84 (notification procedure for research vessels)
 85 (cumulative catch reporting procedures)
 86 (haddock by-catches for 4VW stock)
 87 (cod and haddock by-catches for 4X stock)
 88 (herring quotas for 4VWX stocks, 1976)
 89 (herring quotas for 5Z+6 stock, 1976)
 90 (herring quotas for 5Y stock, 1976)
 91 (haddock regulations for SA 5 stock, 1976)
 92 (seal regulations for 1976)
 93 (mackerel size limit for SA 3 to 6)
 94 (quotas for various stocks in SA 0 to 6, 1976)
 26 : 34 (groundfish fishing effort in SA 2 to 4, 1976)
 37 (fishing gear regulations for SA 5+6)
 38 (registration of fishing vessels)
 39 (amendment to SA 3 trawl regulations)
 40 (amendment to SA 4 trawl regulations)
 41 (amendment to SA 5 trawl regulations)
 42 (quotas for deferred stocks in SA 2 to 6, 1976)
 61 (amendment to joint enforcement scheme)
 62 (amendment to quota management regulations)
 63 (amended fishing effort for SA 2 to 4, 1976)
 66 (amended seal regulations for 1976)
 67 (herring quotas for 5Z+6 stock, 1976)
 68 (herring quotas for 5Y stock, 1976)
 69 (herring quotas for 4VWX stocks, 1976)
 70 (herring size limit for SA 4 to 6 stocks)
 71 (mackerel size limit for SA 3 to 6 stocks)
 105 (amendment to joint enforcement scheme)
 109 (silver hake mesh regulations in SA 4)
 110 (haddock regulations for 4VW stock)
 111 (river herring regulations for SA 5+6)
 112 (sea scallop size limit for Div. 5Z)
 113 (amended haddock regulations for SA 5)
 114 (amended quotas for some stocks, 1976)
 115 (quotas for various stocks in SA 0 to 6, 1977)
 27 : 33 (seal regulations for 1977)
 34 (shrimp mesh regulation for SA 1)
 35 (small-mesh trawl regulations for Div. 4VWX)
 36 (red and silver hake areas in SA 5 and 6)
 37 (herring quotas for 5Z+6 stock, 1977)
 39 (squid season-area regulations in SA 5+6)
 41 (mackerel quotas for SA 5+6 stock, 1977)
 42 (repeal of fishing gear regulations in SA 5+6)
 43 (squid quotas for SA 5+6 stocks, 1977)
 44 (quotas for deferred stocks, 1977)

- 67 (quotas for certain stocks in SA 2 to 4, 1978)
 28 : 40 (quotas for certain stocks in SA 3, 1979)
 29 : 31 (amendment of joint enforcement scheme)
 34 (action re countries reaching their quotas)
 35 (capelin and squid quotas for 1979)
 51 (mesh regulation of squid fishery)
 52 (amendment of joint enforcement scheme)
 53 (quotas for certain stocks in SA 3, 1980)
- Marking (see Tagging)
- Marlin, white (*Makaira albida*)
 SP 4 :288 (tagging techniques for large pelagics)
- Maskinonge (*Esox masquinongy*)
 SP 4 :369 (population studies from tagging)
- Mathematical analysis (see also under Virtual population analysis, and Production model analysis)
- RB 2 : 73 (mortality and life span in exploited stocks)
 3 : 5 (estimating the fishing power of vessels)
 7 : 52 (growth and mortality from age-length keys)
 9 : 5 (discriminant function to classify herring)
 65 (virtual population technique by cohort analysis)
 11 : 17 (error sources in catch and effort regulation)
 73 (morphometrics of SA 3 and 4 herring)
 12 : 69 (least squares approach for catch-at-age data)
 83 (yield allocation in multi-species fisheries)
 13 : 81 (factors affecting catchability of trawls)
 R3(73):209 (factor analysis of catchability estimates)
 217 (model for estimating effect of by-catch)
 SE 1 :129 (non-equilibrium regulation of fisheries)
 151 (interactive fisheries: a two-species model)
 157 (biological interaction and fisheries theory)
 163 (fisheries theory re cod and redfish)
 2 : 71 (simulation model for SA 5-6 squid fishery)
 111 (variation in catchability coefficients)
 137 (effect of random fluctuations on a fishery)
 3 : 49 (mackerel abundance from survey data)
 79 (variance in age composition of mackerel)
 4 : 43 (estimating TAC for shrimp in SA 1)
 5 : 19 (analysis of silver hake abundance in Div. 4W)
 61 (density-dependent processes in harp seals)
 SP 1 : 77 (assessment of fishery resources)
 2 : 5 (effect of fishing on the resources)
 4 : 26 (bias in population estimate from tagging)
 71 (mortality rates from tagged cod in SA 4)
 84 (studies on North Sea haddock movements)
 218 (mortality estimates from tagging data)
 228 (analysis of double tagging experiments)
 230 (estimating mortality from tagging)
 238 (detection of incomplete tag reporting)
 258 (growth parameters from tagging data)
 330 (maximum likelihood estimates from tagging)
 342 (analysis of capture-recapture data)
 5 :106 (method of estimating gillnet selection)
 116 (analysis of haddock selection data)
 175 (experimental design in selection experiments)
- Maturation; Maturity (see also Spawning)
- AR 9 :103 (studies on cod in SA 3, 1950-58)
 RB 3 : 49 (studies on redfish in SA 2 and 3)
 64 (young redfish in SA 2 and 3)
 81 (argentine on Scotian Shelf)
 106 (blueback and alewife in SA 5)
 4 : 5 (salmon from Labrador Sea and Greenland)
 76 (silver hake in SA 4 and 5)
 5 : 5 (cod in W Nfld fishery)
 44 (of redfish from serum proteins)
 49 (herring in Gulf of Maine area)
 62 (salmon taken off Nfld)
 7 : 59 (juvenile herring in Bay of Fundy)
 8 : 59 (herring from Magdalen I. and SW Nfld)
 67 (herring from SW Nfld and Scotian Shelf)
 9 : 5 (re spring and autumn spawning herring)
 85 (cusk on the Scotian Shelf)
 10 : 15 (herring in Fortune Bay, Nfld)
 125 (herring on Georges Bank, 1970)
 11 :145 (studies on SW Nfld herring, 1965-71)
 13 : 53 (studies on haddock in Div. 3NO)
 14 : 67 (studies on *Illex* in SA 4)
 77 (studies on haddock in Div. 3P)
 R3(68): 53 (herring in Georges Bank fishery, 1967)
 (69): 23 (herring in SA 4 and 5 fishery, 1968)
 (71): 83 (haddock in SA 3 to 5)
 115 (roundnose grenadier in NW Atlantic)
 (72): 45 (A. plaice on St. Pierre Bank)
 (73):101 (biological studies on white hake)
 109 (biological data on herring in SA 3 and 4)
 127 (observations on capelin in Nfld area)
 SE 1 : 41 (silver hake in Div. 4VWX)
 2 : 55 (*Illex* and *Loligo* in SA 5 and 6)
 3 : 7 (dynamics of cod stock in Div. 4RS)
 17 (redfish in Flemish Cap area)
 61 (capelin spawning in Div. 3N, 1976)
 4 : 47 (USSR studies on shrimp in SA 1, 1976)
 51 (life cycle of shrimp in SA 1)
 6 : 7 (reproduction in captive *Illex*)
 SP 3 :243 (redfish sex and maturity in N Atlantic)
 6 :571 (cod re environment in Barents Sea)
 663 (fish physiology re environment)
 691 (and endocrine changes in cod)
 735 (herring re changes in environment)
 7 :139 (life-cycle pattern of cod in SA 2)
- Maximum sustainable yield (see Yield)
- Medusae
 SP 7 :101 (zooplankton in NORWESTLANT surveys)
- Meeting proceedings (see List of Titles for complete list of proceedings of annual and special meetings of ICNAF held during 1951-79)
- Meganctiphanes spp. (euphausiids)
 RB 13 : 11 (food of cod in SA 2 to 4)
 SE 5 : 31 (food of *Illex* and *Loligo* in SA 4 to 6)
- Melanogrammus aeglefinus (see Haddock)
- Melanophores (see also Chromatophores)
 SP 3 :201 (caudal pigmentation in redfish larvae)
 234 (in larval and postlarval redfish)
 241 (pigmentation in redfish larvae - Abstr.)
- Menhaden, Atlantic (*Brevoortia tyrannus*)
 AR 3 : 68 (distribution re hydrography - Abstr.)
 SP 4 :362 (marking with fluorescence pigments)
- Meristics (see also Fin rays, Gillrakers, Vertebrae)
- AR 3 : 62 (re groundfish stocks in SA 2 and 3)
 RB 4 : 5 (salmon from Labrador Sea and Greenland)
 5 : 62 (studies on salmon off Nfld)
 91 (herring stocks in Gulf of Maine)
 8 : 59 (herring at Magdalen I. and SW Nfld)
 67 (herring at SW Nfld and on Scotian Shelf)
 9 : 5 (for classifying spring and autumn spawners)

- 10 : 37 (herring in Nfld and adjacent waters)
 R3(62): 79 (cod stocks in the NW Atlantic)
 124 (haddock stocks in the NW Atlantic)
 (70): 75 (vertebral numbers in SA 3 haddock)
 148 (juvenile herring in Bay of Fundy)
 (73):109 (herring stocks in SA 3 and 4)
 SP 1 :139 (instrumentation in fishery research)
 331 (identifying cod in Nfld area - Abstr.)
 333 (identifying haddock stocks - Abstr.)
 3 : 12 (re taxonomy of Pacific ocean perch)
 28 (redfish stocks in the N Atlantic)
 42 (the race problem in redfish - Abstr.)
 51 (identifying Pacific *Sebastes*)
 56 (vertebral numbers in NW Atlantic redfish)

Merluccius albidus (see Hake, offshore)

Merluccius bilinearis (see Hake, silver)

Merluccius merluccius (see Hake, European)

Mesh assessment

- AR 8 : 82 (assessment of mesh regulation proposal)
 11 : Supplement (fisheries re regulation problems)
 RB 7 : 32 (for cod fisheries in Div. 3NO)
 8 : 37 (for cod fisheries in SA 2 and 3)
 R3(66): 3 (working group on cod in SA 1, 1966)
 34 (effect of regulations on SA 1 cod)

Mesh equivalents

- R3(64):143 (for different trawl materials)

Mesh gauge

- R (61):118 (gauges for measuring codends)
 123 (mesh measuring with different gauges)
 R3(62):141 (ICNAF and Westhoff gauges compared)
 154 (gauge pressure re mesh measurement)
 (67): 47 (application of mesh measuring gauges)
 SP 1 :113 (report on methods of mesh measuring)
 151 (methods used in fishery research)
 253 (measurement of trawl net meshes)
 2 : 27 (report on fishing gear selectivity)

Mesh regulation (see Management)

Mesh size (see under Selection for results of gear selection studies)

Mesh size sampling

- R3(66):191 (and trawl materials, 1964-65)
 (70):189 (and trawl materials, 1966-68)
 (72): 87 (and trawl materials, 1969-71)

Metabolism

- SP 6 :743 (energy metabolism and fish migration)

Meteorology

- R4(67): 3 (air temperature fluctuations, 1950-66)
 6 (pressure variations in N Atlantic)
 48 (temp. and pressure anomalies in NW Atlantic)
 69 (temperature anomalies at St. John's, Nfld)
 76 (temperature variations in SA 1, 1950-66)
 SP 6 :795 (temperature anomalies at St. John's, Nfld)
 881 (oceanographic forecasting re fisheries)
 885 (heat exchange effect on weather)
 903 (forecasting re fisheries in NE Atlantic)

- 7 : 19 (conditions during NORWESTLANT surveys)
 8 : 9 (temperature conditions in N Atlantic)
 35 (hydro-meteorological events in N Atlantic)
 9 : 7 (effect of polar ice off W Greenland)
 29 (variation in ice season off Canada)
 41 (variation in effect of E Greenland ice pack)
 47 (outline of sea ice services in Japan)
 10 : 7 (1972 - an unusual year)
 79 (international ice patrol operations, 1972)

Methodology; Methods

- RB 1 : 82 (photographing cod otoliths)
 88 (estimating mortality for scallops)
 2 : 5 (standard terminology for otolith readers)
 78 (sawing otoliths for age reading)
 3 : 70 (estimating fish schools by acoustics)
 9 : 5 (classifying herring stocks by meristics)
 65 (population assessment by cohort analysis)
 10 : 53 (groundfish survey of Faroe Bank)
 12 : 69 (analysis of catch-at-age data)
 83 (yield allocation in multi-species fisheries)
 13 : 67 (tagging of herring in SW Nfld area)
 R3(63):127 (workshop on ageing techniques)
 131 (standard terminology for age reading)
 (64):140 (tagging publicity methods)
 (67): 47 (application of mesh measuring gauges)
 (73):209 (factor analysis of catchability estimates)
 SE 1 :129 (non-equilibrium regulation of fisheries)
 151 (interactive fisheries: a two species model)
 163 (fishery theory re cod and redfish in SA 2)
 2 : 7 (estimating mortality at different catch levels)
 71 (simulation model of a squid fishery)
 111 (variation in catchability coefficients)
 3 : 49 (estimating mackerel abundance from surveys)
 4 : 43 (estimating TAC for shrimp in SA 1)
 5 : 19 (analysis of silver hake abundance indices)
 37 (standard data collection for *Illex*)
 6 : 65 (1977 census of harp seals in NW Atlantic)
 SP 1 : 77 (assessment of fishery resources)
 113 (methods in age and growth studies)
 151 (methods used in fisheries research)
 2 : 5 (methods of fishery resource assessment)
 27 (in fishing gear selection studies)
 4 : 64 (marking salmon with trace elements)
 81 (sonic fish tracking)
 89 (tagging methods used in SA 4)
 144 (problems in tagging salmon at sea)
 156 (efficiency of tags and attachments)
 262 (king crab tagging in Alaska)
 272 (tagging methods for cod in Nfld area)
 288 (tags and methods for large pelagics)
 294 (tagging methods for cod in SA 3, 1950)
 300 (tagging redfish from deep water)
 314 (tags and methods used in USSR)
 336 (tagging methods for herring in Europe)
 359 (a radioactive tag for herring)
 5 :106 (analysis of gillnet selection data)
 116 (analysis of haddock selection data)
 175 (experimental design in selection expt.)
 180 (sampling catches at sea)
 185 (methods used in selection experiments)

Metridia spp. (copepod)

- R3(62): 31 (in plankton recorder surveys off Nfld)
 SP 6 :583 (food of herring in N Atlantic areas)
 611 (seasonal distribution in Gulf of Maine)
 10 : 95 (in plankton recorder surveys, 1972)

Micromesistius poutassou (see Whiting, blue)

Migrations; Movements (see also Diurnal effects)

- AR 3 : 62 (major groundfish stocks in SA 2 and 3)
 RB 6 : 72 (spiny dogfish in N Atlantic)
 7 : 8 (haddock tagged off Digby, NS)
 8 : 21 (white hake in Gulf St. Lawrence)
 59 (herring from SW Nfld to Div. 4T)
 13 : 67 (relation of herring in Div. 3P and 4T)
 81 (factors affecting trawl catchability)
 14 : 5 (cod in Nfld area from tagging)
 R3(62): 79 (cod stocks in NW Atlantic)
 124 (haddock stocks in NW Atlantic)
 (65):148 (from cod tagging in SA 1, 1959-64)
 194 (salmon to SA 1 from Canada and Europe)
 (66): 3 (working group report on cod in SA 1, 1966)
 48 (movements of cod in W Greenland area)
 159 (salmon from E Canada to Greenland)
 181 (salmon from America and Europe to SA 1)
 (67): 58 (salmon from Maine to Greenland)
 66 (salmon from Greenland to Canada)
 69 (salmon from E Canada to Greenland)
 (68): 81 (salmon from America and Europe to SA 1)
 (69): 71 (salmon from E Canada to Greenland)
 (71):115 (roundnose grenadier in NW Atlantic)
 (72): 39 (diurnal migrations in marine fish)
 59 (salmon from E Canada to Greenland)
 65 (salmon from Nfld to Greenland)
 (73):127 (capelin movements in Nfld waters)
 137 (capelin movements in Nfld area)
 145 (squid populations in SA 5 and 6)
 SE 1 : 19 (diurnal variation in redfish catches)
 2 : 15 (pollock from tagging in SA 4 and 5)
 3 : 17 (diurnal movements of redfish in Div. 3M)
 45 (variation in mackerel catches)
 61 (capelin spawning in Div. 3N)
 4 : 23 (diurnal variation in SA 1 shrimp catches)
 45 (diurnal variation in SA 1 shrimp catches)
 68 (variation in survey catches of shrimp)
 SP 1 :267 (re differentiation of fish stocks)
 327 (summer spawning species in North Sea)
 3 : 90 (USSR studies on redfish in N Atlantic)
 245 (re redfish reproduction and spawning)
 251 (re sex ratio of redfish - Abstr.)
 263 (re behaviour of redfish at Eastport, Maine)
 4 : 38 (walleyes from tagging data)
 59 (king crab in Bering Sea)
 84 (haddock in North Sea from tagging)
 123 (North Sea sole from tagging)
 172 (Greenland shark tagging in SA 1)
 268 (sea scallops from tagging in SA 5)
 318 (parasite studies on cod in Nfld area)
 323 (herring in North Sea from tagging)
 6 : 75 (tuna re environmental conditions)
 171 (haddock re environment in Div. 3NO)
 189 (haddock re environment in Div. 3P)
 199 (feeding migrations of fish in SA 1)
 221 (fish migrations re temperature)
 225 (cod re hydrography off Spitsbergen)
 249 (fish re currents and food supply)
 257 (fish re water movements)
 267 (diurnal movements of fish re light)
 317 (haddock movements in Gulf of Maine)
 355 (drift migrations in the N Atlantic)
 435 (effect of food on cod movements in SA 1)
 439 (cod re food in Gulf St. Lawrence)
 449 (cod and haddock re food in Nfld area)
 579 (herring re light in Bay of Fundy)
 583 (herring re plankton in N Atlantic areas)
 645 (shoaling fish re lack of oxygen)
 663 (reactions of fish to environmental conditions)
 691 (and endocrine changes in cod)
 743 (and energy metabolism in fish)

Molluscs (see also Gastropods, Cephalopods, Pelecypods, Pteropods, Clams, Scallops, Squids, etc.)

- RB 9 : 41 (food of silver and red hake in SA 4 to 6)
 12 : 23 (food of flounders on Grand Bank)
 13 : 11 (food of cod in SA 2 to 4)
 R3(73): 59 (food of A. plaice in Div. 3P and 4V)

Molva spp. (see Lings)Monkfish (see Angler, American)Morphometrics (body proportions)

- RB 4 : 5 (salmon from Labrador Sea and Greenland)
 5 : 62 (salmon taken off Nfld)
 11 : 73 (herring populations in SA 3 and 4)
 SP 1 :335 (studies on redfish in SA 3 to 5)
 3 : 12 (re taxonomy of Pacific ocean perch)
 28 (studies on redfish in N Atlantic)
 42 (the race problem in redfish - Abstr.)
 51 (identification of Pacific *Sebastes*)
 7 :225 (redfish caught in open ocean)

Mortality

- RB 1 : 43 (haddock off SW Nova Scotia, 1956-61)
 88 (sea scallops on Georges Bank)
 2 : 59 (catch/effort assessment in ICNAF stocks)
 73 (and life span in exploited stocks)
 3 : 55 (haddock stocks in SA 3)
 5 : 5 (cod stock off western Nfld)
 99 (haddock stocks on Scotian Shelf)
 6 : 47 (yellowtail stocks off New England)
 65 (cod stocks in Greenland area)
 7 : 52 (estimates from age-length key data)
 8 : 15 (re assessment of cod in SA 1)
 49 (haddock stock in 4VW)
 75 (assessment of cod in Div. 2J)
 9 : 51 (cod stocks in Gulf St. Lawrence)
 65 (estimated from cohort analysis)
 75 (cod fishery in Subdiv. 3Ps)
 109 (argentine on Scotian Shelf)
 117 (cod fishery in Div. 4VW)
 10 : 5 (yellowtail from survey data in SA 5)
 63 (A. plaice fishery in Div. 3LNO)
 141 (larval herring on Georges Bank)
 11 : 31 (natural mortality in Div. 2J+3KL cod)
 43 (herring fishery in Div. 3P and 4T)
 93 (studies on harp seals in SA 1, 1953-72)
 107 (assessment of cod in Div. 3NO)
 125 (yellowtail fishery in Div. 3LNO)
 135 (hooded seals off Nfld)
 12 : 29 (and growth of cod in SA 5)
 37 (redfish fisheries in SA 2 and 3)
 69 (analyzing catch-at-age data)
 13 : 31 (haddock fishery on Grand Bank)
 67 (tagged herring in Div. 3P and 4T)
 14 : 85 (haddock fishery on St. Pierre Bank)
 R3(65):153 (unknowns in research for MSY estimates)
 (66): 3 (working group on cod in SA 1, 1966)
 48 (cod fishery at W Greenland)
 159 (salmon fishery at W Greenland)
 (67): 3 (efficient use of W Greenland cod)
 26 (year-class fluctuations in SA 1 cod)
 (69): 17 (yield-per-recruit function in SA 1 cod)
 (70): 65 (cod stocks in SA 2 and 3)
 84 (haddock stock in Div. 4TVW)
 (71):221 (yellowtail stocks in SA 5 and 6)
 (72): 35 (assessment of cod in Div. 2J+3KL)
 55 (red hake fishery in SA 5 and 6)
 73 (assessment of yellowtail in Div. 3LN)

- 79 (scallop fishery on Georges Bank)
 (73): 37 (estimates for cod in Div. 3NO and 3Ps)
 79 (flatfish stocks on Scotian Shelf)
 105 (assessment of herring in SA 5)
 145 (assessment of squids in SA 5 and 6)
 SE 1 : 7 (assessment of cod in Div. 4VSW)
 59 (status of summer flounder in SA 5 and 6)
 2 : 7 (estimates at different catch levels)
 11 (witch flounder in Subdiv. 3Ps)
 15 (pollock fishery in SA 4 and 5)
 45 (roundnose grenadier in SA 0 to 3)
 71 (squid fisheries in SA 5 and 6)
 3 : 7 (dynamics of cod stock in Div. 4RS)
 23 (witch flounder in Div. 2J+3KL)
 29 (estimates for silver hake in Div. 4VWX)
 4 : 43 (estimating TAC for shrimp in SA 1)
 5 : 61 (harp seal stocks in NW Atlantic)
 SP 1 : 27 (report on population dynamics studies)
 51 (estimation in partially fished stocks)
 2 : 5 (effect of fishing on resources)
 4 : 38 (estimates for walleye from tagging)
 42 (errors in Pacific halibut tagging data)
 59 (king crab in Bering Sea from tagging)
 71 (estimates for cod in SA 4 from tagging)
 117 (aspects of fish marking mortality)
 130 (estimates for char from tagging data)
 164 (estimates for plaice tagged in North Sea)
 176 (estimates from marking whelks)
 188 (estimates from marking crabs and lobsters)
 204 (estimates from tagging in SA 5)
 218 (estimates from marking plaice in North Sea)
 230 (estimates for pink salmon from tagging)
 268 (estimates for sea scallops from tagging)
 306 (estimates for tunas from tagging)
 328 (estimates from fish tagged in New Zealand)
 330 (estimates from capture-recapture data)
 342 (design and analysis of tagging experiments)
 348 (effect of condition on tagged fish)
 369 (estimates for maskinonge from tagging)
 6 : 131 (cod re low temperature in Nfld area)
 137 (mass fish kills in Nfld area)
 199 (fish and prawn stocks in SA 1)
 349 (cod fry re environment in Barents Sea)
 363 (survival of young re year-class strength)
 389 (cod larvae re environment in SA 1)
 603 (re diseases of herring in NW Atlantic)
 717 (cod re temperature in Barents Sea)
 10 : 17 (cod and flounder re temperature in SA 3)

Mugil spp. (see Mulllets)

Mulllets (*Mugil* spp.)

SP 6 : 753 (optomotor response and schooling)

Myctophids (see Lanternfishes)

Myoxocephalus spp. (see Sculpins)

Mysids

R3(62):132 (food of redfish in SA 2 and 3)
 SE 5 : 31 (food of *Illex* in SA 4 to 6, 1974-75)

Myxidium sphaericum (myxosporidian)

SE 6 : 41 (parasite of wolffishes and flounders)

Myxosporidia

SE 6 : 41 (parasites of wolffishes and flounders)
 SP 4 : 31 (parasites as biological tags)
 6 : 603 (diseases of herring in NW Atlantic)

Myxoproteus spp. (myxosporidian)

SE 6 : 41 (parasite of flounders in NW Atlantic)

N

Natural marks (see Tags, biological)

NEAFC (Northeast Atlantic Fisheries Commission)

MP(75):108 (report of enforcement committee, Mar 1975)

Nematodes

AR 3 : 62 (*Porrocaecum* in cod in SA 2 and 3)
 RB 4 : 5 (*Anisakis* in salmon from SA 1 and 2)
 5 : 62 (*Anisakis* in salmon off Nfld)
 8 : 5 (*Anisakis* in herring from SA 3 and 4)
 59 (*Anisakis* in herring from Div. 3P and 4T)
 67 (*Anisakis* in herring from Div. 3P and 4VW)
 10 : 15 (*Anisakis* in herring from Fortune Bay, Nfld)
 79 (*Anisakis* in herring and mackerel of SA 6)
 SE 6 : 41 (parasites of wolffishes and flounders)
 SP 1 : 331 (*Porrocaecum* in cod in Nfld area - Abstr.)
 3 : 111 (parasite of wolffishes and flounders)

Neptuna spp. (gastropod)

RD 13 : 11 (food of cod in SA 2 to 4)

New Brunswick

RB 9 : 27 (food of salmon in New Brunswick rivers)
 R3(65):194 (tagged salmon recaptured in SA 1, 1964)
 (66):159 (salmon stock affected by SA 1 fishery)
 181 (tagged salmon recaptured in SA 1, 1965)
 (67): 69 (salmon tagging, 1964-66)
 (69): 71 (results of salmon tagging, 1964-67)
 (70):134 (recent events in Canadian herring fishery)
 148 (meristics of Bay of Fundy herring)
 (72): 59 (results of salmon tagging, 1968-70)
 SP 6 : 859 (surface temperatures at St. Andrews)

New England area (Subareas 5 and 6) (see also Georges Bank and Gulf of Maine)

AR 3 : 68 (effect of temperature on marine animals)
 8 : 101 (effect of chafers on haddock selection)
 11 : Supplement (fisheries re regulation problems)
 RB 1 : 5 (characteristics of yellowtail fishery)
 3 : 86 (codend selection of red and silver hake)
 4 : 101 (herring distribution re temperature)
 5 : 110 (temperature trends on continental shelf)
 6 : 5 (age and growth of yellowtail)
 47 (characteristics of yellowtail fishery)
 107 (ageing silver hake by otoliths)
 9 : 41 (food habits of silver and red hake)
 81 (variation in chlorophyll abundance)
 10 : 5 (yellowtail mortality from survey data)
 79 (*Anisakis* in herring and mackerel)
 12 : 5 (abundance of mackerel in SA 5 and 6)
 49 (effect of fishing on finfish biomass)
 13 : 81 (factors affecting trawl catchability)
 R3(68): 48 (subsurface temperature trends)
 62 (size composition of swordfish catches)
 (69): 23 (studies on herring, 1968)
 144 (USA-USSR cooperative surveys, 1968)
 (70): 22 (temperature trends in shelf waters)
 159 (USA-USSR cooperative surveys, 1969)
 (71):211 (yellowtail abundance from survey data)
 221 (pre-recruit abundance of yellowtail)

- 249 (abundance indices from survey data)
 (72): 49 (abundance of red hake stocks, 1965-72)
 55 (mortality of red hake in SA 5 and 6)
 (73): 75 (feeding pattern of yellowtail flounder)
 145 (stock assessment of squids)
 163 (species mixture in trawl catches)
 209 (factors affecting catchability estimates)
 217 (management of mixed species fisheries)
 R4(67): 37 (temperature trends in coastal waters)
 SE 1 : 59 (status of summer flounder fishery)
 2 : 33 (mackerel distribution in SA 5 and 6)
 55 (growth and life cycle of *Illex* and *Loligo*)
 71 (simulation studies of squid fishery)
 85 (squid fishery in SA 5 and 6, 1963-74)
 111 (variation in catchability coefficients)
 145 (Gulf Stream eddies on continental shelf)
 3 : 45 (abundance indices for mackerel)
 49 (mackerel abundance from trawl surveys)
 73 (age and growth of butterfish)
 79 (variance in mackerel age compositions)
 97 (geostrophic circulation in SA 4 and 5)
 5 : 31 (feeding of squids in SA 4 to 6, 1974-75)
 SP 4 :214 (analysis of silver hake tag returns)
 362 (marking menhaden with fluorescent pigments)
 6 : 95 (fish distribution re temperature)
 501 (groundfish distribution re food supply)
 847 (hydrographic changes along USA coast)
- New Zealand
 SP 4 :140 (review of tagging experiments)
 328 (efficiency of tagging experiments)
- Newfoundland area (Subareas 3 and 4) (see also Cabot Strait, Flemish Cap, Grand Bank, Laurentian Channel, Northeast Nfld Shelf, St. Pierre Bank, and Gulf of St. Lawrence)
 AR 3 : 57 (knowledge of major groundfish stocks)
 79 (abundance changes in marine animals)
 RB 2 : 25 (sampling cod for age and growth)
 31 (trends in inshore cod fishery)
 5 : 5 (biology and fishery of W Nfld cod)
 62 (characteristics of salmon off Nfld)
 6 :119 (length-weight relation for G. halibut)
 8 : 5 (larval nematodes in herring)
 59 (comparing Magdalen I. and SW Nfld herring)
 67 (comparing SW Nfld and Scotian Shelf herring)
 9 : 5 (classifying spring and autumn herring)
 27 (food and feeding of salmon)
 99 (fecundity studies on herring)
 10 : 15 (biology of Fortune Bay herring)
 37 (meristic of Nfld herring stocks)
 11 : 43 (assessment of herring in Div. 3P and 4V)
 73 (morphometrics of herring in SA 3 and 4)
 145 (studies on herring in SW Nfld area)
 12 :135 (length-weight relation for witch)
 13 : 5 (age and growth studies on G. halibut)
 11 (feeding studies on cod in SA 2 to 4)
 21 (capelin ecology and surplus yield)
 67 (herring migrations from Div. 3P to 4T)
 14 : 5 (cod migrations from tagging in 1962-66)
 73 (diurnal variation in witch catches)
 R3(67): 58 (recapture of salmon tagged in Maine)
 (68): 67 (implications of Nfld herring fishery)
 (69): 71 (recapture of salmon tagged in Miramichi R.)
 (71):105 (status of SW Nfld herring stocks, 1965-70)
 (72): 59 (recapture of salmon tagged in Miramichi R.)
 (73):109 (biological data for SW Nfld herring)
 137 (characteristics of capelin in Nfld area)
 153 (Nfld squid catches, 1920-68)
 R4(67): 69 (sea and air temperatures at St. John's)
- SE 3 : 7 (dynamics of cod stock in Div. 3P+4RS)
 5 : 25 (feeding studies on *Illex*)
 SP 1 :227 (growth studies on young redfish - Abstr.)
 331 (cod stocks in the Nfld area - Abstr.)
 3 : 56 (vertebral numbers in redfish)
 94 (redfish otoliths for racial studies)
 241 (pigmentation in redfish larvae - Abstr.)
 276 (age and growth of redfish)
 4 :272 (tags and methods used for cod, 1954-55)
 294 (tags and methods used for cod, 1950)
 300 (tagging redfish from deep water)
 318 (*Lernaecocera* as parasite of cod)
 5 :201 (trawl selection studies on groundfish)
 6 :131 (cod and low temperature in St. Mary's Bay)
 137 (mass fish mortalities re temperature)
 449 (cod behaviour re food supply)
 545 (cod growth and temperature)
 795 (sea and air temperatures at St. John's)
 9 : 29 (variation in ice season off Canada)
- Newfoundland Shelf (see Northeast Nfld Shelf)
Nezumia bairdi (see Grenadier, common)
North Atlantic (see Atlantic Ocean, North)
North Sea (Northeast Atlantic)
 SP 1 :229 (Lee's phenomenon in haddock and plaice)
 327 (changes in spawning fish stocks)
 4 : 84 (studies on haddock migrations)
 123 (tagging studies on sole, 1959-60)
 164 (tagging experiments on plaice)
 218 (estimating mortality from tagging data)
 228 (analysis of double tagging experiments)
 323 (tagging experiments on herring)
 348 (effect of condition on tagged fish)
 6 :335 (dispersal of fish eggs and larvae)
 463 (problems in study of marine resources)
 645 (effect of lack of oxygen on fish)
 735 (reactions of herring to environment)
 747 (supercooling and osmoregulation in fish)
 8 :223 (year-class success in haddock)
- Northeast Atlantic (see Atlantic Ocean, Northeast)
Northeast Nfld Shelf (Subarea 3)
 AR 3 : 62 (major groundfish stocks in Nfld area)
 11 : Supplement (fisheries re regulation problems)
 RB 2 : 31 (trends in cod fishery off E Nfld)
 3 : 49 (studies on deep-sea redfish)
 64 (redfish distribution in SA 2 and 3)
 8 : 37 (effect of trawl mesh increase on cod)
 10 : 23 (spawning of A. plaice)
 83 (abundance of G. halibut)
 11 : 31 (natural mortality in Div. 2J+3KL cod)
 111 (spawning and development of witch)
 12 : 37 (status of redfish stocks in SA 2 and 3)
 13 : 5 (age and growth of G. halibut)
 11 (feeding studies on cod)
 21 (capelin ecology and surplus yield)
 14 : 5 (cod migrations in Nfld area from tagging)
 R3(62): 3 (hydrographic conditions, 1961)
 18 (dissolved oxygen distribution off Nfld)
 31 (plankton distribution off Nfld)
 56 (USSR studies on plankton, 1960-61)
 62 (cod and redfish distribution)
 79 (cod stocks in NW Atlantic)
 132 (feeding of redfish off Nfld)
 (65):178 (age composition of beaked redfish)
 (66):143 (hydrographic conditions, 1965)

- (68): 40 (hydrographic conditions, 1967)
 (69): 3 (cod stocks in Div. 2J+3K, 1963-68)
 (70): 11 (hydrographic conditions, 1969)
 56 (young cod abundance off Nfld)
 65 (catch/effort assessment for cod)
 (71): 5 (hydrographic conditions, 1970)
 115 (feeding and migration of grenadier)
 125 (age and growth of grenadier)
 (72): 11 (hydrographic conditions, 1971)
 19 (hydrographic conditions, 1971)
 27 (water circulation, 1970-71)
 35 (assessment of cod in Div. 2J+3KL)
 (73): 13 (hydrographic conditions, 1971-72)
 19 (hydrographic conditions, 1972)
 45 (abundance indices for cod)
 121 (USSR studies on capelin, 1971-72)
 137 (Canadian studies on capelin)
 SE 1 :107 (status of groundfish resource in SA 2 and 3)
 163 (mixed fishery theory re cod and redfish)
 2 : 45 (assessment of roundnose grenadier fishery)
 3 : 23 (status of witch stock in Div. 2J+3KL)
 6 : 53 (geostrophic circulation in SA 0 to 3)
 SP 3 : 56 (vertebral numbers in redfish)
 6 :425 (distribution of cod eggs and larvae)
 7 : 1 (NORWESTLANT surveys, 1963: contains many papers relevant to this area)
 8 : 1 (Symposium on Environmental Conditions: contains papers relevant to this area)
 10 : 17 (hydrographic conditions, 1951-73)
 33 (temperature conditions, 1971-73)
 69 (circulation in Nfld area, 1972-73)
 75 (salinity conditions, 1972-73)
 79 (international ice patrol activities, 1972)

Northwest Atlantic (see Atlantic Ocean, Northwest)

Norway

- AR 3 : 41 (research report for 1952)
 4 : 40 (research report for 1953)
 5 : 43 (research report for 1954)
 6 : 43 (research report for 1955)
 7 : 41 (research report for 1956)
 8 : 45 (research report for 1957)
 9 : 63 (research report for 1958)
 10 : 68 (research report for 1959)
 11 : 55 (research report for 1960)
 R2(62): 83 (research report for 1961)
 (63): 50 (research report for 1962)
 (64): 55 (research report for 1963)
 (65): 68 (research report for 1964)
 (66): 59 (research report for 1965)
 (67): 66 (research report for 1966)
 (68): 67 (research report for 1967)
 (69): 54 (research report for 1968)
 (70): 79 (research report for 1969)
 (73): 57 (research report for 1972)
 SP 8 : 71 (growth and decay of glaciers)

Norwegian Sea (see also Atlantic, Northeast)

- SP 3 :177 (distribution of redfish larvae)
 241 (distribution of eggs and larvae - Abstr.)
 6 :397 (factors re year-class success of cod)
 583 (herring feeding re plankton distribution)
 635 (herring distribution re temperature)
 855 (hydrography of Faroe-Shetland Channel)
 901 (forecasting environmental conditions)

NORWESTLANT Surveys (a series of three surveys conducted in the Northwest Atlantic in 1963 by research vessels from several ICNAF countries, and the results published in *Spec. Publ. No. 7* in four parts:

PART I - Reports (of NORWESTLANT Surveys)

- SP 7 : 9 (introduction to NORWESTLANT)
 11 (bottom topography studies)
 19 (meteorological conditions)
 29 (ice conditions at Greenland)
 31 (physical oceanography)
 55 (vertical water movements off W Greenland)
 57 (phosphates, silicates and dissolved O₂ in 0-100 m layer)
 65 (ammonia and organic carbon)
 73 (phytoplankton distribution)
 85 (chlorophyll *a* distribution)
 87 (primary production)
 95 (phytoplankton in recorder surveys)
 99 (Norwegian particle distribution studies)
 101 (zooplankton distribution)
 123 (zooplankton in recorder surveys)
 127 (cod eggs and larvae)
 139 (life cycle of Labrador cod)
 145 (redfish larvae distribution)
 157 (redfish larvae in recorder surveys)
 163 (capelin larvae distribution)
 175 (A. halibut and G. halibut eggs and larvae)
 181 (A. plaice eggs and larvae)
 183 (woiffish larvae at W Greenland)
 187 (feeding of cod and redfish larvae)
 219 (adult fish catches)
 225 (angling for redfish in open ocean)
 241 (sightings of marine mammals)
 245 (conclusions to survey reports)
 251 (note on 1963 year-class success in SA 1)

PART II - Atlas (of NORWESTLANT Surveys)

- SP 7 : 5 (Chart 1, bottom topography)
 6 (Charts 2-14, meteorology)
 22 (Charts 15-30, ice conditions)
 38 (Charts, 31-155, physical oceanography)
 160 (Charts 156-178, chemical oceanography)
 194 (Charts 179-191, phytoplankton)
 207 (Charts 192-231, zooplankton)
 247 (Charts 232-236, cod eggs and larvae)
 252 (Charts 237-243, redfish larvae)
 259 (Charts 244-268, other fish eggs and larvae)
 284 (Charts 269-271, marine mammals)

PART III - Oceanographic Data Records (of NORWESTLANT Surveys)

- SP 7 : Vol. 1 (NORWESTLANT 1, 31 Mar-9 May 1963)
 Vol. 2 (NORWESTLANT 2, 30 Apr-30 June 1963)
 Vol. 3 (NORWESTLANT 3, 30 June-3 Aug 1963)

PART IV - Biological Data Records (of NORWESTLANT Surveys)

- SP 7 : 9 (station lists)
 41 (phytoplankton)
 179 (zooplankton)
 303 (fish eggs and larvae)
 335 (marine mammals)

Notolepis spp. (see Lancetfishes)

Nova Scotia area (see also Bay of Fundy, Gulf of St. Lawrence, and Scotian Shelf)

- RB 7 : 8 (movements of haddock tagged off Digby)
 11 : 73 (morphometric studies on herring)
 R3(67): 58 (recapture of salmon tagged in Maine)
 69 (tagged salmon recaptured at Greenland)
 (69): 71 (recapture of salmon tagged in Miramichi R.)

- (70):134 (recent events in herring fishery)
 148 (meristics of Bay of Fundy herring)
 (71): 93 (herring larvae retained in Bay of Fundy)
 (73):153 (squid catches, 1920-68)
 SE 6 : 7 (reproduction in captive *Illex*)
 16 (feeding and growth of captive *Illex*)

Nova Scotia banks (see Scotian Shelf)

O

Ocean pout (*Macrozoarces americanus*)

- SP 6 : 95 (distribution re temperature in SA 5 and 6)

Ocean weather stations

- SP 3 :194 (redfish larvae at Ocean Station A)
 7 : 19 (meteorology during NORWESTLANT surveys)
 31 (oceanography during NORWESTLANT surveys)
 225 (angling for redfish in open ocean)
 8 : 9 (temperature conditions in NW Atlantic)

Oceanography (only very general references are indexed here; see also under such headings as Hydrography, Salinity, Temperature, Plankton, Currents, Environment, etc.)

- SE 2 :145 (Gulf Stream eddies along continental shelf)
 3 :109 (ICNAF standard sections and stations)
 SP 6 :881 (forecasting conditions re fisheries)
 885 (effect of heat exchange on weather)
 901 (forecasting conditions in NE Atlantic)
 909 (aspects of oceanographic prediction)
 SP 7 : 1 (Environmental Surveys, 1963 - see under NORWESTLANT Surveys for contents)

Offshore hake (see Hake, offshore)

Oithona spp. (copepod)

- SP 6 :411 (food of cod larvae in Barents Sea)
 583 (food of herring larvae in N Atlantic)
 611 (seasonal distribution in SA 5)
 SE 5 : 43 (food of larval herring in SA 5)

Oncorhynchus spp. (see Salmon, Pacific)

Ophiopholis spp. (brittle star)

- RB 13 : 11 (food of cod in SA 2 to 4)

Organic carbon (see Carbon, organic)

Orientation (see also Behavior)

- SP 6 :647 (effect of light intensity change on fish)
 753 (optomotor response and schooling)

Ortholinea divergens (myxosporidian)

- SE 6 : 41 (parasite of flounders in NW Atlantic)

Osmoregulation

- SP 6 :747 (and supercooling in teleosts)

Ostracods

- SP 7 :101 (in zooplankton from NORWESTLANT surveys)

Otoliths

- RB 1 : 22 (cod otolith exchange, 1963)
 36 (gadoid otolith photography)
 79 (mechanical aids for otolith reading)
 82 (photographing cod otoliths)
 2 : 5 (standard terminology for age readers)
 19 (otolith age validation for Grand Bank cod)
 78 (sawing otoliths for age reading)
 3 :103 (ageing A. plaice from Scotian Shelf)
 4 : 91 (ageing witch flounder from Scotian Shelf)
 116 (age validation for Labrador cod)
 5 : 5 (ageing of cod from W Nfld area)
 6 : 79 (ageing of redfish in Nfld area)
 107 (ageing of silver hake in SA 5)
 8 : 87 (re distinction of silver hake species)
 10 :107 (otolith structure and growth in sand lance)
 R (59): 48 (ICNAF cod otolith exchange program)
 R3(63):127 (workshop on ageing techniques, 1962)
 131 (standard terminology for age readers)
 135 (otolith ageing of whiting)
 (65):145 (age analysis from cod otolith exchange)
 (68): 7 (cod otolith photograph exchange, 1963-67)
 53 (ageing of Georges Bank herring)
 SE 2 :154 (workshop on ageing cod, Oct 1975)
 3 : 73 (ageing of butterfish in SA 5 and 6)
 5 : 11 (studies re ageing of silver hake)
 SP 1 :179 (age determination in cod)
 199 (haddock scale-otolith comparison - Abstr.)
 201 (age determination in haddock)
 207 (ageing of cod and haddock)
 215 (age and growth of redfish - Abstr.)
 217 (age and growth studies on redfish)
 223 (notes on *S. marinus* and *S. viviparous*)
 227 (re growth of young redfish - Abstr.)
 3 : 45 (use in the typing of redfish)
 94 (re length relations in redfish)
 140 (re length for redfish in SA 2)
 262 (age and growth of redfish in SA 5 - Abstr.)
 263 (re redfish at Eastport, Maine)
 276 (age and growth of redfish in Nfld area)
 291 (growth of *S. viviparous* from Norway)
 297 (studies on 0-group redfish)

Otter trawling (see Trawling)

Ova; Ovaries (see Eggs; Fecundity)

Oxygen, dissolved

- R3(62): 3 (dissolved O₂ distribution off Nfld)
 (71): 49 (dissolved O₂ in NW Atlantic, 1970)
 (73): 5 (dissolved O₂ in SA 4 and 5, 1972)
 SP 6 :645 (possible effect on shoaling fish)
 673 (effect on young stages of fish)
 7 : 55 (vertical distribution off Greenland)
 57 (distribution in NORWESTLANT surveys)
 8 :187 (distribution re phytoplankton blooms)
 10 : 41 (observations east of Grand Bank, 1972)

P

Pacific halibut (see Halibut, Pacific)

Pacific Ocean

- SP 3 : 12 (taxonomy and biology of ocean perch)
 51 (identification problems in rockfish)
 169 (rockfish larvae off California)
 4 : 15 (return rate of tagged skipjack)

- 42 (errors inherent in halibut tagging data)
 59 (king crab tagging in Bering Sea)
 64 (marking salmon fry with trace elements)
 81 (sonic track fishing)
 144 (problems in tagging salmon at sea)
 230 (mortality estimates from tagged salmon)
 262 (king crab tagging in Alaska)
 306 (tuna tagging and results, 1955-59)
 359 (radioactive internal tag for herring)
 6 : 53 (effect of environment on sardines)
 75 (effect of environment on tunas)
 885 (effect of heat exchange on weather)
 9 : 47 (outline of sea ice services in Japan)
- Pacific salmon (see Salmon, Pacific)
- Pacific sardine (see Sardine, Pacific)
- Pagophilus groenlandicus (see Seal, harp)
- Pandalus spp. (see Shrimp)
- Panel 1 meetings (reports of meetings not published in paged volumes prior to 1972 are identified by proceedings numbers; see List of Titles)
- MP(51): - (annual meeting, 1951: proc. 15)
 (52): - (annual meeting, 1952: proc. 11)
 (53): - (annual meeting, 1953: proc. 4, 15)
 (54): - (annual meeting, 1954: proc. 9)
 (55): - (annual meeting, 1955: proc. 9, 15, 16, 22)
 (56): - (annual meeting, 1956: proc. 2)
 (57): - (annual meeting, 1957: proc. 3)
 (58): - (annual meeting, 1958: proc. 5)
 (59): - (annual meeting, 1959: proc. 8)
 (60): - (annual meeting, 1960: proc. 6)
 (61): - (annual meeting, 1961: proc. 2)
 (62): - (annual meeting, 1962: proc. 4)
 (63): - (annual meeting, 1963: proc. 2)
 (64): - (annual meeting, 1964: proc. 2, 16)
 (65): - (annual meeting, 1965: proc. 3, 19)
 (66): - (annual meeting, 1966: proc. 2)
 (67): - (annual meeting, 1967: proc. 2, 14, 22)
 (68): - (annual meeting, 1968: proc. 6, 13)
 (69): - (annual meeting, 1969: proc. 6, 13)
 (70): - (annual meeting, 1970: proc. 3, 13)
 (71): - (annual meeting, 1971: proc. 2, 11)
 (72): 7 (annual meeting, May 1972)
 133 (joint Panels 1-5, May 1972)
 (73): 127 (annual meeting, Jun 1973)
 195 (joint Panels 1-5, Jun 1973)
 (74): 145 (annual meeting, Jun 1974)
 199 (joint Panels 1-5, Jun 1974)
 (75): 183 (annual meeting, Jun 1975)
 263 (joint Panels 1-5, Jun 1975)
 (76): 219 (annual meeting, Jun 1976)
 275 (joint Panels 1-5, Jun 1976)
 (77): 47 (special meeting, Dec 1976)
 95 (joint Panels 1-5, Dec 1976)
- Panel 2 meetings (reports of meetings not published in paged volumes prior to 1972 are identified by proceedings numbers; see List of Titles)
- MP(51): - (annual meeting, 1951: proc. 16)
 (52): - (annual meeting, 1952: proc. 10)
 (53): - (annual meeting, 1953: proc. 7)
 (54): - (annual meeting, 1954: proc. 4)
 (55): - (annual meeting, 1955: proc. 28)
 (56): - (annual meeting, 1956: proc. 3)
 (57): - (annual meeting, 1957: proc. 4)
 (58): - (annual meeting, 1958: proc. 4)
 (59): - (annual meeting, 1959: proc. 6)
- (60): - (annual meeting, 1960: proc. 8)
 (61): - (annual meeting, 1961: proc. 5)
 (62): - (annual meeting, 1962: proc. 6)
 (63): - (annual meeting, 1963: proc. 4)
 (64): - (annual meeting, 1964: proc. 4, 16)
 (65): - (annual meeting, 1965: proc. 2, 19)
 (66): - (annual meeting, 1966: proc. 4)
 (67): - (annual meeting, 1967: proc. 3, 14, 22)
 (68): - (annual meeting, 1968: proc. 7, 13)
 (69): - (annual meeting, 1969: proc. 7, 13)
 (70): - (annual meeting, 1970: proc. 4, 13)
 (71): - (annual meeting, 1971: proc. 3, 11)
 (72): 17 (annual meeting, May 1972)
 133 (joint Panels 1-5, May 1972)
 (73): 133 (annual meeting, Jun 1973)
 195 (joint Panels 1-5, Jun 1973)
 197 (joint Panels 2-3, Jun 1973)
 (74): 67 (joint Panels 2-4, Jan 1974)
 151 (annual meeting, Jun 1974)
 199 (joint Panels 1-5, Jun 1974)
 205 (joint Panels 2-3, Jun 1974)
 (75): 51 (joint Panels 2-4, Jan 1975)
 187 (annual meeting, Jun 1975)
 247 (joint Panels 2-5, Jun 1975)
 249 (joint Panels 2-3, Jun 1975)
 259 (joint Panels 2-4, Jun 1975)
 263 (joint Panels 1-5, Jun 1975)
 (76): 19 (joint Panels 2-4, Sep 1975)
 55 (joint Panels 2-3, Sep 1975)
 109 (joint Panels 2-4, Jan 1976)
 223 (annual meeting, Jun 1976)
 261 (joint Panels 2-3, Jun 1976)
 275 (joint Panels 1-5, Jun 1976)
 (77): 95 (joint Panels 1-5, Dec 1976)
 99 (joint Panels 2-3, Dec 1976)
 137 (joint Panels 2-4, Jun 1977)
- Panel 3 meetings (reports of meetings not published in paged volumes prior to 1972 are identified by proceedings numbers; see List of Titles)
- MP(51): - (annual meeting, 1951: proc. 17)
 (52): - (annual meeting, 1952: proc. 9)
 (53): - (annual meeting, 1953: proc. 6)
 (54): - (annual meeting, 1954: proc. 8)
 (55): - (annual meeting, 1955: proc. 3, 24, 25, 29)
 (56): - (annual meeting, 1956: proc. 11, 19)
 (57): - (annual meeting, 1957: proc. 8)
 (58): - (annual meeting, 1958: proc. 6)
 (59): - (annual meeting, 1959: proc. 9)
 (60): - (annual meeting, 1960: proc. 9)
 (61): - (annual meeting, 1961: proc. 6)
 (62): - (annual meeting, 1962: proc. 7)
 (63): - (annual meeting, 1963: proc. 6)
 (64): - (annual meeting, 1964: proc. 6, 16)
 (65): - (annual meeting, 1965: proc. 5, 19)
 (66): - (annual meeting, 1966: proc. 3)
 (67): - (annual meeting, 1967: proc. 4, 14, 22)
 (68): - (annual meeting, 1968: proc. 3, 13)
 (69): - (annual meeting, 1969: proc. 3, 13)
 (70): - (annual meeting, 1970: proc. 7, 13)
 (71): - (annual meeting, 1971: proc. 4, 11)
 (72): 19 (annual meeting, May 1972)
 99 (joint Panels 2-3, May 1972)
 133 (joint Panels 1-5, May 1972)
 (73): 139 (annual meeting, Jun 1973)
 195 (joint Panels 1-5, Jun 1973)
 197 (joint Panels 2-3, Jun 1973)
 (74): 67 (joint Panels 2-4, Jan 1974)
 155 (annual meeting, Jun 1974)
 199 (joint Panels 1-5, Jun 1974)
 205 (joint Panels 2-3, Jun 1974)
 211 (joint Panels 3-4, Jun 1974)

- 227 (joint Panels 3-5, Jun 1974)
 (75): 51 (joint Panels 2-4, Jan 1975)
 191 (annual meeting, Jun 1975)
 247 (joint Panels 2-5, Jun 1975)
 249 (joint Panels 2-3, Jun 1975)
 255 (joint Panels 3-5, Jun 1975)
 259 (joint Panels 2-4, Jun 1975)
 263 (joint Panels 1-5, Jun 1975)
 (76): 19 (joint Panels 2-4, Sep 1975)
 43 (joint Panels 3-5, Sep 1975)
 47 (special meeting, Sep 1975)
 55 (joint Panels 2-3, Sep 1975)
 59 (joint Panels 3-4, Sep 1975)
 109 (joint Panels 2-4, Jan 1976)
 147 (joint Panels 3-5, Jan 1976)
 225 (annual meeting, Jun 1976)
 261 (joint Panels 2-3, Jun 1976)
 269 (joint Panels 3-5, Jun 1976)
 275 (joint Panels 1-5, Jun 1976)
 (77): 59 (joint Panels 3-5, Dec 1976)
 95 (joint Panels 1-5, Dec 1976)
 99 (joint Panels 2-3, Dec 1976)
 137 (joint Panels 2-4, Jun 1977)
 143 (annual meeting, Jun 1977)
 (78): 23 (annual meeting, Jun 1978)
 (79): 29 (joint Panels 3-4, Mar 1979)
 49 (annual meeting, Jun 1979)

Panel 4 meetings (reports of meetings not published
 in paged volumes prior to 1972 are identified by
 proceedings numbers; see List of Titles)

- MP(51): - (annual meeting, 1951: proc. 14)
 (52): - (annual meeting, 1952: proc. 8)
 (53): - (annual meeting, 1953: proc. 5)
 (54): - (annual meeting, 1954: proc. 10)
 (55): - (annual meeting, 1955: proc. 2, 4, 12)
 (56): - (annual meeting, 1956: proc. 9, 19)
 (57): - (annual meeting, 1957: proc. 8)
 (58): - (annual meeting, 1958: proc. 11)
 (59): - (annual meeting, 1959: proc. 7)
 (60): - (annual meeting, 1960: proc. 7)
 (61): - (annual meeting, 1961: proc. 4)
 (62): - (annual meeting, 1962: proc. 11)
 (63): - (annual meeting, 1963: proc. 3)
 (64): - (annual meeting, 1964: proc. 3, 16)
 (65): - (annual meeting, 1965: proc. 4, 19)
 (66): - (annual meeting, 1966: proc. 5, 12)
 (67): - (annual meeting, 1967: proc. 5, 14, 22)
 (68): - (annual meeting, 1968: proc. 4, 13)
 (69): - (annual meeting, 1969: proc. 4, 13, 16)
 (70): - (annual meeting, 1970: proc. 6, 13)
 (71): - (annual meeting, 1971: proc. 5, 11, 13)
 (72): 21 (annual meeting, May 1972)
 133 (joint Panels 1-5, May 1972)
 145 (joint Panels 4-5, May 1972)
 185 (joint Panels 4-5, Feb 1972)
 213 (special meeting, Feb 1972)
 (73): 13 (joint Panels 4-5, Jan 1973)
 157 (annual meeting, Jun 1973)
 195 (joint Panels 1-5, Jun 1973)
 205 (joint Panels 4-5, Jun 1973)
 (74): 67 (joint Panels 2-4, Jan 1974)
 161 (annual meeting, Jun 1974)
 199 (joint Panels 1-5, Jun 1974)
 211 (joint Panels 3-4, Jun 1974)
 213 (joint Panels 4-5, Jun 1974)
 227 (joint Panels 3-5, Jun 1974)
 (75): 7 (joint Panels 4-5, Nov 1974)
 51 (joint Panels 2-4, Jan 1975)
 199 (annual meeting, Jun 1975)
 247 (joint Panels 2-5, Jun 1975)

- 253 (joint Panels 4-5, Jun 1975)
 255 (joint Panels 2-5, Jun 1975)
 259 (joint Panels 2-4, Jun 1975)
 263 (joint Panels 1-5, Jun 1975)
 (76): 19 (joint Panels 2-4, Sep 1975)
 43 (joint Panels 3-5, Sep 1975)
 51 (special meeting, Sep 1975)
 57 (joint Panels 4-5, Sep 1975)
 59 (joint Panels 3-4, Sep 1975)
 109 (joint Panels 2-4, Jan 1976)
 143 (special meeting, Jan 1976)
 147 (joint Panels 3-5, Jan 1976)
 229 (annual meeting, Jun 1976)
 269 (joint Panels 3-5, Jun 1976)
 275 (joint Panels 1-5, Jun 1976)
 (77): 53 (special meeting, Dec 1976)
 59 (joint Panels 3-5, Dec 1976)
 95 (joint Panels 1-5, Dec 1976)
 137 (joint Panels 2-4, Jun 1977)
 (79): 29 (joint Panels 3-4, Mar 1979)

Panel 5 meetings (reports of meetings not published
 in paged volumes prior to 1972 are identified by
 proceedings numbers; see List of Titles)

- MP(51): - (annual meeting, 1951: proc. 18, 22)
 (52): - (annual meeting, 1952: proc. 7)
 (53): - (annual meeting, 1953: proc. 8)
 (54): - (annual meeting, 1954: proc. 5)
 (55): - (annual meeting, 1955: proc. 1, 18, 19, 31)
 (56): - (annual meeting, 1956: proc. 6, 16)
 (57): - (annual meeting, 1957: proc. 8)
 (58): - (annual meeting, 1958: proc. 7)
 (59): - (annual meeting, 1959: proc. 10)
 (60): - (annual meeting, 1960: proc. 5)
 (61): - (annual meeting, 1961: proc. 3)
 (62): - (annual meeting, 1962: proc. 10)
 (63): - (annual meeting, 1963: proc. 5)
 (64): - (annual meeting, 1964: proc. 5, 16)
 (65): - (annual meeting, 1965: proc. 6)
 (66): - (annual meeting, 1966: proc. 8)
 (67): - (annual meeting, 1967: proc. 6, 14, 22)
 (68): - (annual meeting, 1968: proc. 5, 13)
 (69): - (annual meeting, 1969: proc. 5, 13, 16)
 (70): - (annual meeting, 1970: proc. 5, 13)
 (71): - (annual meeting, 1971: proc. 6, 11, 13)
 (72): 33 (annual meeting, May 1972)
 133 (joint Panels 1-5, May 1972)
 145 (joint Panels 4-5, May 1972)
 185 (joint Panels 4-5, Feb 1972)
 211 (special meeting, Feb 1972)
 (73): 13 (joint Panels 4-5, Jan 1973)
 169 (annual meeting, Jun 1973)
 195 (joint Panels 105, Jun 1973)
 205 (joint Panels 4-5, Jun 1973)
 (74): 13 (special meeting, Oct 1973)
 49 (special meeting, Jan 1974)
 175 (annual meeting, Jun 1974)
 199 (joint Panels 1-5, Jun 1974)
 213 (joint Panels 4-5, Jun 1974)
 227 (joint Panels 3-5, Jun 1974)
 (75): 7 (joint Panels 4-5, Nov 1974)
 217 (annual meeting, Jun 1975)
 247 (joint Panels 2-5, Jun 1975)
 253 (joint Panels 4-5, Jun 1975)
 255 (joint Panels 3-5, Jun 1975)
 263 (joint Panels 1-5, Jun 1975)
 (76): 31 (special meeting, Sep 1975)
 43 (joint Panels 3-5, Sep 1975)
 57 (joint Panels 4-5, Sep 1975)
 135 (special meeting, Jan 1976)
 147 (joint Panels 3-5, Jan 1976)

- 239 (annual meeting, Jun 1976)
 269 (joint Panels 3-5, 1976)
 275 (joint Panels 1-5, 1976)
 (77): 59 (joint Panels 3-5, Dec 1976)
 63 (special meeting, Dec 1976)
 95 (joint Panels 1-5, Dec 1976)
- Panel A (Seal) meetings (reports of meetings not published in paged volumes prior to 1972 are identified by proceedings numbers; see List of Titles)
- MP(67): - (annual meeting, 1967: proc. 7)
 (68): - (annual meeting, 1968: proc. 2)
 (69): - (annual meeting, 1969: proc. 2)
 (70): - (annual meeting, 1970: proc. 2)
 (71): - (annual meeting, 1971: proc. 7)
 (72): 75 (annual meeting, May 1972)
 (73): 185 (annual meeting, Jun 1973)
 (74): 193 (annual meeting, Jun 1974)
 (75): 69 (special meeting, Jan 1975)
 239 (annual meeting, Jun 1975)
 (76): 125 (special meeting, Jan 1976)
 257 (annual meeting, Jun 1976)
 (77): 35 (special meeting, Dec 1976)
- Paracalanus spp. (copepod)
- SE 5 : 43 (food of larval herring in SA 5, 1965-75)
- Paralepis spp. (see Lancetfish)
- Paralichthys dentatus (see Flounder, summer)
- Paralithodes camtschatica (see Crab, king)
- Parasites
- AR 3 : 62 (incidence in groundfish in SA 2 and 3)
 RB 3 : 111 (*Sphyrion lumpi* on silver hake in SA 5)
 4 : 5 (in salmon from SA 1 and 2)
 5 : 62 (in salmon taken off Nfld)
 8 : 5 (in herring from Canadian waters)
 59 (in herring from Div. 3P and 4T)
 67 (in herring from Div. 3P and 4VW)
 10 : 15 (in herring from Fortune Bay, Nfld)
 79 (in herring and mackerel from SA 6)
 R (58): 36 (need for information on cod ectoparasites)
 SE 6 : 41 (parasites of wolffishes and flounders)
 SP 1 : 331 (*Porrocaecum* in cod of Nfld area - Abstr.)
 3 : 12 (re systematics of Pacific Ocean perch)
 111 (as natural tags in N Atlantic redfish)
 119 (*Sphyrion lumpi* on redfish - Abstr.)
 4 : 31 (as biological tags in fish)
 318 (*Lernaecocera* as indicator of cod movements)
 6 : 481 (*Sphyrion lumpi* on redfish in SA 5)
 603 (diseases of herring in NW Atlantic)
- Parathemisto spp. (amphipod)
- RB 13 : 11 (food of cod in SA 2 to 4)
- Pelecypods (molluscs)
- RB 13 : 11 (food of cod in SA 2 to 4)
- Penaeus setiferus (see Shrimp, white)
- Peprilus triacanthus (see Butterfish, Atlantic)
- Perch, yellow (*Perca fluviatilis*)
- SP 5 : 128 (selection in gillnets)

Peridineae (see also Phytoplankton)

R3(62): 56 (distribution in SA 2 to 5, 1960-61)

Phosphates

AR 4 : 67 (waters of the ICAF Convention Area)
 R3(71): 49 (distribution in SA 1 to 3, 1970)
 (73): 5 (distribution in SA 4 and 5, 1972)
 SP 7 : 55 (vertical distribution off Greenland)
 57 (distribution in NORWESTLANT surveys)
 8 : 187 (re phytoplankton blooms in NW Atlantic)

Photography

RB 1 : 36 (gadoid otolith photography)
 82 (photographing cod otoliths)
 R3(68): 7 (cod otolith photograph exchange)
 SE 2 : 154 (ageing cod otoliths from photographs)
 4 : 61 (estimation of shrimp density in SA 1)
 6 : 55 (1977 aerial census of harp seals)

Phyllobothrium tridax (cestode)

SE 6 : 41 (parasite of flounders in NW Atlantic)

Phytoplankton

RB 9 : 81 (variation in chlorophyll abundance)
 11 : 61 (in plankton recorder surveys, 1961-71)
 R3(62): 31 (distribution in recorder surveys off Nfld)
 56 (distribution in SA 3 to 5, 1960-61)
 (71): 275 (in NORWESTLANT surveys, 1963)
 SE 1 : 89 (plankton communities in Gulf of Maine)
 SP 7 : 73 (distribution in NORWESTLANT surveys)
 87 (primary production in NW Atlantic)
 95 (distribution in plankton recorder surveys)
 8 : 187 (in plankton recorder surveys, 1972)

Pigmentation (see Melanophores; Chromatophores)Pilchard (*Clupea pilchardus*)

SP 1 : 327 (summer spawning in the North Sea)

Pink shrimp (see Shrimp, pink)Placopecten magellanicus (see Scallop, sea)Plagioporus idoneus (trematode)

SE 6 : 41 (parasite of wolffishes in NW Atlantic)

Plaice, American (*Hippoglossoides platessoides*)

AR 3 : 62 (knowledge of major stocks in SA 2 and 3)
 8 : 83 (summary of gear selection data)
 11 : Supplement (fisheries re regulation problems)
 RB 3 : 103 (validity of ageing by otoliths)
 4 : 53 (diurnal variation in SA 3 catches)
 121 (length-weight relations for SA 4)
 7 : 5 (growth in the New England area)
 10 : 23 (spawning off Nfld and Labrador)
 63 (assessment of stock in Div. 3LNO)
 99 (age and growth in Div. 4V)
 12 : 23 (and yellowtail feeding compared, Div. 3LNO)
 13 : 11 (food of cod in SA 2 to 4)
 R3(63): 150 (selection in manila and synthetic codends)
 (66): 112 (effect of chafers on selection factor)
 (67): 101 (compilation of selection data, 1962-65)
 (68): 21 (catches in comparative fishing expts.)
 (69): 79 (size changes from icing and freezing)
 129 (in trawl surveys in SA 4 and 5, 1968)

- (70):103 (fishery trends on Grand Bank)
159 (in USA-USSR trawl surveys, 1969)
- (71):275 (eggs and larvae in NORWESTLANT surveys)
- (72): 45 (sexual maturity studies in Div. 3P)
- (73): 59 (feeding studies in Div. 3P and 4V)
71 (catch/effort relation for Div. 3LNO stock)
79 (assessment of Scotian Shelf stock)
- SE 5 : 49 (mesh selection studies in Div. 4VWX)
- 6 : 41 (investigations of parasitic fauna)
- SP 5 :131 (codend selection in SA 4)
201 (trawl selection in Nfld area)
7 :181 (eggs and larvae in NORWESTLANT surveys)

Plaice, European (*Pleuronectes platessa*)

- SP 1 :229 (Lee's phenomenon in scale growth)
313 (distribution in N Atlantic)
- 4 :106 (effect of fish condition on return rate)
156 (efficiency of tags and attachments)
164 (tagging experiments on transplants)
218 (estimating mortality from tagging data)
228 (analysis of double tagging experiments)
348 (effect of condition on tagged fish)
- 5 :158 (escape through different parts of trawl)

Plankton (see also Phytoplankton and Zooplankton)

- AR 11 :103 (larval redfish distribution in N Atlantic)
- RB 4 : 5 (food of salmon in SA 1 and 2)
101 (food of herring on Georges Bank)
- 5 : 62 (food of salmon off Nfld)
- 8 : 27 (redfish larvae in plankton surveys)
45 (selection in Gulf III and Bongo samplers)
- 9 : 27 (food of salmon in NW Atlantic stocks)
41 (food of silver and red hake in SA 4 to 6)
- 11 : 61 (in plankton recorder surveys, 1961-71)
- 12 : 91 (feeding of redfish and cod in Div. 3M)
- R3(62): 31 (distribution in recorder surveys off Nfld)
47 (in recorder survey from Nfld to Boston)
56 (distribution in SA 3 to 5, 1960-61)
- (68): 75 (catching efficiency of samplers)
- (71): 29 (distribution in Div. 3P and 4V, 1970)
275 (summary report of NORWESTLANT surveys)
- SE 1 : 89 (plankton communities in Gulf of Maine)
- SP 1 :227 (Hardy recorder for research - Abstr.)
289 (egg and larval drift in NE Atlantic)
- 3 :216 (redfish larvae in recorder surveys)
- 6 :291 (variation re environmental factors)
303 (re redfish larval distribution in N Atlantic)
309 (redfish larvae in recorder surveys)
363 (effect on survival of young fish)
373 (re year-class success in Barents Sea cod)
397 (re year-class success in NE Atlantic cod)
501 (density-dependent factor re SA 5 groundfish)
583 (re herring feeding in N Atlantic stocks)
597 (re herring abundance in SA 4 and 5)
- 7 : 73 (phytoplankton in NORWESTLANT surveys)
95 (phytoplankton in recorder surveys)
101 (zooplankton in NORWESTLANT surveys)
123 (zooplankton in recorder surveys)
157 (redfish larvae in recorder surveys)
187 (feeding of cod and redfish larvae)
225 (food of redfish in open ocean)
- 8 :167 (variability in recorder surveys)
223 (re year-class success in cod and haddock)
- 10 : 95 (in plankton recorder surveys, 1972)

Platybdella anarhichae (hirudinean)

- SE 6 : 41 (parasite of wolffishes in NW Atlantic)

Plenary meetings (reports of meetings not published in
paged volumes prior to 1972 are identified by
proceedings numbers; see List of Titles)

- MP(51): - (annual meeting, 1951: proc. 1, 23)
- (52): - (annual meeting, 1952: proc. 2, 3, 5, 12-14)
- (53): - (annual meeting, 1953: proc. 1, 11, 17)
- (54): - (annual meeting, 1954: proc. 1, 12, 18)
- (55): - (annual meeting, 1955: proc. 5, 6, 21, 33, 34)
- (56): - (annual meeting, 1956: proc. 1, 4, 15, 20)
- (57): - (annual meeting, 1957: proc. 1, 7, 14)
- (58): - (annual meeting, 1958: proc. 1, 2, 12, 14)
- (59): - (annual meeting, 1959: proc. 1, 2, 12, 15)
- (60): - (annual meeting, 1960: proc. 1, 2, 12)
- (61): - (annual meeting, 1961: proc. 9, 13, 15-17)
- (62): - (annual meeting, 1962: proc. 1, 2, 13)
- (63): - (annual meeting, 1963: proc. 7, 11, 12, 13, 17)
- (64): - (annual meeting, 1964: proc. 8, 13, 14, 17, 19)
- (65): - (annual meeting, 1965: proc. 7, 8, 14, 16, 20)
- (66): - (annual meeting, 1966: proc. 6, 7, 13, 15, 25)
- (67): - (annual meeting, 1967: proc. 9, 12, 18, 20, 23)
- (68): - (annual meeting, 1968: proc. 8, 14, 15, 18, 19)
- (69): - (annual meeting, 1969: proc. 8, 12, 14, 17-19)
- (70): - (annual meeting, 1970: proc. 8, 10, 12, 15, 16)
- (71): - (annual meeting, 1971: proc. 8, 12, 14, 16)
- (72): 3 (ceremonial opening, May 1972)
93 (report of first session, May 1972)
97 (report of second session, May 1972)
167 (report of third session, Jun 1972)
175 (report of special meeting, Feb 1972)
- (73): 5 (report of first sessions, Jan 1973)
49 (report of final sessions, Jan 1973)
55 (ceremonial opening, Jun 1973)
57 (report of first session, Jun 1973)
201 (report of second session, Jun 1973)
213 (report of final session, Jun 1973)
- (74): 5 (report of first session, Oct 1973)
29 (report of final session, Oct 1973)
37 (report of first sessions, Jan 1974)
87 (report of final session, Jan 1974)
109 (ceremonial opening, Jun 1974)
113 (report of first session, Jun 1974)
223 (report of second session, Jun 1974)
225 (report of third session, Jun 1974)
233 (report of final session, Jun 1974)
- (75):129 (ceremonial opening, Jun 1975)
131 (report of first session, Jun 1975)
265 (report of final session, Jun 1975)
- (76): 7 (ceremonial opening, Sep 1975)
11 (report of first session, Sep 1975)
61 (report of final session, Sep 1975)
99 (ceremonial opening, Jan 1976)
101 (report of first session, Jan 1976)
151 (report of final session, Jan 1976)
181 (report of first session, Jun 1976)
277 (report of final session, Jun 1976)
- (77): 7 (ceremonial opening, Dec 1976)
9 (report of first session, Dec 1976)
101 (report of final session, Dec 1976)
117 (ceremonial opening, Jun 1977)
119 (report of first sessions, Jun 1977)
159 (report of final sessions, Jun 1977)
- (78): 11 (ceremonial opening, Jun 1978)
13 (report of first session, Jun 1978)
37 (report of final session, Jun 1978)
- (79): 7 (report of first session, Mar 1979)
35 (report of final session, Mar 1979)
41 (report of first session, Jun 1979)
67 (report of final session, Jun 1979)

Pleuronectes platessa (see Plaice, European)

Podocotyle reflexa (trematode)

SE 6 : 41 (parasite of flounders in NW Atlantic)

Poland

R2(62): 91 (research report for 1961)
 (64): 67 (research report for 1963)
 (65): 91 (research report for 1964)
 (66): 61 (research report for 1965)
 (67): 78 (research report for 1966)
 (68): 75 (research report for 1967)
 (69): 63 (research report for 1968)
 (70): 87 (research report for 1969)
 (71): 97 (research report for 1970)
 (72): 63 (research report for 1971)
 (73): 59 (research report for 1972)

Pollachius virens (see Pollock)Pollock (*Pollachius virens*)

SE 2 : 15 (assessment of stock in SA 4 and 5)
 5 : 49 (mesh selection studies in Div. 4VWX)
 SP 6 :267 (behaviour re light intensity)

Polychaetes

RB 9 : 41 (food of red hake in SA 4 and 6)
 R3(62):132 (food of redfish in SA 2 and 3)
 (73): 75 (food of yellowtail off New England)
 SP 6 :349 (food of young cod in Barents Sea)
 7 :101 (in zooplankton from NORWESTLANT surveys)

Population (see Stock)Porbeagle (see Sharks)Porifera

RB 12 : 23 (food of yellowtail and plaice in SA 3)

Porpoise (see Dolphin)Porrocaecum spp. (nematode)

AR 3 : 62 (incidence in groundfish in SA 2 and 3)
 SP 1 :331 (parasite of cod in Nfld area - Abstr.)

Portugal

AR 4 : 46 (research report for 1953)
 5 : 50 (research report for 1954)
 6 : 47 (research report for 1955)
 7 : 48 (research report for 1956)
 8 : 52 (research report for 1957)
 9 : 66 (research report for 1958)
 10 : 80 (research report for 1959)
 11 : 61 (research report for 1960)
 R2(62): 98 (research report for 1961)
 (63): 62 (research report for 1962)
 (64): 70 (research report for 1963)
 (65): 95 (research report for 1964)
 (66): 71 (research report for 1965)
 (67): 90 (research report for 1966)
 (68): 85 (research report for 1967)
 (69): 76 (research report for 1968)
 (70): 96 (research report for 1969)
 (71):106 (research report for 1970)
 (72): 71 (research report for 1971)
 (73): 67 (research report for 1972)

Prawn (see Shrimp)Predation; Predators

RB 12 : 91 (effect on cod and haddock in Div. 3M)
 13 : 11 (cod on capelin in SA 2 to 4)
 21 (capelin ecology and surplus yield)
 R3(73):137 (predators of capelin in Nfld area)
 SE 2 : 85 (predators of squid in SA 5 and 6)
 5 : 25 (feeding of *Illex* in Nfld area)
 6 : 35 (feeding of cod on redfish in Div. 3M)
 SP 6 :477 (re survival of salmon fry in USSR)

Pressure, atmospheric (see also Meteorology)

R4(67): 6 (variations in N Atlantic, 1950-66)
 48 (anomalies in NW Atlantic)
 SP 7 : 19 (conditions during NORWESTLANT surveys)
 8 : 35 (conditions in N Atlantic, 1960-70)

Primary production

SE 1 : 89 (plankton communities in Gulf of Maine)
 SP 6 :463 (problems in the study of marine resources)
 7 : 87 (studies during NORWESTLANT surveys)
 8 :187 (chemical basis of plankton blooms)
 201 (food chains and fish production)

Prionotus spp. (see Searobins)Production model analysis

RB 11 : 5 (status of redfish stocks in SA 3)
 12 : 37 (status of redfish fisheries in SA 2 and 3)
 49 (effect of fishing on finfish in SA 5 and 6)
 SE 1 : 31 (assessment of redfish in Div. 4VWX)
 59 (status of summer flounder in SA 5 and 6)
 107 (status of groundfish resource in SA 2 and 3)
 117 (status of groundfish resource in Div. 4VWX)
 129 (non-equilibrium regulation of fisheries)
 141 (fisheries management re environment)
 151 (interactive fisheries: a 2-species model)
 157 (interaction and theory of mixed fisheries)
 163 (mixed fishery theory re cod and redfish)
 2 :137 (effect of random fluctuations on a fishery)

Proteins

RB 5 : 44 (serum proteins re redfish maturation)
 86 (serum proteins in redfish types)
 SP 3 :104 (free amino acids in redfish types)

Pseudocalanus spp. (see also *Calanus*)

SP 6 :583 (food of herring in N Atlantic areas)
 611 (seasonal distribution in Gulf of Maine)
 SE 5 : 43 (food of larval herring in SA 5, 1965-75)

Pseudophyllidea spp. (cestode)

SE 6 : 41 (parasite of wolffishes in NW Atlantic)

Pseudopleuronectes americanus (see Flounder, winter)Pteropods (molluscs)

RB 9 : 27 (food of salmon in NW Atlantic)
 R3(62): 56 (distribution in SA 3 to 5, 1960-61)
 132 (food of redfish in SA 2 and 3)
 SP 6 :349 (food of young cod in Barents Sea)
 7 :101 (zooplankton in NORWESTLANT surveys)

Purse seine

- R3(68): 67 (catches in Nfld herring fishery)
 (70):134 (catches in Canadian herring fisheries)
 (73):233 (unit measures of fishing effort)

QQuebec (Subarea 4)

- R3(73):153 (Canadian squid catches, 1920-68)

Quota, catch (see Management)**R**Racial studies (see Systematics)Raja spp. (see Skates)Recaptures (see Tagging)Recruitment

- RB 5 : 99 (size and age of haddock in Div. 4VWX)
 9 :117 (assessment of cod in Div. 4VSW)
 11 : 43 (herring stock in Gulf St. Lawrence)
 12 : 37 (status of redfish stocks in SA 2 and 3)
 R3(65):153 (unknowns in information for MSY estimates)
 (66): 48 (status of cod stock in SA 1)
 (67): 26 (year-class fluctuations in SA 1 cod)
 (69): 17 (yield-per-recruit function for SA 1 cod)
 (70): 65 (yield-per-recruit for SA 2 and 3 cod)
 84 (and stock size for haddock in Div. 4VW)
 (71):147 (to scallop fishery on Georges Bank)
 221 (to yellowtail stocks in SA 5 and 6)
 229 (to cod and haddock stocks in SA 4)
 239 (to cod stock in Subdiv. 3Ps)
 249 (estimated from research vessel surveys)
 (72): 35 (assessment of cod in Div. 2J+3KL)
 49 (stock abundance of red hake in SA 5 and 6)
 73 (assessment of yellowtail in Div. 3LN)
 (73): 45 (to cod in SA 2 and 3 from surveys)
 79 (assessment of flounders in Div. 4VWX)
 SE 1 : 7 (status of cod stock in Div. 4VSW)
 31 (assessment of redfish in Div. 4VWX)
 41 (status of silver hake in Div. 4VWX)
 59 (summer flounder in SA 5 and 6)
 141 (affected by environmental fluctuations)
 171 (re management of cod in Gulf St. Lawrence)
 2 : 15 (assessment of pollock in SA 4 and 5)
 85 (*Illex* and *Loligo* in SA 5 and 6)
 SP 1 : 27 (parameter in fish population dynamics)
 2 : 5 (re effect of fishing on resources)
 6 :335 (affected by survival of eggs and larvae)
 349 (in Barents Sea cod re environment)
 381 (changes in stocks re environment)
 833 (changes in SA 4 cod re environment)
 7 :251 (re success of 1963 cod year-class in SA 1)

Red hake (see Hake, red)Redfish, Atlantic (*Sebastes marinus*; *S. mentella*)

- AR 3 : 57 (major stocks in SA 4)
 62 (major stocks in SA 2 and 3)
 8 : 83 (gear selection data for NW Atlantic)
 11 :103 (larvae in plankton records, 1955-60)
 Supplement (fisheries re regulation problems)

- RB 1 : 28 (effect of catch size on trawl selection)
 39 (catches over oceanic depths)
 107 (catches of adults in open ocean)
 2 : 59 (catch/effort assessment in some stocks)
 3 : 26 (distribution of larvae in NW Atlantic)
 49 (studies on deep-sea redfish)
 64 (distribution in Nfld-Labrador area)
 5 : 44 (serum proteins re maturation)
 86 (serum proteins in redfish types)
 130 (taxonomy by muscle thermostability)
 6 : 35 (diurnal variations in availability)
 79 (age and growth in Nfld area)
 8 : 27 (larval populations in N Atlantic)
 11 : 5 (status of stocks in SA 3)
 61 (larvae in plankton records, 1961-71)
 12 : 37 (status of fisheries in SA 2 and 3)
 91 (Div. 3M as study area on year-class success)
 13 : 11 (food of cod in SA 2 to 4)
 R (58): 50 (present and long-term research needs)
 (59): 44 (report on plans for redfish symposium)
 86 (trawl selection and effect of chafers)
 (60): 29 (summary report on 1959 redfish symposium)
 R3(62): 31 (larval distribution in N Atlantic, 1961)
 62 (distribution in SA 2 and 4)
 132 (food and feeding in SA 2 and 3)
 (63):150 (selection in natural and synthetic trawls)
 (65):164 (need for statistical data by depth zones)
 178 (age composition of SA 3 stocks)
 (66):112 (effect of chafing gear on selection)
 132 (effect of chafers on trawl selectivity)
 (67):101 (compilation of selection data, 1962-66)
 (68): 21 (comparative fishing experiments in SA 2)
 95 (selection in manila and kapron codends)
 (69):129 (in trawl surveys in SA 5 and 6, 1968)
 (70):153 (distribution by depth on Flemish Cap)
 159 (in USA-USSR trawl surveys, 1969)
 (71):275 (larvae in NORWESTLANT surveys, 1963)
 (73): 53 (distribution by depth in SA 2 and 3)
 163 (in mixed species fishery in SA 5 and 6)
 SE 1 : 19 (diurnal variation in catches in Div. 3P)
 31 (assessment of stock in Div. 4VWX)
 163 (mixed fishery theory re Div. 2J+3K stock)
 3 : 17 (trawl catches in Div. 3M)
 4 : 16 (by-catch with shrimp off Baffin I.)
 35 (by-catch in shrimp fishery in SA 1)
 5 : 49 (mesh selection studies in Div. 4VWX)
 6 : 27 (by-catch in SA 1 shrimp fishery, 1977-78)
 35 (abundance re cod growth in Div. 3M)
 SP 1 :113 (methods used for age and growth)
 215 (age and growth in SA 5 - Abstr.)
 217 (age and growth of N Atlantic stocks)
 223 (*S. marinus* and *S. viviparous* otoliths)
 227 (growth studies on young redfish - Abstr.)
 311 (stocks in Gulf St. Lawrence - Abstr.)
 335 (morphometric studies in SA 3 to 5)
 3 : 7 (introduction to Redfish Symposium)
 9 (systematics and natural marks)
 28 (racial comparison of N Atlantic stocks)
 42 (the race problem in redfish - Abstr.)
 45 (typing of redfish by otoliths)
 56 (vertebral numbers in NW Atlantic)
 90 (review of USSR investigations)
 94 (*S. viviparous* and the redfish problem)
 100 (biochemical studies on redfish)
 104 (biochemical studies re racial problem)
 111 (parasites as natural tags)
 118 (serological studies - Abstr.)
 119 (*Sphyrion lumpi* in N Atlantic)
 120 (distribution in the N Atlantic)
 122 (explorations in Gulf St. Lawrence, 1957)
 124 (distribution in Irminger Sea)
 140 (observations in Labrador area)
 142 (distribution in SA 4 from surveys, 1957-59)

- 148 (distribution in Canadian catches, 1949-58)
 154 (distribution in N Atlantic - Abstr.)
 157 (distribution in SA 0 and 2, 1959)
 163 (observations in the Iceland area)
 167 (larval distribution in N Atlantic)
 177 (larvae in Norwegian and Barents Sea)
 188 (larvae in western Barents Sea)
 194 (larvae at Ocean Weather Station A)
 195 (larvae in SA 4, 1954-55)
 199 (*Sebastes* larvae in Iceland area - Abstr.)
 201 (Danish larval studies in N Atlantic)
 216 (larvae in continuous plankton records)
 220 (larval distribution in Gulf of Maine)
 234 (description of larval and postlarval stages)
 241 (caudal pigmentation in larvae - Abstr.)
 241 (larvae in Norwegian waters, 1957-58)
 242 (sex and maturity in N Atlantic stocks)
 243 (remarks on evolution of *Sebastinae* - Abstr.)
 245 (gametogenesis and migrations)
 251 (sex ratio of catches and migrations)
 253 (age and growth in N Atlantic stocks)
 254 (population dynamics re ageing problem)
 258 (growth in Godthaab Fjord, Greenland)
 262 (age and growth studies in SA 5 - Abstr.)
 263 (characteristics of stock at Eastport, Maine)
 276 (age and growth in Nfld area)
 285 (age and growth in Barents Sea)
 291 (*S. viviparus* growth at Norway)
 297 (otoliths of 0-group redfish)
 300 (bibliography for N Atlantic)
 4 : 204 (population and mortality from tagging)
 210 (effect of tagging on growth)
 300 (tagging redfish from deep water)
 5 : 24 (trawl selection in SA 4 and 5)
 131 (codend selection in SA 4)
 201 (trawl selection in Nfld area)
 6 : 199 (effect of cold water on stocks in SA 1)
 209 (distribution re temperature in SA 1)
 267 (behaviour re light in N Atlantic)
 289 (larval distribution in Irminger Sea - Abstr.)
 303 (larval distribution in N Atlantic)
 309 (larvae in continuous plankton records)
 355 (effect of drift migrations in N Atlantic)
 417 (larvae re temperature in N Atlantic)
 481 (*Sphyrion lumpi* on redfish in SA 5)
 7 : 145 (larval distribution in NORWESTLANT surveys)
 157 (larvae in continuous plankton records)
 187 (stomach contents of redfish larvae)
 219 (trawl catches during NORWESTLANT surveys)
 225 (characteristics of adults from open ocean)
 10 : 95 (larvae in plankton recorder surveys, 1972)
- Redfish (*Sebastes viviparus*)
 SP 3 : 28 (racial studies in N Atlantic redfish)
 42 (the race problem in redfish - Abstr.)
 94 (*S. viviparus* and the redfish problem)
 199 (redfish fry in Iceland area - Abstr.)
 201 (Danish studies in N Atlantic)
 234 (larval and postlarval stages)
 291 (growth of young at Norway)
- Redfish, black-bellied (*Helicolenus dactylopterus*)
 SP 3 : 234 (larval and postlarval stages)
 243 (notes on *Sebastinae* evolution - Abstr.)
- Regulation (see Management)
- Reinhardtius hippoglossoides (see Halibut, Greenland)
- Remote sensing
 SE 2 : 145 (Gulf Stream eddies on continental shelf)
 6 : 55 (1977 aerial census of harp seals)
- Reproduction (see also Eggs, Fecundity, Maturation, Spawning)
 RB 11 : 37 (and maturity in hooded seals)
 R3(71):157 (in harp seals of the NW Atlantic)
 185 (in harp seals off Nfld)
 SE 2 : 55 (*Illex* and *Loligo* in SA 4 to 6)
 6 : 7 (reproduction in captive *Illex*)
 SP 3 : 90 (review of USSR studies on redfish)
 177 (studies on redfish in NE Atlantic)
 243 (in black-bellied redfish, *H. dactylopterus*)
 245 (gametogenesis in redfish)
- Research and Statistics (see STACRES)
- Research reports (publication of research reports was discontinued after 1973)
 AR 3 : 25 (Canadian report for 1952)
 28 (Danish report for 1952)
 34 (French report for 1952)
 38 (Icelandic report for 1952)
 41 (Norwegian report for 1952)
 46 (Spanish report for 1952)
 47 (United Kingdom report for 1952)
 49 (United States report for 1952)
 4 : 23 (Canadian report for 1953)
 28 (Danish report for 1953)
 37 (French report for 1953)
 38 (Icelandic report for 1953)
 40 (Norwegian report for 1953)
 46 (Portuguese report for 1953)
 49 (Spanish report for 1953)
 55 (United Kingdom report for 1953)
 56 (United States report for 1953)
 5 : 19 (Canadian report for 1954)
 28 (Danish report for 1954)
 39 (French report for 1954)
 42 (Icelandic report for 1954)
 43 (Norwegian report for 1954)
 50 (Portuguese report for 1954)
 51 (Spanish report for 1954)
 58 (United Kingdom report for 1954)
 61 (United States report for 1954)
 6 : 21 (Canadian report for 1955)
 27 (Danish report for 1955)
 39 (French report for 1955)
 39 (Fed. Rep. Germany report for 1955)
 42 (Icelandic report for 1955)
 43 (Norwegian report for 1955)
 47 (Portuguese report for 1955)
 55 (Spanish report for 1955)
 63 (United Kingdom report for 1955)
 64 (United States report for 1955)
 7 : 21 (Canadian report for 1956)
 28 (Danish report for 1956)
 36 (French report for 1956)
 37 (Fed. Rep. Germany report for 1956)
 39 (Icelandic report for 1956)
 41 (Norwegian report for 1956)
 48 (Portuguese report for 1956)
 58 (Spanish report for 1956)
 62 (United Kingdom report for 1956)
 63 (United States report for 1956)
 8 : 19 (Canadian report for 1957)
 27 (Danish report for 1957)

- 38 (French report for 1957)
 39 (Fed. Rep. Germany report for 1957)
 42 (Icelandic report for 1957)
 45 (Norwegian report for 1957)
 52 (Portuguese report for 1957)
 61 (Spanish report for 1957)
 73 (USSR report for 1954-57)
 75 (United Kingdom report for 1957)
 75 (United States report for 1957)
 9 : 20 (Canadian report for 1958)
 31 (Danish report for 1958)
 46 (French report for 1958)
 46 (Fed. Rep. Germany report for 1958)
 54 (Icelandic report for 1958)
 63 (Norwegian report for 1958)
 66 (Portuguese report for 1958)
 80 (Spanish report for 1958)
 81 (USSR report for 1958)
 85 (United Kingdom report for 1958)
 87 (United States report for 1958)
 10 : 19 (Canadian report for 1959)
 32 (Danish report for 1959)
 45 (French report for 1959)
 45 (Fed. Rep. Germany report for 1959)
 59 (Icelandic report for 1959)
 68 (Norwegian report for 1959)
 80 (Portuguese report for 1959)
 92 (Spanish report for 1959)
 95 (USSR report for 1959)
 111 (United Kingdom report for 1959)
 112 (United States report for 1959)
 11 : 23 (Canadian report for 1960)
 37 (Danish report for 1960)
 45 (French report for 1960)
 45 (Fed. Rep. Germany report for 1960)
 53 (Icelandic report for 1960)
 54 (Italian report for 1960)
 55 (Norwegian report for 1960)
 61 (Portuguese report for 1960)
 73 (Spanish report for 1960)
 83 (USSR report for 1960)
 92 (United Kingdom report for 1960)
 94 (United States report for 1960)
 R2(62): 3 (Canadian report for 1961)
 33 (Danish report for 1961)
 47 (French report for 1961)
 55 (Fed. Rep. Germany report for 1961)
 69 (Icelandic report for 1961)
 76 (Italian report for 1961)
 83 (Norwegian report for 1961)
 91 (Polish report for 1961)
 98 (Portuguese report for 1961)
 113 (Spanish report for 1961)
 128 (USSR report for 1961)
 140 (United Kingdom report for 1961)
 143 (United States report for 1961)
 158 (Addendum to Danish report for 1961)
 (63): 3 (Canadian report for 1962)
 28 (Danish report for 1962)
 36 (French report for 1962)
 39 (Fed. Rep. Germany report for 1962)
 49 (Icelandic report for 1962)
 50 (Norwegian report for 1962)
 62 (Portuguese report for 1962)
 70 (Spanish report for 1962)
 79 (USSR report for 1962)
 102 (United Kingdom report for 1962)
 104 (United States report for 1962)
 (64): 3 (Canadian report for 1963)
 35 (Danish report for 1963)
 42 (Fed. Rep. Germany report for 1963)
 52 (Icelandic report for 1963)
 55 (Norwegian report for 1963)
 67 (Polish report for 1963)
 70 (Portuguese report for 1963)
 86 (Spanish report for 1963)
 88 (United Kingdom report for 1963)
 92 (USSR report for 1963)
 113 (United States report for 1963)
 (65): 3 (Canadian report for 1964)
 36 (Danish report for 1964)
 52 (Fed. Rep. Germany report for 1964)
 66 (Icelandic report for 1964)
 68 (Norwegian report for 1964)
 91 (Polish report for 1964)
 95 (Portuguese report for 1964)
 103 (Spanish report for 1964)
 105 (USSR report for 1964)
 120 (United Kingdom report for 1964)
 123 (United States report for 1964)
 (66): 3 (Canadian report for 1965)
 25 (Danish report for 1965)
 32 (French report for 1965)
 33 (Fed. Rep. Germany report for 1965)
 57 (Icelandic report for 1965)
 59 (Norwegian report for 1965)
 61 (Polish report for 1965)
 71 (Portuguese report for 1965)
 83 (Spanish report for 1965)
 86 (USSR report for 1965)
 106 (United States report for 1965)
 122 (United Kingdom report for 1965)
 (67): 3 (Canadian report for 1966)
 26 (Danish report for 1966)
 35 (French report for 1966)
 48 (Fed. Rep. Germany report for 1966)
 64 (Icelandic report for 1966)
 66 (Norwegian report for 1966)
 78 (Polish report for 1966)
 90 (Portuguese report for 1966)
 107 (Spanish report for 1966)
 112 (USSR report for 1966)
 133 (United Kingdom report for 1966)
 136 (United States report for 1966)
 (68): 3 (Canadian report for 1967)
 24 (Danish report for 1967)
 30 (French report for 1967)
 42 (Fed. Rep. Germany report for 1967)
 65 (Icelandic report for 1967)
 67 (Norwegian report for 1967)
 75 (Polish report for 1967)
 85 (Portuguese report for 1967)
 92 (Romanian report for 1967)
 99 (Spanish report for 1967)
 102 (USSR report for 1967)
 125 (United Kingdom report for 1967)
 129 (United States report for 1967)
 (69): 3 (Canadian report for 1968)
 23 (Danish report for 1968)
 31 (Fed. Rep. Germany report for 1968)
 52 (Icelandic report for 1968)
 54 (Norwegian report for 1968)
 63 (Polish report for 1968)
 76 (Portuguese report for 1968)
 89 (Romanian report for 1968)
 96 (Spanish report for 1968)
 99 (USSR report for 1968)
 118 (United Kingdom report for 1968)
 121 (United States report for 1968)
 (70): 3 (Canadian report for 1969)
 30 (Danish report for 1969)
 41 (Fed. Rep. Germany report for 1969)
 77 (Icelandic report for 1969)
 79 (Norwegian report for 1969)

- 87 (Polish report for 1969)
 96 (Portuguese report for 1969)
 108 (Spanish report for 1969)
 113 (USSR report for 1969)
 147 (United Kingdom report for 1969)
 150 (United States report for 1969)
 (71): 3 (Canadian report for 1970)
 27 (Danish report for 1970)
 34 (French report for 1970)
 65 (Fed. Rep. Germany report for 1970)
 90 (Japanese report for 1970)
 97 (Polish report for 1970)
 106 (Portuguese report for 1970)
 116 (Spanish report for 1970)
 123 (USSR report for 1970)
 153 (United Kingdom report for 1970)
 156 (United States report for 1970)
 (72): 5 (Canadian report for 1971)
 19 (Danish report for 1971)
 29 (French report for 1971)
 37 (Fed. Rep. Germany report for 1971)
 55 (Japanese report for 1971)
 63 (Polish report for 1971)
 71 (Portuguese report for 1971)
 79 (Spanish report for 1971)
 81 (USSR report for 1971)
 95 (United Kingdom report for 1971)
 97 (United States report for 1971)
 (73): 5 (Canadian report for 1972)
 15 (Danish report for 1972)
 21 (French report for 1972)
 37 (Fed. Rep. Germany report for 1972)
 53 (Japanese report for 1972)
 57 (Norwegian report for 1972)
 59 (Polish report for 1972)
 67 (Portuguese report for 1972)
 73 (Spanish report for 1972)
 77 (USSR report for 1972)
 93 (United Kingdom report for 1972)
 97 (United States report for 1972)

Rockfish, Pacific (*Sebastes* spp.)

- SP 3 : 12 (taxonomy and biology in NW Pacific)
 51 (identification problems in N Pacific)
 169 (larval distribution off California)

Rodotrema ovacutum (trematode)

- SE 6 : 41 (parasite of wolffishes and flounders)

Romania

- R2(68): 92 (research report for 1967)
 (69): 89 (research report for 1968)

Rossia spp. (cephalopod)

- RB 13 : 11 (food of cod in SA 2 to 4)

Roughhead grenadier (see Grenadier, roughhead)

Roundnose grenadier (see Grenadier, roundnose)

S

Sagitta spp. (arrow worms)

- R3(62): 31 (in plankton recorder surveys off Nfld)
 (73):121 (food of capelin in SA 2 and 3)

Sailfish, Atlantic (*Istiophorus albicans*)

- SP 4 :288 (tagging techniques for large pelagics)

Saithe (see Pollock)

Salinity

- AR 4 : 67 (waters of the ICNAF Convention Area)
 RB 1 : 85 (conditions in SA 2 and 3, 1962)
 9 : 21 (T-S analysis of water in SA 5 and 6)
 12 :119 (physical oceanography of Georges Bank)
 R3(62): 3 (conditions in SA 1, 1961)
 14 (conditions in SA 2 and 3, 1961)
 23 (conditions in SA 5, 1961)
 (65):167 (conditions in SA 4, 1964)
 (66):143 (conditions in SA 1 to 3, 1965)
 (68): 21 (conditions in SA 2, 1967)
 37 (conditions off E Nfld, 1967)
 (69): 39 (conditions off E Nfld, 1968)
 57 (conditions in SA 1, 1968)
 (70): 11 (conditions off E Nfld, 1969)
 37 (conditions in SA 2 to 5, 1969)
 (71): 3 (conditions off E Nfld, 1970)
 17 (conditions in SA 1, 1970)
 29 (conditions in Div. 3P and 4V, 1970)
 49 (conditions in SA 1 to 3, 1970)
 (72): 5 (conditions in SA 1, 1971)
 11 (conditions in SA 2 and 3, 1971)
 19 (conditions off E Nfld, 1971)
 (73): 5 (conditions in SA 4 and 5, 1972)
 19 (conditions off E Nfld, 1972)
 27 (conditions in SA 1, 1972)
 33 (hydrography of Laurentian Channel)
 R4(67): 86 (variations in SA 1, 1959-66)
 SE 6 : 47 (USSR observations in Div. 3M, 1977-78)
 SP 3 :124 (and larval distribution in N Atlantic)
 6 : 29 (hydrographic aspects of NW Atlantic)
 75 (environmental effect on tunas)
 247 (effect on tuna distribution - Abstr.)
 625 (effect on herring larvae in Div. 5Y)
 673 (effect on young stages of fish)
 747 (supercooling and osmoregulation in fish)
 855 (long-term trends in NE Atlantic)
 901 (forecasting conditions in NE Atlantic)
 7 : 31 (conditions during NORWESTLANT surveys)
 10 : 41 (observations east of Grand Bank, 1972)
 75 (conditions in Nfld area, 1972-73)

Salinometer

- RB 1 : 74 (auto-lab versus N.I.O. salinometers)

Salmincola spp. (copepods)

- RB 5 : 62 (parasite of salmon taken off Nfld)

Salmon, Atlantic (*Salmo salar*)

- RB 4 : 5 (characteristics and distribution in SA 1)
 5 : 62 (characteristics and distribution off Nfld)
 9 : 27 (feeding in coastal and oceanic waters)
 10 :163 (length-weight relation in SA 1)
 R3(65):194 (tag recaptures in SA 1 fishery, 1964)
 (66):159 (effect of SA 1 fishery on Miramichi stocks)
 181 (tag recaptures in SA 1 fishery, 1965)
 (67): 53 (spawning in Maine rivers, 1962-66)
 58 (migration of kelts tagged in Maine)
 66 (growth between Greenland and Iceland)
 69 (tagging results in E Canada, 1964-66)
 (68): 81 (tag recaptures in SA 1 fishery, 1967)
 (69): 71 (results of tagging in E Canada, 1964-67)

- (71):139 (drift-net selection in SA 1)
 (72): 59 (results of tagging in E Canada, 1968-70)
 65 (recapture of salmon tagged in SA 2)
 SP 4 : 17 (comparison of tags used in SA 1)
 6 :743 (energy metabolism and migration)
- Salmon, Pacific (*Oncorhynchus* spp.)
- SP 4 : 64 (marking fingerlings with trace elements)
 81 (methods of sonic fish tracking)
 144 (problems in tagging at sea)
 230 (estimating mortality from tag returns)
 6 :477 (survival of young in USSR rivers)
- Salvelinus spp. (see Chars)
- Samplers (see also Continuous plankton records)
- RB 8 : 45 (selectivity of Bongo and Gulf III)
 R3(68): 75 (efficiency of Bongo and Gulf III)
- Sampling (see Statistics and Sampling for meeting reports)
- RB 2 : 25 (random vs stratified for cod age and growth)
 48 (heterogeneity in groundfish sampling in SA 4)
 76 (homogeneity in haddock samples in SA 5)
 R3(65):164 (need for redfish sampling by depth zones)
 181 (effect of freezing and salting on herring)
 190 (size changes in herring from freezing)
 (69): 79 (effect of icing and freezing on fish size)
 SE 3 : 79 (variance in age composition of mackerel)
 5 : 37 (data collection procedures for *Illex*)
 SP 1 : 13 (problems of sampling oceanic stocks)
 17 (problems re salt cod fleet fishery)
 71 (problems with semi-oceanic stocks)
 5 :180 (sampling catches at sea)
- Sampling data (length and age data for the major species in the NW Atlantic are given in Sampling Yearbooks Vol. 1-17 for the years 1955-72, and lists of data are given in Vol. 18-23 for the years 1973-78)
- Sand lance (*Ammodytes* spp.)
- RB 4 : 5 (food of salmon from SA 1 and 2)
 5 : 62 (food of salmon taken off Nfld)
 9 : 27 (food of salmon in NW Atlantic)
 41 (food of silver and red hake in SA 4 to 6)
 10 :107 (otolith structure and growth in SA 4)
 11 : 61 (larvae in plankton surveys, 1961-71)
 R3(62):132 (food of redfish in SA 2 and 3)
 (65):194 (food of salmon taken at Greenland)
 SP 6 :435 (food of cod in Greenland area)
- Sandeel (see Sand lance)
- Sardine, Pacific (*Sardinops caerulea*)
- SP 6 : 53 (environmental effect on distribution)
- Sardinops caerulea (see Sardine, Pacific)
- Saury, Atlantic (*Scorpaenopsis saurus*)
- AR 3 : 79 (periodic abundance in Nfld area)
- Scales
- RB 6 : 5 (for ageing yellowtail in SA 5)
 SP 1 :191 (consistency of haddock scale reading)
 193 (time of formation of annuli)
 199 (haddock scale-otolith comparisons - Abstr.)
- 210 (and otoliths for ageing haddock)
 227 (re growth studies on redfish - Abstr.)
 229 (Lee's phenomenon in haddock and plaice)
 243 (Lee's phenomenon in SA 5 haddock)
 3 :276 (re ageing of redfish in Nfld area)
 285 (re ageing redfish in Barents Sea)
- Scallop, sea (*Placopectin magellanicus*)
- RB 1 : 88 (natural mortality for stock in SA 5)
 3 : 15 (efficiency and selection of dredges)
 32 (length-weight relation in SA 5)
 R (58): 18 (report on research in SA 5, 1958)
 (59): 52 (report on research in SA 5, 1959)
 (60): 17 (report on research in SA 5, 1960)
 62 (selection of scallops in dredges)
 R3(68): 89 (development of Georges Bank fishery)
 (71):147 (recruitment and trends in SA 5 fishery)
 (72): 79 (mortality and selectivity of dredges)
 SP 4 :268 (population studies from tagging data)
- Scallop dredge (see Dredge)
- Schooling
- SP 6 :645 (effect of oxygen on schooling fish)
 647 (effect of light intensity on fish)
 753 (optomotor response and schooling)
 775 (behaviour re environment changes)
- Scotex pleuronectis spp. (cestode)
- SE 6 : 41 (parasite of flounders in NW Atlantic)
- Scomber scombrus (see Mackerel, Atlantic)
- Scorpaenopsis saurus (see Saury, Atlantic)
- Scotian Shelf (Subarea 4)
- AR 3 : 57 (identification of major groundfish stocks)
 4 : 67 (waters of the ICNAF Convention Area)
 9 :101 (top-side chafing gear studies)
 11 : Supplement (fisheries re regulation problems)
 RB 1 : 43 (haddock fishery in Div. 4X)
 2 : 48 (heterogeneity in groundfish sampling)
 59 (catch/effort assessment for some stocks)
 80 (trends in cod and haddock fisheries)
 3 : 81 (studies on biology of argentine)
 4 : 76 (silver hake distribution re temperature)
 87 (trends in halibut fishery, 1954-64)
 91 (otolith ageing of witch flounder)
 121 (length-weight relation for witch)
 5 : 91 (meristics of herring in Div. 4X)
 99 (size, age and recruitment of haddock)
 110 (temperature trends, Nova Scotia to Long I.)
 7 : 8 (movements of haddock tagged off Digby)
 8 : 5 (larval nematodes in herring)
 27 (larval redfish distribution)
 49 (assessment of haddock fishery)
 67 (studies on herring in Div. 3P and 4VW)
 9 : 21 (T-S analysis of water masses)
 41 (feeding habits of silver hake)
 81 (seasonal variation in chlorophyll)
 85 (biological characteristics of cusk)
 109 (growth and mortality of argentine)
 117 (assessment of cod in Div. 4VSW)
 10 : 23 (studies on A. plaice spawning)
 83 (distribution of G. halibut)
 99 (age and growth of A. plaice in Div. 4V)
 107 (otolith structure and growth of sand lance)
 11 :111 (spawning and development of witch)
 14 : 51 (selection studies on silver hake and squid)

- 67 (maturity and fecundity of *Illex*)
R (58): 30 (report on sampling of SA 4 cod stocks)
R3(62): 47 (plankton recorder sampling)
56 (plankton distribution, 1960-61)
62 (distribution of cod, haddock, redfish)
79 (identification of cod stocks)
124 (identification of haddock stocks)
(65):167 (hydrographic conditions, 1964)
(69): 23 (Polish studies on herring, 1968)
33 (fecundity of herring in Div. 4X)
45 (variation in temperatures, 1962-68)
129 (USSR trawl surveys, 1968)
(70): 22 (annual variation in temperature)
37 (hydrographic conditions in Cabot Strait)
84 (haddock recruitment and stock size)
(71): 29 (hydrographic conditions in Div. 4V)
57 (cod selection in synthetic codends)
83 (studies on haddock spawning)
229 (abundance indices for cod and haddock)
249 (abundance indices from surveys)
267 (commercial fish taken on shrimp grounds)
(73): 5 (environmental conditions, 1972)
33 (hydrography of Laurentian Channel)
59 (food of *A. plaice* in Div. 4V)
79 (assessment of flounder stocks)
109 (biological data on herring in Div. 4V)
R4(67): 24 (recent trends in temperature)
42 (current and long-term temperatures)
SE 1 : 7 (assessment of cod in Div. 4Vsw)
31 (status of redfish fishery)
41 (analysis of silver hake fishery)
117 (status of groundfish resources)
2 : 15 (assessment of pollock in SA 4 and 5)
33 (distribution of mackerel from surveys)
55 (growth and life cycle of *Illex*)
3 : 29 (natural mortality of silver hake)
33 (age and growth of silver hake)
93 (distribution of *Illex*, 1970-76)
97 (geostrophic circulation in SA 4 and 5)
5 : 11 (length-at-age from silver hake otoliths)
19 (abundance indices for silver hake)
31 (feeding studies on *Illex*, 1974-75)
49 (mesh selection studies on various species)
6 : 23 (fecundity studies on silver hake)
SP 1 :199 (haddock scale-otolith comparison - Abstr.)
335 (redfish morphometric studies)
3 : 28 (racial studies on redfish)
56 (vertebral numbers in redfish)
111 (parasites in redfish)
119 (*Sphyrion lumpi* on redfish - Abstr.)
142 (redfish surveys, 1957-59)
148 (Canadian redfish catches, 1949-58)
195 (redfish larval distribution, 1954-55)
4 : 89 (tags and techniques used for cod)
101 (factors affecting cod tag returns)
216 (haddock condition re tag returns)
5 : 24 (studies on haddock selection in trawls)
131 (codend and hook selection for groundfish)
6 :111 (cod distribution re temperature - Abstr.)
113 (haddock distribution re temperature)
167 (cod catches and temperature in Div. 4VW)
597 (herring abundance re water movements)
781 (bottom topography and trawling)
807 (long-term variations in temperature)
883 (cod recruitment re environment)
8 :129 (studies on bottom marine geology)
149 (water circulation in NW Atlantic)
223 (year-class success in cod and haddock)
10 :109 (temperature conditions, 1960-68)
115 (temperature conditions, 1972)
- Sculpin (*Cottus scorpius*)
SP 6 :747 (supercooling and osmoregulation)
- Sculpins (*Myoxocephalus* spp.)
R3(69):129 (in USSR trawl surveys in SA 4 and 5)
- Scup (*Stenotomas chrysops*)
R3(69):144 (in USA-USSR trawl surveys, 1968)
(73):163 (in mixed species fishery in SA 5 and 6)
SP 6 : 95 (distribution re temperature in SA 5 and 6)
- Sea scallop (see Scallop, sea)
- Seabed drifter (see Drifter)
- Seal, harp (*Pagophilus groenlandicus*)
RB 11 : 93 (studies on population in SA 1, 1953-72)
13 : 21 (predation on capelin in SA 2 and 3)
R3(71):157 (production of seals in NW Atlantic)
185 (Norwegian studies off Nfld)
SE 5 : 61 (study of density-dependent processes)
6 : 55 (1977 census of Front and Gulf stocks)
- Seal, hooded (*Cystophora cristata*)
RB 11 : 37 (studies on maturity and reproduction)
135 (age composition and mortality)
- Seals
MP(75): 74 (scientific advisers report, Jan 1975)
241 (scientific advisers report, Jun 1975)
R (76):193 (scientific advisers report, Dec 1975)
(77): 95 (scientific advisers report, Oct 1976)
(78): 17 (working group report, Nov 1977)
- Searobins (*Prionotus* spp.)
R3(69):144 (in USA-USSR trawl surveys, 1968)
- Sebastes marinus (see Redfish, Atlantic)
- Sebastes mentella (see Redfish, Atlantic)
- Sebastes viviparous (see Redfish)
- Sebastodes spp. (see Rockfish, Pacific)
- Sediments
RB 10 :131 (herring spawning grounds in SA 5)
151 (composition on herring spawning grounds)
SP 6 :781 (bottom topography in NW Atlantic)
8 :129 (bottom marine geology in NW Atlantic)
- Seine (see Purse seine)
- Selection (see Gear and Selectivity for meeting reports)
AR 8 : 83 (gear selection data for ICNAF area)
101 (effect of chafer on haddock selection)
9 :101 (topside chafing gear studies)
RB 1 : 28 (effect of catch size on trawl selection)
2 : 8 (trawl selection of cod in SA 2)
3 : 15 (and efficiency of scallop drags)
86 (silver and red hake in nylon codends)
10 :117 (of Polish chafer made of thick netting)
14 : 51 (studies on silver hake and squid in Div. 4VWX)
R (59): 86 (effect of chafers on redfish selection)
(60): 62 (selection of Georges Bank scallops)
66 (in codends with various chafers)
R3(63):150 (in manila and synthetic codends)
(64):132 (in trawls with flap-type chafer)
143 (mesh equivalents for different materials)

- (66): 85 (experiments using synthetic codends)
 93 (experiments for haddock in SA 5)
 97 (experiments for cod off W Greenland)
 105 (in trawls with ICNAF chafer)
 112 (effect of chafers on selection factor)
 122 (effect of ICNAF chafer on selection)
 132 (effect of chafers on trawl selection)
 (67): 75 (experiments for cod off SW Greenland)
 82 (effect on cod with large-mesh chafer)
 90 (effect of large-mesh chafers)
 101 (compilation of selection data, 1962-66)
 (68): 95 (selectivity of manila and kapron codends)
 101 (yellowtail in nylon codends in SA 5)
 110 (cod in trawls with Polish-type chafer)
 (69): 109 (studies for cod on Grand Bank, 1967)
 (70): 111 (yellowtail in large-mesh codends)
 (71): 57 (cod in synthetic codends)
 139 (salmon in drift-nets at Greenland)
 (72): 79 (scallop dredge in SA 5 fishery)
 SE 5 : 49 (study for various species in Div. 4VWX)
 SP 1 : 113 (report on methods of mesh measuring)
 151 (methods used in fishery research)
 253 (measurement of trawl net meshes)
 265 (measurement of meshes in nets)
 2 : 27 (report on selectivity of fishing gear)
 5 : 5 (fish behaviour re capture with baits)
 8 (selection in nets of various fibres - Abstr.)
 9 (escapement in different parts of trawl)
 12 (effect of mesh size on trawl operation)
 18 (selectivity data for synthetic fibres)
 24 (trawl selection in SA 4 and 5)
 97 (escapement in various parts of trawl)
 102 (selection ogives and predicted yields)
 106 (application of gillnet selection method)
 116 (codend escapement of haddock)
 128 (perch selection in gillnets)
 131 (codend and hook selection in SA 4)
 156 (different selectivity of two trawls)
 158 (escapement in various parts of trawl)
 166 (selection process in fishing operation)
 171 (effect of small-mesh cover on escapement)
 175 (experimental design of selection expt.)
 185 (methods used in selection experiments)
 189 (selectivity of longlines)
 193 (the stretch of net meshes)
 201 (studies on groundfish species in SA 3)
- Serology (see Biochemical analysis)
- Shark, dogfish (see Dogfish)
- Shark, Greenland (*Somniosus microcephalus*).
 SP 4 : 172 (tagging at W Greenland)
- Sharks (general)
 SP 4 : 159 (in USA-USSR trawl surveys, 1969)
- Short-finned squid (see Squid, short-finned)
- Shrimp, white (*Penaeus setiferus*)
 SP 4 : 142 (stains for marking in Gulf of Mexico)
- Shrimp, pink (*Pandalus* spp.)
 RB 5 : 62 (food of salmon taken off Nfld)
 9 : 41 (food of hakes in SA 4 to 6)
 13 : 11 (food of cod in SA 2 to 4)
 R3(71):267 (commercial fish taken on shrimp grounds)
 R (77): 13 (working group report for SA 1, Nov 1977)
 (78): 11 (working group report for SA 1, Dec 1978)
 SE 4 : 7 (biology of shrimp in SA 1)
- 16 (biological data from survey in SA 0)
 23 (biomass estimate from survey in SA 1)
 31 (assessment of stocks in SA 1)
 35 (Norwegian studies in SA 1)
 43 (method of estimating TAC for SA 1)
 45 (diurnal variation in SA 1 catches)
 47 (USSR studies on shrimp in SA 1, 1976)
 51 (life cycle of shrimp in SA 1)
 61 (density and biomass from photo survey)
 68 (results of trawl survey in SA 1)
 6 : 27 (Norwegian studies in SA 1, 1977-78)
 SP 4 : 199 (effect of cold water on SA 1 stocks)
 435 (food of cod in SA 1)
- Silicates
 SP 7 : 57 (distribution in NORWESTLANT surveys)
 10 : 57 (observations east of Grand Bank, 1972)
- Silver hake (see Hake, silver)
- Skates (*Raja* spp.)
 R3(69):129 (in trawl surveys in SA 4 to 6, 1968).
 144 (in USA-USSR trawl surveys, 1968)
- Skipjack (see Tuna, skipjack)
- Snella fishing
 RB 6 : 53 (experimental, for cod off W Greenland)
- Sole (*Solea solea*)
 SP 4 : 106 (effect of condition on tag returns)
 123 (tagging in North Sea, 1959-60)
 156 (efficiency of tags and attachments)
- Sole (*Solea vulgaris*)
 SP 1 : 327 (summer spawning in North Sea)
- Somniosus microcephalus (see Shark, Greenland)
- Southern New England (see New England area)
- Spain
 AR 3 : 46 (research report for 1952)
 4 : 49 (research report for 1953)
 5 : 51 (research report for 1954)
 6 : 55 (research report for 1955)
 7 : 58 (research report for 1956)
 8 : 61 (research report for 1957)
 9 : 80 (research report for 1958)
 10 : 92 (research report for 1959)
 11 : 73 (research report for 1960)
 R2(62):113 (research report for 1961)
 (63): 70 (research report for 1962)
 (64): 86 (research report for 1963)
 (65): 103 (research report for 1964)
 (66): 83 (research report for 1965)
 (67): 107 (research report for 1966)
 (68): 99 (research report for 1967)
 (69): 96 (research report for 1968)
 (70): 108 (research report for 1969)
 (71): 116 (research report for 1970)
 (72): 79 (research report for 1971)
 (73): 73 (research report for 1972)
- Spawning (see also Maturation; Reproduction)
 RB 5 : 5 (cod in west Nfld area)
 7 : 56 (haddock on Georges Bank)

- 9 : 5 (classifying spring and autumn herring)
85 (cusk on Scotian Shelf)
- 10 : 15 (herring in Fortune Bay, Nfld)
23 (A. plaice stocks in NW Atlantic)
37 (meristics of herring by spawning types)
125 (Georges Bank herring spawning, 1970)
131 (observations on herring spawning grounds)
141 (larval herring over egg-beds in SA 5)
151 (sedimentology of herring spawning beds)
- 11 : 73 (morphometrics of herring in SA 3 and 4)
111 (and development of witch in SA 2 to 5)
145 (studies on herring in SW Nfld area)
- 12 : 91 (cod and redfish on Flemish Cap)
- 13 : 53 (and maturity of haddock in Div. 3N0)
- 14 : 77 (and maturity of haddock in Div. 3P)
- R3(67): 3 (cod stocks off W Greenland)
53 (salmon in Maine rivers, 1962-66)
- (70): 96 (haddock in SA 5 from egg surveys)
123 (USA-USSR herring egg surveys, 1969)
- (71): 83 (haddock stocks in NW Atlantic)
93 (herring off SW Nova Scotia)
105 (spring and autumn herring in SW Nfld)
- (73): 121 (capelin stocks in SA 2 and 3, 1971-72)
127 (capelin stock on Grand Bank)
137 (capelin in Nfld inshore waters)
- SE 3 : 57 (herring re temperature in Div. 5Z)
61 (capelin on Southeast Shoal, 1976)
- 4 : 51 (life cycle of shrimp in SA 1)
- 6 : 7 (reproduction in captive squid)
- SP 3 : 177 (redfish in NE Atlantic areas)
199 (redfish in Iceland area - Abstr.)
201 (re redfish distribution in N Atlantic)
- 6 : 397 (cod re environment in NE Atlantic)
419 (redfish re temperature in N Atlantic)
647 (effect on fish of light intensity change)
687 (fecundity and egg size re environment)
691 (and endocrine changes in cod)
- 7 : 227 (re life cycle pattern of cod in SA 2)

Sphyrion lumpi (copepod)

- AR 3 : 62 (incidence on redfish in SA 2 and 3)
- RB 3 : 111 (occurrence on silver hake in SA 5)
- SP 3 : 111 (parasite on redfish of NW Atlantic)
119 (parasite studies on redfish - Abstr.)
6 : 481 (incidence on redfish in SA 5)
7 : 225 (incidence on redfish in open ocean)

Spiny dogfish (see Dogfish, spiny)Spiratella spp. (pteropod)

- SP 6 : 303 (food of redfish larvae in Irminger Sea)
7 : 123 (distribution in NORWESTLANT surveys)
8 : 167 (distribution in plankton surveys)

Spitsbergen (NE Atlantic)

- SP 6 : 225 (cod distribution re hydrography)
791 (recent changes in benthos)

Spratt (*Clupea sprattus*)

- SP 5 : 97 (escapement in different parts of trawl)
158 (selection in different parts of trawl)
6 : 541 (fishery and zooplankton production)

Squalus acanthias (see Dogfish, spiny)Squid, Arctic (*Gonatus fabricii*)

- RB 4 : 5 (food of salmon from SA 1 and 2)
5 : 62 (food of salmon taken off Nfld)

- 13 : 11 (food of cod in SA 2 to 4)
SP 6 : 435 (food of cod in Greenland area)

Squid, long-finned (*Loligo pealei*)

- RB 9 : 41 (food of silver and red hake in SA 5 and 6)
- R3(69): 129 (in trawl surveys in SA 5, 1968)
144 (in USA-USSR trawl surveys, 1968)
(73): 145 (stock assessment for SA 5 and 6)
163 (in mixed species fishery in SA 5 and 6)
- SE 2 : 55 (growth and life cycle in SA 5 and 6)
71 (assessment of fishery in SA 5 and 6)
85 (fishery in SA 5 and 6, 1963-74)
- 5 : 31 (feeding in SA 5 to 6, 1974-75)

Squid, short-finned (*Illex illecebrosus*)

- AR 3 : 79 (abundance re hydrography at Nfld)
- RB 9 : 41 (food of silver and red hake in SA 5 and 6)
13 : 11 (food of cod in SA 2 to 4)
14 : 51 (selection studies in Div. 4VWX)
67 (maturity and fecundity studies)
- R3(69): 129 (in trawl surveys in SA 4 and 5, 1968)
144 (in USA-USSR trawl surveys, 1968)
(73): 153 (Canadian catches in SA 2 to 4, 1920-68)
163 (in mixed species fisheries in SA 5 and 6)
- R (78): 21 (report of meeting of squid, Feb 1978)
- SE 2 : 55 (growth and life cycle in SA 4 to 6)
71 (assessment of fishery in SA 5 and 6)
85 (fishery in SA 5 and 6, 1963-74)
- 3 : 93 (distribution on Scotian Shelf, 1970-76)
- 5 : 25 (study on feeding in Nfld area)
31 (study on feeding in SA 4 to 6)
37 (standard data collection procedures)
- 6 : 7 (reproduction in captive *Illex*)
16 (feeding and growth in captive *Illex*)

St. Pierre Bank (Subarea 3)

- AR 3 : 62 (groundfish stocks in Nfld area)
79 (marine animal abundance re hydrography)
- 4 : 67 (the waters of the ICAF Convention Area)
- 11 : Supplement (fishery re regulation problems)
- RB 3 : 55 (trends in haddock fishery in SA 3)
64 (redfish distribution in Nfld area)
- 5 : 137 (length conversion factors for haddock)
- 8 : 37 (effect of mesh increase on cod stock)
- 9 : 75 (assessment of cod off S Nfld)
- 10 : 23 (spawning of A. plaice in NW Atlantic)
83 (abundance of Greenland halibut)
- 11 : 5 (status of redfish stock)
111 (spawning and development of witch)
- 13 : 5 (age and growth of G. halibut)
21 (capelin ecology and surplus yield)
- 14 : 5 (cod migrations in Nfld area from tagging)
73 (diurnal variation in witch catches)
77 (maturity and spawning in haddock)
85 (age and growth of haddock)
- R3(62): 47 (plankton recorder surveys in SA 3 to 5)
62 (distribution of cod, haddock, redfish)
69 (distribution of cod and haddock)
79 (cod stocks in NW Atlantic)
124 (haddock stocks in NW Atlantic)
- (69): 94 (length-girth relation for haddock)
- (70): 56 (abundance of young cod)
65 (catch/effort assessment for cod)
75 (haddock vertebral numbers)
- (71): 29 (environmental conditions, 1970)
83 (haddock spawning in NW Atlantic)
239 (cod abundance indices from surveys)
- (72): 27 (water circulation, 1970-71)
45 (sexual maturity of A. plaice)
- (73): 33 (hydrography of Laurentian Channel)

- 37 (mortality estimates for cod)
 45 (cod abundance from research surveys)
 53 (distribution of redfish by depth)
 59 (studies on food of A. plaice)
 101 (studies on white hake, 1969-72)
 137 (biological characteristics of capelin)
 SE 1 : 19 (diurnal variation in redfish catches)
 107 (status of groundfish in SA 2 and 3)
 2 : 11 (status of witch flounder fishery)
 SP 1 : 275 (zooplankton in Nfld area - Abstr.)
 331 (cod stocks in Nfld area - Abstr.)
 3 : 56 (vertebral numbers in redfish)
 148 (Canadian redfish catches, 1949-58)
 6 : 167 (cod catches re temperature)
 189 (haddock distribution re temperature)
 545 (cod growth and temperature)
 8 : 223 (year-class success in cod and haddock)
 10 : 17 (hydrographic conditions, 1951-73)
 33 (temperature conditions, 1971-73)
 69 (circulation in Nfld area, 1972-73)
 75 (salinity in Nfld area, 1972-73)
- STACFAD (Standing Committee on Finance and Administration)
 (reports of meetings not published in paged volumes prior to 1972)
- MP(51): - (annual meeting, 1951: proc. 3, 6, 9, 21)
 (52): - (annual meeting, 1952: proc. 6)
 (53): - (annual meeting, 1953: proc. 3, 10, 12, 16)
 (54): - (annual meeting, 1954: proc. 7, 13, 15-17)
 (55): - (annual meeting, 1955: proc. 7, 23)
 (56): - (annual meeting, 1956: proc. 5, 13)
 (57): - (annual meeting, 1957: proc. 2, 5, 11, 13)
 (58): - (annual meeting, 1958: proc. 3, 9, 13)
 (59): - (annual meeting, 1959: proc. 3, 5, 11, 14)
 (60): - (annual meeting, 1960: proc. 3, 10)
 (61): - (annual meeting, 1961: proc. 8, 11, 14)
 (62): - (annual meeting, 1962: proc. 9, 12)
 (63): - (annual meeting, 1963: proc. 9, 15, 16)
 (64): - (annual meeting, 1964: proc. 10, 12, 18)
 (65): - (annual meeting, 1965: proc. 11, 12, 17)
 (66): - (annual meeting, 1966: proc. 10, 14, 18, 23)
 (67): - (annual meeting, 1967: proc. 11, 13, 19, 21)
 (68): - (annual meeting, 1968: proc. 9, 12, 17)
 (69): - (annual meeting, 1969: proc. 9, 14)
 (70): - (annual meeting, 1970: proc. 9, 11)
 (71): - (annual meeting, 1971: proc. 15)
 (72): 125 (report of annual meeting, May 1972)
 (73): 121 (report of annual meeting, Jun 1973)
 (74): 139 (report of annual meeting, Jun 1974)
 (75): 174 (report of annual meeting, Jun 1975)
 (76): 213 (report of annual meeting, Jun 1976)
 (77): 153 (report of annual meeting, Jun 1977)
 (78): 31 (report of annual meeting, Jun 1978)
 (79): 33 (report of special meeting, Mar 1979)
 55 (report of annual meeting, Jun 1979)
- STACREM (Standing Committee on Regulatory Measures)
 (reports of meetings not published in paged volumes prior to 1972)
- MP(68): - (annual meeting, Jun 1968: proc. 16)
 (69): - (annual meeting, Jun 1969: proc. 11)
 (70): - (mid-term meeting, Jan 1970: proc. 8)
 (71): - (annual meeting, Jun 1971: proc. 9)
 (73): 25 (report of special meeting, Jan 1973)
 73 (report of annual meeting, Jun 1973)
 (74): 74 (report of annual meeting, Jun 1974)
 (75): 173 (report of annual meeting, Jun 1975)
- STACRES (Standing Committee on Research and Statistics)
 (reports of meetings not published in paged volumes prior to 1958)
- MP(51): - (annual meeting, 1951: proc. 11, 20)
 (52): - (annual meeting, 1952: proc. 1, 4)
 (53): - (annual meeting, 1953: proc. 2, 9, 13)
 (54): - (annual meeting, 1954: proc. 2, 11)
 (55): - (annual meeting, 1955: proc. 8, 17, 21, 30)
 (56): - (annual meeting, 1956: proc. 18)
 (57): - (annual meeting, 1957: proc. 17)
 R (58): 7 (report of annual meeting, Jun 1958)
 50 (report on present and long-term needs)
 (59): 31 (report of annual meeting, Jun 1959)
 (60): 5 (report of annual meeting, May 1960)
 (61): 3 (report of annual meeting, May 1961)
 R1 (62): 3 (report of annual meeting, May 1962)
 (63): 3 (report of annual meeting, May 1963)
 (64): 3 (report of annual meeting, May 1964)
 (65): 3 (report of annual meeting, Jun 1965)
 (66): 3 (report of annual meeting, Jun 1966)
 (67): 3 (report of annual meeting, Jun 1967)
 (68): 3 (report of annual meeting, May 1968)
 (69): 3 (report of annual meeting, May 1968)
 (70): 3 (report of annual meeting, May 1970)
 (71): 3 (report of annual meeting, May 1971)
 (72): 3 (report of annual meeting, May 1972)
 (73): 5 (report of special meeting, Jan 1973)
 51 (report of annual meeting, Jun 1973)
 R (74): 5 (report of special meeting, Oct 1973)
 9 (report of special meeting, Jan 1974)
 63 (report of annual meeting, Jun 1974)
 (75): 5 (report of special meeting, Jan 1975)
 13 (report of annual meeting, Jun 1975)
 (76): 5 (report of special meeting, Sep 1975)
 21 (report of special meeting, Jan 1976)
 51 (report of annual meeting, Jun 1976)
 (77): 5 (report of special meeting, Dec 1976)
 33 (report of annual meeting, May 1977)
 (78): 5 (report of special meeting, Nov 1977)
 21 (report of special meeting, Feb 1978)
 35 (report of annual meeting, May 1978)
 (79): 5 (report of special meeting, Nov 1978)
 27 (report of special meeting, Feb 1979)
 47 (report of annual meeting, May 1979)
- STACTIC (Standing Committee on International Control)
- MP(72): 95 (terms of reference, May 1972)
 155 (report of annual meeting, May 1972)
 (73): 59 (report of annual meeting, Jun 1973)
 (74): 121 (report of annual meeting, Jun 1974)
 (75): 87 (report of special meeting, Mar 1975)
 141 (report of annual meeting, Jun 1975)
 (76): 41 (report of special meeting, Sep 1975)
 79 (report of special meeting, Jan 1976)
 161 (report of annual meeting, Jun 1976)
 (77): 147 (report of annual meeting, Jun 1977)
 (78): 5 (report of annual meeting, Jun 1978)
 (79): 15 (report of special meeting, Mar 1979)
 61 (report of annual meeting, Jun 1979)
 65 (joint meeting with STACRES, Jun 1979)
- Standard oceanographic stations
- SE 3 : 109 (ICNAF standard sections and stations)
- Statistical Area 0 (see Baffin Island)
- Statistical Area 6 (see New England)

Statistics (fisheries statistics for the NW Atlantic are given in ICNAF Statistical Bulletins, which have been published annually since 1951)

- R (58): 50 (present and long-term research needs)
 R3(67): 35 (designation of hakes in ICNAF statistics)
 (68): 29 (summary of statistics on discards, 1966)
 (69): 115 (summary of statistics on discards, 1967)
 124 (description of FAO Stat. Area 21)
 (70): 159 (summary of statistics on discards, 1968)
 (71): 297 (summary of statistics on discards, 1969)
 (72): 97 (summary of statistics on discards, 1970)
 (73): 249 (summary of statistics on discards, 1971)

Statistics and Sampling (meeting reports)

- R (58): 21 (report on statistics, 1958)
 30 (report on sampling, 1958)
 (59): 73 (report on statistics and sampling, 1959)
 79 (report on statistical areas, 1959)
 (60): 20 (report on sampling, 1960)
 21 (report on statistical areas, 1960)
 35 (report on statistics, 1960)
 (61): 30 (report on statistics and sampling, 1961)
 R1(62): 31 (report on statistics, 1962)
 39 (report on sampling, 1962)
 (63): 65 (report on statistics, 1963)
 74 (report on sampling, 1963)
 (64): 36 (report on sampling, 1964)
 76 (report on statistics, 1964)
 (65): 45 (report on statistics, 1965)
 69 (report on sampling, 1965)
 (66): 52 (report on statistics and sampling, 1966)
 (67): 53 (report on statistics and sampling, 1967)
 (68): 69 (report on statistics and sampling, 1968)
 (69): 43 (report on statistics and sampling, 1969)
 (70): 66 (report on statistics and sampling, 1970)
 (71): 69 (report on statistics and sampling, 1971)
 (72): 69 (report on statistics and sampling, 1972)
 (73): 109 (report on statistics and sampling, 1973)
 R (74): 51 (working group on ICNAF data base, Jan 1974)
 125 (report on statistics and sampling, 1974)
 131 (working group on ICNAF data base, Jun 1974)
 (75): 75 (report on statistics and sampling, Jun 1975)
 (76): 129 (report on statistics and sampling, Jun 1976)
 (77): 65 (report on statistics and sampling, Jun 1977)
 (78): 85 (report on statistics and sampling, Jun 1978)
 (79): 21 (standard procedures for sampling data)
 93 (report on statistics and sampling, Jun 1979)

Steganoderma spp. (trematode)

- SE 6 : 41 (parasites of flounders and wolffish)

Stenakron vetustum (trematode)

- SE 6 : 41 (parasite of flounders in NW Atlantic)

Stenotomus chrysops (see Scup)

Stephanochasmus baccatus (trematode)

- SE 6 : 41 (parasite of flounders in NW Atlantic)

Steringophorus furciger (trematode)

- SE 6 : 41 (parasite of wolffishes and flounders)

Stizostedion vitreum (see Walleye)

Stock; Stock size; Stock differentiation

- AR 3 : 57 (identity of major stocks in SA 4)
 62 (knowledge of major stocks in SA 2 and 3)

- 69 (fluctuations in stocks re hydrography)
 11 : Supplement (fisheries re regulation problems)
 17 : 84 (control of fishing on several stocks)
 RB 2 : 59 (catch/effort relations in ICNAF fisheries)
 5 : 91 (herring stocks in SA 4 to 6)
 6 : 26 (catch/effort relations in cod stocks)
 65 (assessment of cod in SA 1)
 7 : 59 (immature herring in Bay of Fundy)
 8 : 15 (assessment of cod in SA 1)
 49 (assessment of haddock in Div. 4VW)
 75 (assessment of cod in Div. 2J)
 9 : 5 (classifying herring stocks by meristics)
 51 (assessment of cod in Div. 4T)
 75 (assessment of S Nfld cod stocks)
 117 (assessment of cod in Div. 4Vsw)
 10 : 37 (herring in Nfld area by meristics)
 63 (assessment of A. plaice in Div. 3LNO)
 125 (spawning herring in Div. 5Z, 1970)
 11 : 5 (status of redfish stocks in SA 3)
 43 (assessment for Div. 4T herring stocks)
 73 (morphometric studies on SA 3 and 4 herring)
 107 (assessment of cod in Div. 3NO)
 125 (status of yellowtail in Div. 3LNO)
 12 : 37 (status of redfish stocks in SA 2 and 3)
 13 : 21 (capelin ecology and surplus yield)
 67 (relation of SW Nfld and Div. 4T herring)
 14 : 5 (cod stocks re migration studies)
 R3(62): 79 (cod stocks in NW Atlantic)
 124 (haddock stocks in NW Atlantic)
 (66): 3 (working group report on cod in SA 1, 1966)
 (67): 3 (efficient use of cod stock in SA 1)
 (69): 10 (stock size and catch quota for SA 1 cod)
 (70): 37 (Div. 3M cod for experimental regulation)
 65 (catch/effort relations in SA 2 and 3 cod)
 84 (re recruitment in Div. 4VW haddock)
 (71): 105 (status of SW Nfld herring, 1965-70)
 211 (yellowtail stock in SA 5 and 6)
 221 (predicted for yellowtail from surveys)
 (72): 35 (assessment of cod in Div. 2J+3KL)
 49 (assessment of red hake in SA 5 and 6)
 73 (assessment of yellowtail in Div. 3LN)
 (73): 37 (mortality of cod in Div. 3NO and 3Ps)
 45 (abundance of cod in SA 2 and 3)
 79 (assessment of flounders in Div. 4VWX)
 105 (assessment of herring in Div. 5Z)
 127 (studies on capelin in SA 3)
 137 (status of capelin in Nfld area)
 145 (assessment of squids in SA 5 and 6)
 SE 1 : 7 (assessment of cod in Div. 4Vsw)
 31 (assessment of redfish in Div. 4VWX)
 41 (analysis of silver hake in Div. 4VWX)
 59 (status of summer flounder in SA 5 and 6)
 2 : 15 (assessment of pollock in SA 4 and 5)
 45 (assessment of roundnose grenadier stocks)
 71 (assessment of squid stocks in SA 5 and 6)
 85 (squid fishery in SA 5 and 6, 1963-74)
 3 : 61 (capelin spawning on SE Shoal, 1976)
 4 : 7 (exploitation of shrimp in SA 1)
 16 (biomass estimate for shrimp in SA 0)
 23 (biomass estimate for shrimp in SA 1)
 31 (assessment of shrimp in SA 1)
 35 (Norwegian studies on shrimp in SA 1)
 43 (method of estimating TAC for shrimp)
 47 (USSR studies on shrimp in SA 1)
 61 (density of shrimp in SA 1 from photo survey)
 68 (estimate for shrimp in SA 1, 1977)
 5 : 61 (harp seal populations in NW Atlantic)
 6 : 55 (1977 census of harp seals)
 SP 1 : 13 (problems of sampling oceanic stocks)
 51 (mortality in partially fished stocks)
 71 (sampling semi-oceanic stocks)
 77 (dynamic analysis of fish stocks)
 267 (report on fish stock differentiation)
 331 (cod stocks in Nfld area - Abstr.)

- 333 (haddock stocks in NW Atlantic - Abstr.)
6 :827 (cod re hydrography in SA 1 to 3)
- Stomach contents (see Feeding)
- Stratified trawling
- RB 10 : 53 (groundfish survey of Faroe Bank)
14 : 73 (diurnal variation in witch catches)
R3(69):144 (USA-USSR cooperative surveys, 1968)
(70):159 (USA-USSR cooperative surveys, 1969)
(73):163 (re species mix in SA 5 and 6 surveys)
SE 1 : 19 (re diurnal variation for redfish in Div. 3P)
2 : 15 (surveys for pollock in SA 4 and 5)
33 (re mackerel distribution in SA 4 to 6)
85 (re squid abundance in SA 5 and 6)
3 : 45 (re mackerel abundance in SA 5 and 6)
49 (abundance indices from survey data)
93 (abundance of *Illex* in SA 4, 1970-76)
4 : 16 (survey for shrimp off Baffin Island)
23 (shrimp abundance in SA 1)
68 (survey for shrimp in SA 1)
- Subarea 0 (=Statistical Area 0) (see Baffin Island)
- Subarea 1 (see Greenland area)
- Subarea 2 (see Labrador area)
- Subarea 3 (see Cabot Strait, Flemish Cap, Grand Bank, Newfoundland area, Northeast Nfid Shelf, St. Pierre Bank)
- Subarea 4 (see Bay of Fundy, Cabot Strait, Gulf of St. Lawrence, New Brunswick area, Nova Scotia area, Scotian Shelf)
- Subarea 5 (see Georges Bank, Gulf of Maine, New England)
- Subarea 6 (=Statistical Area 6) (see New England area)
- Subcommittee and Working Group reports (in the case of meeting proceedings, reports were not published in paged volumes prior to 1971; see under Panel and Plenary for reports of these bodies, and under STACFAD, STACREM, STACRES and STACTIC for references to reports of these standing committees)
- MP(53): - (on hydrography, cod and redfish: proc. 14)
- (on subdivision of subareas: proc. 17)
(54): - (report on statistics: proc. 6)
- (on hydrography, cod, haddock, redfish, and halibut: proc. 11)
(55): - (report on statistics: proc. 10)
- (conservation of haddock in SA 3: proc. 14)
- (halibut investigations in SA 1: proc. 15)
- (hydrographic studies in SA 1: proc. 16)
(56): - (coordination of oceanographic work: proc. 18)
- (exemption to SA 5 amesh regulation: proc. 18)
- (mesh measuring and gear selection: proc. 18)
- (mechanization of fish measuring: proc. 18)
(57): - (standardization of statistics: proc. 12)
- (population dynamics and statistics: proc. 12)
- (report on trawl technology: proc. 12)
- (biological studies on redfish: proc. 12)
- (plankton and hydrographic data: proc. 12)
- (methods of measuring fish: proc. 12)
(59): - (report on annual inspections: proc. 13)
(60): - (report on annual inspections: proc. 11)
(61): - (report on annual inspections: proc. 12)
(62): - (report on international enforcement: proc. 3)
- (report on annual inspections: proc. 8)
(63): - (report on trawl regulations: proc. 14)
(64): - (report on trawl regulations: proc. 15)
(65): - (report on trawl regulations: proc. 13)
(66): - (report on trawl regulations: proc. 17, 19-21, 34)
(67): - (report on trawl regulations: proc. 10, 15, 17)
- (report on fishery management: proc. 16)
(68): - (report on trawl regulations: proc. 11, 19)
(70): - (report on Subarea 5 fisheries: proc. 16)
(71): - (report on international inspection: proc. 14)
- (report on ICNAF fisheries and quota allocation: proc. 16)
(72):195 (report on herring management, Feb 1972)
(73): 45 (report on herring management, Jan 1973)
65 (report on enforcement scheme, Jun 1973)
67 (report on extending enforcement scheme)
75 (report on effort limitation, Mar 1973)
116 (report on effort limitation, May 1973)
(74): 23 (report on regulatory measures, Oct 1973)
25 (report on SA 5+6 catch allocations, Oct 1973)
59 (report on effort limitation, Jan 1974)
77 (report on enforcement scheme, Jan 1974)
127 (report on enforcement scheme, Jun 1974)
133 (report on effort limitation, Jun 1974)
135 (report on quota allocation, Jun 1974)
173 (re haddock closed area in Div. 4X)
216 (report on herring size limit, Jun 1974)
228 (report on trawl regulations, Jun 1974)
(75):149 (re registration of fishing vessels)
(76): 88 (report on enforcement scheme, Jan 1976)
254 (report on SA 5+6 gear regulations, Jun 1976)
256 (report on SA 5 regulatory regime, Jun 1976)
(77): 26 (report on future of ICNAF, Dec 1976)
73 (report on SA 5 regulatory regime, Dec 1976)
(78): 7 (re amendments to enforcement scheme)
(79): 16 (re improvements to enforcement scheme)
R (58): 14 (requirements for redfish symposium)
16 (plans for fish marking symposium)
18 (research on sea scallop fishery in SA 5)
21 (report on statistics)
24 (report on chafing gear)
25 (assessment of benefits of mesh regulation)
28 (report on plankton and hydrography)
30 (sampling of eastern Scotian Shelf cod)
33 (research requirements for SA 1)
35 (report on age determination)
36 (collection of data on cod ectoparasites)
37 (report on publications)
39 (report of action subcommittee)
(59): 44 (report on redfish symposium)
45 (report on marking symposium)
48 (program of ICNAF cod otolith exchange)
51 (report on halibut research)
52 (sea scallop research in Div. 5Z)
54 (research requirements for SA 1)
56 (assessment of mesh regulation)
59 (report on gaps in gear selection data)
63 (report on environmental research)
73 (report on statistics and samplint)
79 (report on statistical areas)
80 (report on publications)
83 (fishery assessment re regulation problems)
86 (redfish selection and chafing gear)
(60): 17 (report on sea scallop research)
18 (report on marking symposium)
20 (report on sampling and discards)
21 (division of stocks re statistical areas)
22 (report on environmental research)
29 (report on redfish symposium)
31 (report on halibut research)
32 (report on publications)
35 (statistics and fishing effort standards)
37 (report on ageing techniques)

- 38 (fisheries re regulation problems)
 44 (gear and selectivity research)
 47 (report on statistics and sampling)
 (61): 18 (activities of assessment group)
 20 (report on evaluation of assessment)
 27 (report on environmental research)
 30 (report on statistics and sampling)
 40 (gear and selectivity research)
 43 (report on fish marking symposium)
 48 (report on ageing techniques)
 61 (report of environmental group, Mar 1961)
 RI(62): 11 (report of action subcommittee)
 15 (report on assessments)
 18 (report on sea scallop research)
 19 (report on environmental research)
 31 (report on statistics)
 39 (report on sampling yearbook)
 42 (report on gear and selectivity)
 44 (report on tagging symposium)
 46 (report on ageing techniques)
 (63): 24 (report on assessments)
 47 (report on ageing techniques)
 49 (report on gear and selectivity)
 54 (report on tagging activities)
 56 (report on environmental research)
 65 (report on statistics)
 74 (report on sampling)
 77 (national research reports)
 (64): 23 (herring and other pelagic species)
 31 (report on tagging activities)
 33 (report on ageing techniques)
 36 (report on sampling)
 40 (report on gear and selectivity)
 46 (report on environmental research)
 61 (report on assessments)
 76 (report on statistics)
 (65): 20 (herring and other pelagic fish)
 29 (report on assessments)
 45 (report on statistics)
 54 (report on environmental research)
 60 (report on gear and selectivity)
 66 (report on tagging activities)
 69 (report on sampling)
 71 (report on ageing techniques)
 73 (steering and publications)
 (66): 27 (report on assessments)
 53 (report on statistics and sampling)
 62 (report on gear and selectivity)
 67 (report on environmental research)
 72 (Georges Bank survey proposal)
 73 (herring and other pelagic fish)
 83 (report on ageing techniques)
 86 (steering and publications)
 (67): 28 (report on assessments)
 53 (report on statistics and sampling)
 63 (report on gear and selectivity)
 68 (report on environmental research)
 71 (herring and other pelagic fish)
 76 (report on ageing techniques)
 (68): 25 (report on assessments)
 69 (report on statistics and sampling)
 76 (report on gear and selectivity)
 79 (report on environmental research)
 82 (herring and other pelagic fish)
 87 (report on ageing techniques)
 90 (meeting of redfish experts, May 1968)
 (69): 27 (report on assessments)
 43 (report on statistics and sampling)
 52 (report on environmental research)
 (70): 33 (report on assessments)
 66 (report on statistics and sampling)
 73 (report on environmental research)
 76 (report on gear and selectivity)
 81 (coordinated groundfish surveys)
 (71): 23 (report on assessments)
 65 (coordinated groundfish surveys)
 69 (report on statistics and sampling)
 79 (report on environmental research)
 (72): 15 (report on assessments)
 43 (report of herring working group)
 67 (coordinated groundfish surveys)
 69 (report on statistics and sampling)
 75 (report on environmental research)
 (73): 8 (report on assessments, Jan 1973)
 31 (herring working group, Jan 1973)
 61 (report on assessments, Jun 1973)
 87 (mackerel working group, Jun 1973)
 95 (herring working group, Jun 1973)
 99 (report on groundfish surveys)
 109 (report on statistics and sampling)
 119 (report on environmental research)
 (74): 17 (report on assessments, Jan 1974)
 31 (mackerel working group, Jan 1974)
 37 (herring working group, Jan 1974)
 51 (ICNAF data base improvement)
 57 (report on coordinated surveys, Jan 1974)
 77 (report on assessments, Jun 1974)
 105 (herring working group, Jun 1974)
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 121 (report on coordinated surveys, Jun 1974)
 125 (report on statistics and sampling)
 131 (special group on ICNAF data base)
 135 (report on environmental research)
 139 (report on gear and selectivity)
 141 (steering and publications)
 (75): 23 (report on assessments)
 65 (report on biological surveys)
 75 (report on statistics and sampling)
 83 (special group on fishing effort studies)
 85 (report on environmental studies)
 95 (special environmental group, May 1975)
 109 (steering and publications)
 (76): 13 (report on assessments, Sep 1975)
 29 (fishing effort regulation in SA 2 to 4)
 35 (herring working group, Jan 1976)
 67 (report on assessments, Jun 1976)
 119 (report on biological studies)
 124 (groundfish survey reporting forms)
 129 (report on statistics and sampling)
 133 (report on fishing effort studies)
 135 (report on environmental research)
 141 (environmental group report, Apr 1976)
 153 (report on herring tagging program)
 157 (mackerel working group, Jun 1976)
 163 (steering and publications)
 (77): 13 (working group on shrimp in SA 1)
 19 (working group on silver hake in SA 4)
 25 (mackerel working group report)
 49 (report on assessments, Jun 1977)
 65 (report on statistics and sampling)
 71 (report on biological surveys)
 77 (report on environmental research)
 83 (report on Flemish Cap project, May 1977)
 (78): 11 (report on shrimp in SA 1, Nov 1977)
 17 (working group on seals, Nov 1977)
 51 (report on assessments, Jun 1978)
 75 (report on biological surveys)
 85 (report on statistics and sampling)
 93 (report on environmental research)
 101 (report on Flemish Cap project, May 1978)
 (79): 11 (working group on seals, Nov 1978)
 15 (report on shrimp in SA 1, Nov 1978)
 21 (standardization of sampling data)
 33 (capelin in SA 2 and 3, Feb 1979)
 39 (squid-*Illex* in SA 3 and 4, Feb 1979)
 63 (report on assessments, Jun 1979)

- 85 (report on biological surveys)
- 93 (report on statistics and sampling)
- 101 (report on environmental research)
- 107 (report on Flemish Cap project, May 1979)
- 109 (assessments and biological surveys)

Summer flounder (see Flounder, summer)

Supercooling

SP 6 :747 (and osmoregulation in teleosts)

Surveys (see also NORWESTLANT surveys, and for meeting reports see Coordinated surveys and Biological surveys)

- RB 10 : 5 (yellowtail abundance from surveys in SA 5)
- 53 (groundfish survey of Faroe Bank)
- 11 : 61 (plankton recorder surveys, 1961-71)
- 12 : 5 (mackerel abundance off USA coast)
- 91 (Flemish Cap as study area for year-class success in cod and redfish)
- 13 : 81 (factors affecting catchability of trawls)
- R3(69):129 (trawl surveys in SA 4 and 5, 1968)
- 144 (USA-USSR cooperative surveys, 1968)
- (70): 56 (estimating cod abundance off Nfld)
- 84 (estimating haddock recruitment in SA 4)
- 96 (haddock spawning from egg surveys in SA 5)
- 123 (USA-USSR herring egg survey, 1969)
- 159 (USA-USSR cooperative surveys, 1969)
- (71):211 (yellowtail in SA 5 and 6 surveys)
- 221 (yellowtail from pre-recruit surveys)
- 229 (cod and haddock abundance in SA 4)
- 239 (cod abundance in Div. 3Ps surveys)
- 249 (accuracy of abundance indices from surveys)
- 275 (summary of NORWESTLANT surveys, 1963)
- (73): 37 (cod mortality from surveys in SA 3)
- 45 (cod abundance from SA 2 and 3 surveys)
- 79 (flatfish abundance from SA 4 surveys)
- 127 (Norwegian survey for SA 3 capelin)
- 163 (species mix in SA 5 and 6 surveys)
- SE 1 : 19 (diurnal variation in redfish catches)
- 2 : 15 (pollock abundance in SA 4 and 5)
- 33 (mackerel distribution in SA 4 to 6)
- 55 (distribution of squids in SA 4 to 6)
- 85 (squid abundance in SA 5 and 6, 1963-74)
- 3 : 45 (mackerel abundance in SA 5 and 6)
- 49 (mackerel abundance from trawl surveys)
- 57 (herring spawning re temperature in SA 5)
- 93 (distribution of *Illex* in SA 4, 1970-76)
- 4 : 16 (observations on shrimp in SA 0)
- 23 (biomass estimate for shrimp in SA 1)
- 61 (photo estimate of shrimp density in SA 1)
- 68 (trawl survey for shrimp in SA 1)
- 5 : 19 (abundance of silver hake in Div. 4W)
- SP 1 : 1 (symposium on problems for biological survey)
- 3 :243 (redfish survey in Gulf St. Lawrence, 1957)
- 7 : 1 (NORWESTLANT surveys, 1963)
- 10 : 79 (international ice patrol operations, 1972)
- 95 (plankton recorder surveys, 1972)

Survival; Survival index (see also Mortality)

- RB 11 : 37 (maturity and reproduction in hooded seals)
- 93 (studies on harp seals in SA 1, 1952-72)
- R3(71):157 (harp seals in NW Atlantic)
- 185 (harp seal stock off Nfld)
- SP 6 :335 (fish eggs and larvae re environment)
- 363 (young fish re year-class strength)
- 389 (cod larvae re hydrography in SA 1)
- 477 (young salmon re environment in USSR)

Sweden

- R3(65):194 (tagged salmon recaptured in SA 1, 1964)
- (69): 81 (tagged salmon recaptured in SA 1, 1967)

Swordfish (*Xiphias gladius*)

- R3(68): 62 (size composition of catches in SA 3 to 5)

Symposia

- SP 1 : 1 (problems for biological surveys, 1956)
- 2 : 1 (effect of fishing on resources and selectivity of fishing gear - reports)
- 3 : 1 (ICES/ICNAF redfish symposium, 1959)
- 4 : 1 (North Atlantic fish marking symposium, 1961)
- 5 : 1 (selectivity of fishing gear, 1957 - papers)
- 6 : 1 (ICNAF environmental symposium, 1964)
- 8 : 1 (environmental conditions in NW Atlantic, 1971)
- 9 : 1 (special session on ice, Jun 1973)
- 10 : 1 (environmental conditions in Grand Bank area, 1972, and effect on fisheries)

Systematics

- RB 5 :130 (taxonomic relation of redfish types)
- SP 3 : 9 (re redfish and natural marks)
- 12 (biology of Pacific ocean perch)
- 28 (redfish in NW and NE Atlantic)
- 42 (the race problem in redfish - Abstr.)
- 45 (typing redfish by otoliths)
- 51 (problems in Pacific ocean perch)
- 56 (re vertebral numbers in redfish)
- 90 (USSR studies on redfish)
- 94 (*S. viviparus* and the redfish problem)
- 100 (biochemical studies on redfish)
- 104 (biochemical studies on redfish problem)
- 111 (parasitological tags of redfish)
- 118 (serology studies on redfish - Abstr.)
- 119 (*Sphyrion lumpi* on NW Atlantic redfish)
- 243 (notes on evolution of Sebastinae - Abstr.)

T

Tagging (methods, recaptures, returns, losses, etc.)

- AR 3 : 62 (re major stocks in SA 2 and 3)
- RB 6 : 72 (spiny dogfish migrations in N Atlantic)
- 7 : 8 (haddock movements off SW Nova Scotia)
- 8 : 21 (white hake in Gulf of St. Lawrence)
- 13 : 67 (stock relations of herring in Div. 3P and 4V)
- 14 : 5 (cod migrations in Nfld area)
- R (59): 22 (notes on tagging publicity methods)
- (60): 49 (tagging cruise of *G.O. Sars*)
- R3(64):140 (tagging publicity in ICNAF countries)
- (65):148 (cod tagging at Greenland, 1959-64)
- 172 (defects in reporting tagged cod in SA 1)
- 194 (tagged salmon recaptured in SA 1)
- (66): 3 (results for cod in SA 1, 1966)
- 48 (results for cod at W Greenland)
- 159 (Canadian salmon recaptured in SA 1)
- 181 (salmon recaptures in SA 1 fishery, 1965)
- (67): 58 (migration of salmon tagged in Maine)
- 69 (salmon tagging in E Canada, 1964-66)
- (68): 81 (salmon recaptures in SA 1 fishery)
- (69): 71 (salmon tagging in Miramichi R, 1964-67)
- (71):157 (studies on harp seals in NW Atlantic)
- 185 (studies on harp seals off Nfld)

- (72): 59 (salmon tagging in E Canada, 1968-70)
 65 (recapture of salmon tagged at Labrador)
- R (76):153 (SA 4 and 5 herring tagging program, Jun 1976)
- SE 2 : 15 (migrations of pollock in SA 4 and 5)
- SP 3 :258 (redfish in Godthaab Fjord, Greenland)
 263 (redfish at Eastport, Maine)
- 4 : 15 (return rate of tagged skipjack)
 17 (comparison of tags used in SA 1)
 22 (non-reporting of cod tags in SA 1)
 26 (bias in population estimates)
 29 (tagging and theory of advertising)
 38 (studies on walleye migration)
 42 (errors inherent in Pacific halibut data)
 50 (methods used in Australia)
 59 (studies on king crab in Bering Sea)
 64 (trace elements for marking salmon fry)
 66 (data for cod growth studies in SA 4)
 71 (mortality from tagged cod in SA 4)
 81 (studies on sonic fish tracking)
 84 (studies on haddock migration in North Sea)
 89 (tags and methods used for cod in SA 4)
 101 (factors affecting tag returns in SA 4 and 5)
 106 (effect of fish condition on return rate)
 117 (aspects of fish marking mortality)
 123 (tagging of North Sea sole, 1959-60)
 130 (studies on spawning char)
 140 (methods used in New Zealand)
 142 (use of stains in shrimp marking)
 144 (problems in tagging salmon at sea)
 156 (efficiency of tags and attachments)
 164 (experiments on North Sea plaice)
 172 (Greenland shark tagging in SA 1)
 176 (marking whelks by painting)
 188 (marking of crabs and lobsters)
 194 (tagging of haddock in SA 5)
 204 (population studies from tagged redfish)
 210 (effect of tagging on redfish growth)
 214 (analysis of silver hake tag returns)
 216 (haddock returns and fish condition)
 218 (experiments for estimating mortality)
 228 (analysis of double tagging experiments)
 230 (mortality estimates from pink salmon)
 238 (detection of incomplete tag reporting)
 248 (non-mutilation marks for fish)
 255 (efficiency of tag reporting and recovery)
 258 (estimating growth parameters from tagging)
 262 (king crab tagging in Alaska)
 266 (reporting efficiency of Dutch vessels)
 268 (studies on sea scallops in SA 5)
 278 (experiments on cod in Nfld area, 1954-55)
 288 (techniques for large pelagic fish)
 294 (experiments on cod in Nfld area, 1950)
 300 (tagging redfish from deep water)
 306 (experiments on tunas, 1955-59)
 314 (methods used in USSR)
 323 (experiments on North Sea herring)
 327 (studies on longfin tuna in Bay of Biscay)
 328 (experiments in New Zealand)
 330 (maximum likelihood estimates from tagging)
 336 (methods used in European herring research)
 342 (design and analysis of experiments)
 348 (effect of condition on tagged fish)
 359 (a radioactive internal tag for herring)
 362 (marking menhaden with fluorescent dye)
 369 (studies on maskinonge from tagging)
- 4 : 31 (parasites as biological tags)
 308 (blood groups for fish population studies)
 318 (*Lernaeocera* and cod movements)
- Tagging studies (meeting reports)
- R (58): 16 (subcommittee on tagging, 1958)
 (59): 45 (subcommittee on marking symposium, 1959)
 (60): 18 (working group on marking symposium, 1960)
 (61): 43 (working group on marking symposium, 1961)
- RI(62): 44 (working group on tagging, 1962)
 (63): 54 (working group on tagging, 1963)
 (64): 31 (working group on tagging, 1964)
 (65): 66 (working group on tagging, 1965)
- Taxonomy (see Systematics)
- Temora spp. (copepod)
- SP 6 :583 (food of herring in N Atlantic)
 611 (seasonal distribution in SA 5)
 7 :187 (food of cod and redfish larvae)
 8 :167 (distribution in plankton recorder surveys)
 10 : 95 (distribution in plankton surveys, 1972)
- Temperature
- AR 3 : 68 (re distribution of fish in SA 5 - Abstr.)
 69 (re fish stock fluctuations in SA 1)
 79 (re abundance of animals in SA 2 and 3)
- 4 : 67 (the waters of the Convention Area)
- RB 1 : 85 (hydrography in SA 2 and 3, 1962)
 3 : 64 (and redfish distribution in SA 2 and 3)
 4 : 76 (and silver hake distribution in SA 4 and 5)
 101 (and herring distribution in SA 5 and 6)
 5 :110 (current and long-term trends, SA 4 to 6)
 7 : 15 (and cod distribution off W Greenland)
 56 (effect on SA 5 haddock spawning)
 9 : 21 (T/S analysis of SA 4 and 5 water masses)
 81 (effect on chlorophyll abundance)
 12 : 91 (year-class success of fish in Div. 3M)
 119 (physical oceanography of Georges Bank)
 13 : 31 (effect on growth of haddock on Grand Bank)
 53 (effect on haddock spawning on Grand Bank)
- R3(62): 3 (conditions off W Greenland, 1961)
 14 (conditions in Nfld-Labrador area, 1961)
 23 (conditions in Georges Bank area, 1961)
 (65):167 (conditions on Scotian Shelf, 1964)
 (66):143 (conditions in SA 1 to 3, 1965)
 (68): 3 (and cod distribution off Labrador)
 21 (conditions off Labrador, 1967)
 37 (conditions off E Nfld, 1967)
 40 (conditions off Nfld and Labrador, 1967)
 48 (subsurface trends in Gulf of Maine)
 (69): 39 (conditions off E Nfld, 1968)
 45 (variations in SA 4 and 5, 1962-68)
 57 (conditions off W Greenland, 1968)
 66 (conditions off Nfld and Labrador, 1968)
- (70): 3 (conditions off W Greenland, 1969)
 11 (conditions off E Nfld, 1969)
 22 (annual variation in SA 4 and 5)
 31 (conditions in SA 5, 1968-69)
 37 (observations in SA 2 to 5, 1969)
- (71): 5 (conditions off E Nfld, 1970)
 17 (conditions off W Greenland, 1970)
 29 (conditions in Div. 3P and 4V, 1970)
 49 (conditions in SA 1 to 3, 1970)
 73 (and cod distribution in SA 1)
- (72): 5 (conditions off W Greenland, 1971)
 11 (conditions off Nfld and Labrador, 1971)
 19 (conditions off E Nfld, 1971)
- (73): 5 (conditions in SA 4 and 5, 1972)
- Tags, biological
- AR 3 : 62 (identifying fish stocks in SA 2 and 3)
- SP 3 : 9 (natural marks re redfish systematics)
 111 (parasites as tags in N Atlantic redfish)
 119 (*Sphyrion lumpi* on redfish - Abstr.)

- 13 (conditions off Nfld and Labrador, 1971-72)
 19 (conditions off E Nfld, 1972)
 27 (conditions off W Greenland, 1972)
 33 (conditions in Laurentian Channel, 1972)
 R4(67): 3 (fluctuations in ICNAF area since 1960)
 6 (variations in N Atlantic re pressure)
 24 (recent trends in Nova Scotian area)
 33 (monthly trends at Boothbay Hr, Maine)
 37 (recent trends along New England coast)
 42 (trends on shelf, Nova Scotia to Long I)
 48 (anomalies in N Atlantic re pressure)
 69 (anomalies at St. John's, Nfld)
 76 (variations in SA 1 since 1950)
 86 (fluctuations off W Greenland, 1959-66)
 SE 1 :171 (effect on cod recruitment in Div. 4T)
 2 :145 (Gulf Stream eddies along continental shelf)
 3 : 57 (effect on herring spawning in Div. 5Z)
 61 (effect on capelin spawning in Div. 3N)
 4 : 41 (effect on shrimp distribution in SA 1)
 6 : 47 (USSR oceanography in Div. 3M, 1977-78)
 SP 3 :124 (and redfish distribution in Irminger Sea)
 154 (and redfish in N Atlantic - Abstr.)
 163 (effect on redfish at Iceland)
 188 (and redfish larvae in Barents Sea)
 6 : 29 (hydrographic aspects of NW Atlantic)
 75 (effect on distribution of tunas)
 95 (effect on fish distributions in SA 5 and 6)
 111 (and cod distribution in SA 4 - Abstr.)
 113 (effect on haddock distribution in SA 4)
 131 (cod and low temperature in Nfld area)
 137 (re mass fish mortality in Nfld area)
 149 (and cod distribution off Labrador)
 167 (and cod distribution in Div. 3P and 4V)
 171 (and haddock distribution in Div. 3NO)
 189 (and haddock distribution in Div. 3P)
 199 (effect on fish and prawn stocks in SA 1)
 209 (and redfish distribution in SA 1)
 213 (and fish distribution in Barents Sea)
 221 (effect on fish migrations)
 225 (and cod distribution off Spitsbergen)
 247 (effect on tuna distribution - Abstr.)
 289 (re redfish larvae in Irminger Sea - Abstr.)
 291 (and plankton distribution in N Atlantic)
 309 (and redfish larvae in N Atlantic)
 349 (and cod recruitment in Barents Sea)
 363 (effect on survival and year-class success)
 389 (and survival of cod larvae in SA 1)
 397 (re year-class success in NE Atlantic cod)
 417 (and distribution of redfish larvae)
 425 (and cod eggs and larvae in SA 2 and 3)
 477 (effect on survival of young salmon)
 515 (effect on fecundity of SA 3 haddock)
 537 (effect on growth of cod at Iceland)
 541 (re zooplankton and fisheries)
 545 (effect on cod growth in Nfld area)
 557 (effect on cod growth at W Greenland)
 571 (effect on growth of cod in Barents Sea)
 591 (effect on herring fishery in Div. 4T)
 597 (effect on herring abundance in SA 4 and 5)
 603 (effect on herring diseases in NW Atlantic)
 625 (and herring larvae along Maine coast)
 635 (and herring distribution in NE Atlantic)
 673 (effect on young stages of fish)
 687 (effect on fish fecundity and egg size)
 691 (re physiology of Barents Sea cod)
 717 (effect on cod in Barents Sea)
 747 (supercooling and osmoregulation in fish)
 775 (effect on fish behaviour and fishing)
 795 (sea and air temperatures at St. John's, Nfld)
 807 (long-term variations on Scotian Shelf)
 817 (long-term trends at W Greenland)
 821 (variations in N Atlantic, 1976-1961)
 827 (variations re cod in SA 1 to 3)
 833 (effect on cod recruitment in SA 4 and 5)
 847 (variations along US Atlantic coast)
 859 (trends at St. Andrews, NB, since 1921)
 869 (factor affecting stocks in Barents Sea)
 885 (effect on ocean and weather in N Pacific)
 897 (predicting gradients in open ocean)
 901 (forecasting conditions in NE Atlantic)
 7 : 19 (meteorology during NORWESTLANT surveys)
 31 (conditions during NORWESTLANT surveys)
 8 : 9 (conditions in N Atlantic, 1960-70)
 35 (hydro-meteorological events in N Atlantic)
 63 (variations in Nfld-Labrador area)
 187 (factor in spring phytoplankton blooms)
 223 (effect on year-classes of cod and haddock)
 9 : 7 (re variation in polar ice off W Greenland)
 29 (re variation in ice season off E Canada)
 10 : 7 (1972 - an unusual year in NW Atlantic)
 17 (conditions off Nfld, 1951-73)
 33 (conditions in SA 2 and 3, 1971-73)
 41 (observations east of Grand Bank, 1972)
 57 (observations in Nfld ridge area, 1972)
 79 (ice patrol operations, 1972)
 107 (conditions in SA 4 and 5, 1960-58)
 115 (conditions in SA 4 and 5, 1972)
- Terminology
 RB 2 : 5 (standardized for otolith age readers)
 R3(63):131 (standardized for otolith age readers)
 SP 1 : 27 (for fish population dynamics)
 69 (notation for fish populations - Abstr.)
 2 : 5 (fishing effort and population dynamics)
- Terranova decipiens (nematode)
 SE 6 : 41 (parasite of flounders and wolffish)
- Thunnus alalunga (see Tuna, albacore)
Thunnus albacares (see Tuna, yellowfin)
Thunnus obesus (see Tuna, bigeye)
Thunnus thynnus (see Tuna, bluefin)
Thysanoessa spp. (euphausiid)
 RB 13 : 11 (food of cod in SA 2 to 4)
 R3(62): 31 (in plankton recorder surveys off Nfld)
 SP 3 :199 (food of *Sebastes fry* in Iceland area)
 7 :123 (distribution in plankton surveys)
 10 : 95 (in plankton recorder surveys, 1972)
- Topography
 AR 4 : 67 (the waters of the Convention Area)
 SP 3 :124 (conditions of Iceland-Greenland area)
 6 : 29 (re hydrographic aspects of N Atlantic)
 781 (effect of bottom on trawling)
 856 (re hydrographic aspects of NE Atlantic)
 7 : 11 (studies during NORWESTLANT surveys)
 8 :129 (bottom geology of NW Atlantic)
- Transport, mass (see Currents)
Trawling; Trawls; Trawl materials
 AR 8 : 83 (gear selection data for the ICNAF area)
 99 (fishery for cod in Gulf of St. Lawrence)
 101 (effect of chafer on haddock escapement)
 9 :101 (top-side chafing gear studies)

- 106 (fishing power re vessel characteristics)
 RB 1 : 28 (effect of catch size on selectivity)
 2 : 8 (selection and girth-length for SA 2 cod)
 3 : 86 (selection of silver hake and red hake)
 6 : 53 (catches by trawl and snella gear in SA 1)
 7 : 32 (effect of mesh increase on Div. 3NO cod)
 46 (fishing effort recorder for trawls)
 8 : 37 (effect of mesh increase on SA 2 and 3 cod)
 9 : 11 (towing characteristics of trawls)
 10 : 117 (codend selection with Polish-type chafer)
 13 : 81 (factors affecting catchability of trawls)
 14 : 51 (selection of silver hake and squid in SA 4)
 R (58): 40 (use of top-side codend chafing gear)
 (59): 86 (effect of chafers on redfish selection)
 (60): 66 (codend selection with various chafers)
 (61): 118 (mesh gauges for measuring nets)
 123 (mesh measuring with different gauges)
 (62): 141 (comparison of ICNAF and Westhoff gauges)
 154 (effect of gauge pressure on mesh measuring)
 (63): 150 (selection in manila and synthetic codends)
 (64): 132 (selectivity of flap-type chafer)
 143 (mesh equivalents for different materials)
 (66): 3 (effect of closure to trawling on SA 1 cod)
 85 (selectivity of synthetic codends)
 93 (selection of haddock on Georges Bank)
 97 (selection of cod in SA 1)
 105 (selection studies with ICNAF chafer)
 112 (effect of chafing gear on selection)
 122 (effect of ICNAF chafer on selection)
 132 (selection experiments with chafers)
 191 (trawl materials and mesh sizes, 1964-65)
 201 (synthetic materials and their trade names)
 (67): 75 (selection studies on cod in SA 1)
 82 (selection studies with large mesh chafer)
 90 (effect of chafer on selectivity)
 101 (compilation of selection data)
 (68): 21 (comparative fishing by research vessels)
 49 (synthetic fibres used in fish nets)
 95 (selectivity of kapron and manila trawls)
 101 (codend selection of yellowtail in SA 5)
 110 (selection with Polish-type chafer)
 (69): 109 (selection studies of cod in SA 3)
 129 (cooperative USA-USSR trawl survey, 1968)
 (70): 111 (trawl selection of yellowtail in SA 5)
 159 (cooperative USA-USSR trawl surveys, 1969)
 189 (trawl materials and mesh sizes, 1966-68)
 (71): 57 (selection studies on cod in Div. 4V)
 (72): 87 (trawl materials and mesh sizes, 1969-71)
 (73): 209 (factors affecting catchability estimates)
 233 (fishing unit measures)
 SE 5 : 49 (selection studies on Scotian Shelf)
 SP 1 : 253 (measurement of meshes in trawl nets)
 265 (measurement of meshes in nets)
 2 : 27 (report on selectivity of fishing gear)
 5 : 8 (selectivity of trawl materials)
 9 (escape through different parts of trawl)
 12 (operation affected by codend mesh size)
 18 (selectivity data for synthetic fibres)
 24 (selection of groundfish in SA 4 and 5)
 97 (selection in different parts of trawl)
 102 (selection ogives re potential yields)
 116 (analysis of haddock selection data)
 131 (codend selection for groundfish in SA 4)
 156 (differing selection in two trawls)
 158 (selection in different parts of trawl)
 166 (selection process in fishing)
 171 (small-mesh covers re escapement)
 175 (experimental design in selection studies)
 185 (methods used in selection experiments)
 193 (the stretch of net meshes)
 201 (groundfish selection in Nfld area)
 218 (studies on trawl selection)

- 222 (fishing effectiveness of trawls)
 6 : 781 (trawling and bottom topography)

Trematodes

- SE 6 : 41 (parasites of wolffishes and flounders)
 SP 6 : 603 (parasite of herring in NW Atlantic)

Trypanorhynchae spp. (cestode)

- SP 3 : 111 (parasitological tag in redfish)

Tuna, albacore (*Thunnus alalunga*)

- SP 4 : 327 (tagging experiments in Bay of Biscay)
 6 : 75 (effect of environment in distribution)

Tuna, bigeye (*Thunnus obesus*)

- SP 6 : 75 (effect of environment on distribution)

Tuna, bluefin (*Thunnus thynnus*)

- SP 4 : 288 (tagging techniques for large pelagics)
 6 : 75 (effect of environment on distribution)

Tuna, skipjack (*Euthynnus pelamis*)

- SP 4 : 15 (return rate of tagged fish)
 306 (tagging and recovery methods)
 6 : 75 (effect of environment on distribution)

Tuna, yellowfin (*Thunnus albacares*)

- SP 4 : 306 (tagging and recovery methods)
 6 : 75 (effect of environment on distribution)

Tunas (general)

- SP 6 : 247 (distribution re environment - Abstr.)

Tunicates

- SP 6 : 611 (seasonal distribution in SA 5)

Turbot (see Halibut, Greenland)

Tusk (see Cusk)

U

Ungava Bay

- SP 3 : 157 (redfish distribution, 1959)

Union of Soviet Socialist Republics (USSR)

- AR 8 : 73 (research report for 1957)
 9 : 81 (research report for 1958)
 10 : 95 (research report for 1959)
 11 : 83 (research report for 1960)
 R2(62): 128 (research report for 1961)
 (63): 79 (research report for 1962)
 (64): 92 (research report for 1963)
 (65): 105 (research report for 1964)
 (66): 86 (research report for 1965)
 (67): 112 (research report for 1966)
 (68): 102 (research report for 1967)
 (69): 99 (research report for 1968)
 (70): 113 (research report for 1969)

- (71):123 (research report for 1970)
 (72): 81 (research report for 1971)
 (73): 77 (research report for 1972)
 SP 4 :314 (tags and tagging methods)

United Kingdom (UK)

- AR 3 : 47 (research report for 1952)
 4 : 55 (research report for 1953)
 5 : 58 (research report for 1954)
 6 : 63 (research report for 1955)
 7 : 62 (research report for 1956)
 8 : 75 (research report for 1957)
 9 : 85 (research report for 1958)
 10 :111 (research report for 1959)
 11 : 92 (research report for 1960)
 R2(62):140 (research report for 1961)
 (63):102 (research report for 1962)
 (64): 88 (research report for 1963)
 (65):120 (research report for 1964)
 (66):122 (research report for 1965)
 (67):133 (research report for 1966)
 (68):125 (research report for 1967)
 (69):118 (research report for 1968)
 (70):147 (research report for 1969)
 (71):153 (research report for 1970)
 (72): 95 (research report for 1971)
 (73): 93 (research report for 1972)
 R3(65):194 (tagged salmon recaptured in SA 1, 1964)
 (66):181 (tagged salmon recaptured in SA 1, 1965)
 (68): 81 (tagged salmon recaptured in SA 1, 1967)
 SP 4 :130 (marking experiments on char)
 172 (marking experiments on whelk)
 188 (marking crabs and lobsters)

United States of America (USA)

- AR 3 : 49 (research report for 1952)
 4 : 56 (research report for 1953)
 5 : 61 (research report for 1954)
 6 : 64 (research report for 1955)
 7 : 63 (research report for 1956)
 8 : 75 (research report for 1957)
 9 : 87 (research report for 1958)
 10 :112 (research report for 1959)
 11 : 94 (research report for 1960)
 R2(62):143 (research report for 1961)
 (63):104 (research report for 1962)
 (64):113 (research report for 1963)
 (65):123 (research report for 1964)
 (66):106 (research report for 1965)
 (67):136 (research report for 1966)
 (68):129 (research report for 1967)
 (69):121 (research report for 1968)
 (70):150 (research report for 1969)
 (71):156 (research report for 1970)
 (72): 97 (research report for 1971)
 (73): 97 (research report for 1972)

Urophycis chuss (see Hake, red)

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- CLARKE, R. A. (Canada)
SP 10 : 57 (circulation in Nfld ridge area, 1972)
- CLAY, D. (Canada)
RB 14 : 51 (selection studies on silver hake and squid)
SE 5 : 49 (mesh selection studies re historical data)
- CLEAVER, F. C. (USA)
SP 4 : 59 (Bering Sea king crab tagging methods)
- COHEN, E. B. (USA)
SE 1 : 89 (plankton communities in Gulf of Maine)
- COLEBROOK, J. M. (UK)
RB 11 : 61 (plankton recorder surveys, 1961-71)
SP 6 :291 (plankton variation re environment)
8 :167 (plankton abundance in N Atlantic)
10 : 95 (plankton recorder surveys, 1972)
- COLLINS, P. W. (Canada)
SE 5 : 25 (food of *Illex* in Nfld area)
- COLTON, J. B. (USA)
RB 5 :110 (temperature trends, Nova Scotia to Long I.)
9 : 81 (seasonal variation in chlorophyll abundance)
R3(68): 48 (temperature trends in Gulf of Maine - Abstr.)
(70): 31 (temperature conditions in SA 5, 1968-69)
R4(67): 42 (temperature trends in SA 4 to 6 - Abstr.)
SP 1 :227 (Hardy Recorder for research work - Abstr.)
279 (fluctuations in haddock year-classes)
6 :317 (young haddock distribution in SA 5)
- COOPER, G. A. (UK)
RB 8 : 27 (redfish larvae in NW Atlantic)
11 : 61 (plankton recorder surveys, 1961-71)
SP 10 : 95 (plankton recorder surveys, 1972)

CORKUM, R. (USA)

R4(67): 48 (surface temp. anomalies in NW Atlantic)

CORLETT, J. (UK)

SP 1 :281 (larval cod in western Barents Sea)
 3 :188 (larval redfish in Barents Sea)
 194 (redfish larvae at Ocean Station A)
 6 :373 (year-class strength in Barents Sea cod)
 7 :101 (zooplankton in NORWESTLANT surveys)

COSTELLO, T. J. (USA)

SP 4 :142 (use of stains in marking shrimp)

COUTURE, L. H. (USA)

AR 8 :103 (operation of 10% exemption, 1957-1958)
 9 : 98 (operation of 10% exemption, 1957-Mar 1959)
 10 :120 (operation of 10% exemption, 1957-Sep 1959)
 R (61):114 (operation of 10% exemption, 1959-1960)

COX, R. A. (UK)

RB 1 : 74 (Auto-lab and N.I.O. salinometers compared)

CROSSEN, J. M. (USA)

RB 7 : 46 (fishing effort recorder for trawls)

CROWE, W. R. (USA)

SP 4 : 38 (population studies from walleye tagging)

CUMMING, K. B. (USA)

RB 4 : 59 (natural hemagglutinins in fish)

CUTTING, R. E. (USA)

R3(67): 53 (spawning salmon in Maine rivers)
 58 (migrations of salmon tagged in Maine)

DDAY, L. R. (Canada)

SP 3 :195 (redfish larvae in SA 4, 1954-55)

DE VEEN, J. F. (Holland)

SP 4 :266 (tag reporting of Dutch fishing vessels)

DECAMPS, P. (France)

R3(73):109 (biological data on herring in SA 3 and 4)

DEGTEREVA, A. A. (USSR)

SP 6 :411 (feeding of cod larvae re plankton)

DEMENTJEVA, T. F. (USSR)

SP 6 :381 (stock recruitment changes re environment)
 571 (cod growth re environment in Barents Sea)

DESBROSSES, P. (France)

AR 4 : 37 (French research report for 1953)
 SP 5 : 8 (selection in manila and synthetic nets)

DICKIE, L. M. (Canada)

RB 2 : 48 (heterogeneity in SA 4 groundfish sampling)
 80 (trends in cod and haddock fisheries in SA 4)
 SP 4 : 71 (mortality rates from tagged cod in SA 4)
 8 :201 (food chains and fish production)

DICKSON, R. R. (UK)

SP 8 : 35 (hydro-meteorological events in N Atlantic)

DIETRICH, G. (FRG)

AR 9 : 46 (FRG research report for 1958)
 SP 3 :124 (redfish distribution in NW Atlantic)
 6 : 29 (hydrographic aspects of NW Atlantic)

DINSMORE, R. P. (USA)

SP 8 : 89 (ice and its drift in the N Atlantic)

DOROVSKIKH, R. S. (USSR)

SE 5 : 19 (a-curacy of silver hake abundance indices)

DOUBLEDAY, W. G. (Canada)

RB 12 : 69 (least squares approach for catch-at-age data)
 SE 1 : 41 (analysis of silver hake fishery in SA 4)
 117 (status of groundfish resource in SA 4)
 141 (environment re fisheries management)
 171 (recruitment re cod management in Div. 4T)
 6 : 55 (census of NW Atlantic harp seal stocks)

DRAGANIK, B. (Poland)

R3(66): 93 (trawl selection of haddock in SA 5)
 (67): 39 (studies on herring in SA 5, 1966)
 (68): 53 (studies on herring in SA 5, 1967)
 (69): 23 (studies on herring in SA 4 to 6, 1968)
 (70):117 (fecundity of herring in SA 5)
 (73):105 (assessment of Georges Bank herring)

DRAGESUND, O. (Norway)

R3(73):127 (studies on capelin in Nfld area)

DRAPEAU, G. (Canada)

RB 10 :151 (studies on herring spawning grounds in SA 5)

DROBISHEVA, S. S. (USSR)

R3(62): 56 (plankton studies in SA 3 to 5, 1960-61)

DURWARD, R. D. (Canada)

RB 14 : 67 (maturity and fecundity in squid-*Illex*)
 SE 5 : 37 (standard method of collecting squid data)
 6 : 7 (studies on reproduction in *Illex*)
 15 (feeding and growth in squid-*Illex*)

EEDWARDS, R. L. (USA)

SP 6 : 95 (fish distribution re temp. off New England)

EFANOV, V. N. (USSR)

R3(71):211 (yellowtail abundance in SA 5 and 6)
 (73): 75 (feeding of yellowtail in SA 5 and 6)

EGGVIN, J. (Norway)

SP 6 :903 (forecasting oceanography in NE Atlantic)

EINARSSON, H. (Iceland)SP 3 :167 (redfish larvae in N Atlantic)
199 (*Sebastes* fry in Iceland area - Abstr.)ELIZAROV, A. A. (USSR)AR 10 : 95 (USSR research report for 1959)
R3(62): 14 (hydrographic conditions in SA 2 and 3, 1961)
SP 6 :827 (cod distribution re hydrography in SA 1 to 3)ELLIS, R. W. (UK)

SP 5 : 97 (selection in different parts of trawl)

ELSON, P. F. (Canada)

R3(69): 71 (salmon tagging in Miramichi, 1964-67)

ELWERTOWSKI, J. (Poland)

R2(62): 91 (Polish research report for 1961)

ENNIS, G. P. (Canada)SE 5 : 25 (food of *Illex* in Nfld area)ERMACHENKO, I. A. (USSR)

SP 7 : 87 (primary production in NW Atlantic)

EVSEENKO, S. A. (USSR)

RB 11 :111 (spawning of witch flounder in SA 2 to 5)

EWING, J. A. (UK)

SP 6 :757 (wind and wave data from trawlers)

FFAO Fisheries Division (Food and Agriculture Organization)AR 8 : 82 (collaboration with ICNAF, 1957/58)
R (58): 44 (collaboration with ICNAF, 1957/58)
(59): 27 (collaboration with ICNAF, 1958/59)
(60): 70 (collaboration with ICNAF, 1959/60)
(61):145 (collaboration with ICNAF, 1960/61)
R3(62):181 (collaboration with ICNAF, 1961/62)
(69):124 (Northwest Atlantic: FAO Stat. Area 21)FEDOSEYEV, A. F. (USSR)

SP 8 :149 (water circulation in NW Atlantic)

FEDOSOV, M. V. (USSR)AR 10 : 95 (USSR research report for 1959)
SP 7 : 87 (primary production in NW Atlantic)FIGUERAS, A. (Spain)AR 11 : 73 (Spanish research report for 1960)
R2(62):113 (Spanish research report for 1961)
(63): 70 (Spanish research report for 1962)
(65):103 (Spanish research report for 1964)FLEMING, A. M. (Canada)AR 3 : 79 (hydrography re fish abundance in SA 2 and 3)
RB 2 : 25 (sampling for age and growth of cod)
R2(72): 5 (Canadian research report for 1971)
(73): 5 (Canadian research report for 1972)
SP 1 :331 (cod stocks in SA 2 and 3 - Abstr.)
4 :318 (*Lernaecera* as biological tag of cod)
6 :131 (cod and low temperature in SE Nfld)
545 (cod growth and temperature in Nfld area)FOLKARD, A. R. (UK)RB 1 : 74 (auto-lab and N.I.O. salinometers compared)
SP 7 : 57 (chemical oceanography in NORWESTLANT surveys)
10 : 41 (current system east of Grand Bank, 1972)FONTAINE, B. (France)

R3(71):267 (fish taken on shrimp grounds in ICNAF area)

FOREST, A. (France)

SE 4 : 15 (survey for shrimp off Baffin Island)

FOULKES, T. J. (Canada)

RB 9 : 11 (towing characteristics of bottom trawls)

FRASER, J. H. (UK)

SP 1 :289 (larval drift re fisheries in NE Atlantic)

FREDRIKSSON, A. (Iceland)

SP 3 :163 (observations on redfish off Iceland)

FREUND, K. (GDR)

SP 3 :140 (observations on redfish off Labrador)

FRITZ, R. L. (USA)RB 3 :111 (*Sphyrion lumpi* on silver hake in SA 5)
SP 4 :214 (analysis of silver hake tag returns)FUKUDA, Y. (Japan)

RB 12 : 83 (yield allocation in multi-species fisheries)

FURNESTIN, J. (France)AR 7 : 36 (French research report for 1956)
9 : 46 (French research report for 1958)FURTAK, A. (Poland)

R3(73): 5 (hydrographic conditions, SA 4-5, 1972)

GGAMBELL, R. (FRG)

R3(63):135 (otolith ageing of whiting)

GARROD, D. J. (UK)RB 6 : 26 (catch/effort relations in N Atlantic cod)
11 : 17 (bias in catch and effort regulation)
R2(68):125 (UK research report for 1967)
(69):118 (UK research report for 1968)

(70):147 (UK research report for 1969)
 (71):153 (UK research report for 1970)
 (72): 95 (UK research report for 1971)
 (73): 93 (UK research report for 1972)
 R3(69): 17 (yield-per-recruit function for SA 1 cod)
 SP 4 :258 (growth parameter estimates from tagging data)

GASJUKOV, P. S. (USSR)

SE 5 : 19 (accuracy of silver hake abundance indices)

GERKING, S. N. (USA)

SP 4 :248 (non-mutilation marks for fish)

GIFFORD, V. M. (USA)

RB 12 : 29 (growth and mortality of cod in SA 5)

GILLBRICHT, M. (FRG)

SP 7 : 65 (organic carbon in NORWESTLANT surveys)
 73 (phytoplankton in NORWESTLANT surveys)

GLOVER, R. S. (UK)

R2(66):122 (UK research report for 1965)
 (70):147 (UK research report for 1969)
 R3(62): 47 (plankton recorder sampling in SA 3 to 5)
 SP 7 :123 (zooplankton in plankton surveys, 1963)

GRAHAM, H. W. (USA)

AR 2 : 23 (mesh regulation for Georges Bank haddock)
 3 : 49 (USA research report for 1952)
 68 (marine animals re temperature - Abstr.)
 4 : 59 (USA research report for 1953)
 5 : 61 (USA research report for 1954)
 6 : 64 (USA research report for 1955)
 7 : 63 (USA research report for 1956)
 8 : 75 (USA research report for 1957)
 9 : 87 (USA research report for 1958)
 10 :112 (USA research report for 1959)
 11 : 94 (USA research report for 1960)
 R2(62):143 (USA research report for 1961)
 (63):104 (USA research report for 1962)
 (64):113 (USA research report for 1963)
 (65):123 (USA research report for 1964)
 (66):106 (USA research report for 1965)
 (67):136 (USA research report for 1966)
 (68):129 (USA research report for 1967)
 (69):121 (USA research report for 1968)
 (70):150 (USA research report for 1969)
 SP 1 :111 (report on SA 5 haddock mesh regulation)

GRAHAM, J. J. (USA)

RB 7 : 19 (coastal currents in Gulf of Maine)
 10 :141 (larval herring over egg-beds in SA 5)
 SP 6 :625 (ecology of larval herring in Gulf of Maine)

GRAHAM, M. (UK)

SP 1 : 67 (fish population assessment by inspection)

GRAY, D. F. (Canada)

SE 5 : 61 (density-dependent processes in harp seals)

GROSSLEIN, M. D. (USA)

RB 1 : 43 (characteristics of haddock in Div. 4X)
 12 : 49 (effect of fishing on finfish in SA 5 and 6)

R3(62):124 (haddock stocks in NW Atlantic)
 (69):144 (USA-USSR cooperative surveys, 1968)
 (70):159 (USA-USSR cooperative surveys, 1969)
 (71):229 (cod and haddock abundance in SA 4)
 249 (abundance indices from research surveys)
 (73):163 (species mix in SA 5 and 6 surveys)

GRUENWALD, G. (FRG)

SP 7 : 19 (meteorology during NORWESTLANT surveys)

GULLAND, J. A. (UK)

AR 15 : 47 (possible conservation action for ICNAF area)
 17 : 62 (effect of conservation on SA 1 cod stock)
 83 (control of fishing on several stocks)
 R2(66):122 (UK research report for 1965)
 R3(65):164 (need for redfish statistics by depth)
 (66): 34 (effect of regulation on SA 1 cod stock)
 SP 1 : 51 (mortality estimates for exploited stocks)
 69 (notation in fish population dynamics - Abstr.)
 71 (sampling of semi-oceanic fish stocks)
 179 (fin rays and otoliths for ageing cod)
 3 :254 (ageing problem in fish population dynamics)
 4 :218 (mortality estimates from tagging data)
 228 (analysis of double tagging experiments)
 5 :102 (selection gives re predicted yields)
 6 :363 (survival of young re year-class success)

HHACKEY, H. B. (Canada)

AR 4 : 67 (the waters of the Convention Area)

HALLGRIMSSON, I. (Iceland)

SP 6 :289 (redfish larvae in Irminger Sea - Abstr.)

HALLIDAY, R. G. (Canada)

RB 7 : 8 (movements of haddock tagged off Digby, NS)
 8 : 49 (haddock fishery in Div. 4VW)
 9 : 51 (assessment of Gulf St. Lawrence cod)
 117 (assessment of cod in Div. 4VSW)
 R3(69): 79 (size changes in fish from freezing)
 (70): 84 (recruitment of haddock in Div. 4TVW)
 (71):229 (cod and haddock abundance in SA 4)
 (73): 79 (assessment of flounders in Div. 4VWX)
 SE 1 : 7 (assessment of cod in Div. 4VSW)
 41 (analysis of silver hake in Div. 4VWX)
 117 (status of groundfish resource in Div. 4VWX)
 2 : 15 (assessment of pollock in SA 4 and 5)

HANCOCK, D. A. (UK)

SP 4 :176 (marking experiments on whelks)

HANSEN, P. M. (Denmark)

AR 3 : 28 (Danish research report for 1952)
 4 : 28 (Danish research report for 1953)
 5 : 28 (Danish research report for 1954)
 6 : 27 (Danish research report for 1955)
 7 : 28 (Danish research report for 1956)
 8 : 27 (Danish research report for 1957)
 9 : 31 (Danish research report for 1958)
 10 : 32 (Danish research report for 1959)
 11 : 37 (Danish research report for 1960)
 R2(62): 33 (Danish research report for 1961)
 (63): 28 (Danish research report for 1962)

- (64): 35 (Danish research report for 1963)
 (65): 36 (Danish research report for 1964)
 (67): 26 (Danish research report for 1965)
 (68): 24 (Danish research report for 1966)
 R3(65):194 (salmon recaptures in SA 1 fishery, 1964)
 (66):181 (salmon recaptures in SA 1 fishery, 1965)
 SP 3 :258 (redfish growth in Greenland area)
 4 :172 (Greenland shark tagging in SA 1)
 6 : 13 (effect of environment on fish behavior)
 389 (cod larvae re environment in SA 1)
 557 (cod growth and temperature in SA 1)
 817 (cod re temperature trends in SA 1)
 7 :127 (cod eggs and larvae in NORWESTLANT surveys)
 183 (wolffish larvae in NORWESTLANT surveys)
- HANSEN, V. K. (Denmark)
 SP 3 :201 (studies on redfish in N Atlantic)
- HARDEN-JONES, F. R. (UK)
 SP 6 :257 (fish migration and water movements)
- HART, J. L. (Canada)
 R2(65): 3 (Canadian research report for 1964)
 (66): 3 (Canadian research report for 1965)
 (67): 3 (Canadian research report for 1966)
- HARTT, A. C. (USA)
 SP 4 :144 (problems in tagging salmon at sea)
- HARVEY, J. (UK)
 SP 6 :869 (factors re temperature in NE Atlantic)
- HAYES, E. B. (USA)
 RB 3 : 32 (length-weight relation for sea scallops)
- HAYES, M. L. (USA)
 SP 4 :262 (king crab tagging methods in Alaska)
- HEMPEL, G. (FRG)
 SP 6 : 19 (reactions of fish to environment changes)
 687 (fecundity and egg size re environment)
- HENDERSON, G. T. D. (UK)
 AR 11 :103 (redfish larvae in plankton surveys)
 RB 1 :107 (adult redfish in open ocean)
 R3(62): 43 (redfish larvae in N Atlantic, 1961)
 SP 3 :216 (redfish larvae in plankton surveys)
 6 :309 (redfish larval distribution in N Atlantic)
 7 :157 (redfish larvae in plankton surveys)
- HENNEMUTH, R. C. (USA)
 AR 17 : 57 (effect of conservation action on SA 5 haddock)
 RB 1 : 43 (characteristics of haddock in Div. 4X)
 2 : 76 (homogeneity in SA 5 haddock sampling)
 3 : 86 (codend selection of silver and red hake)
 12 : 49 (effect of fishing on finfish in SA 5 and 6)
 R2(71):156 (USA research report for 1970)
 R3(65):145 (age analysis from cod otolith exchange)
 (70):111 (effect of large mesh on yellowtail fishery)
 (71):221 (yellowtail abundance from surveys)
 (73):217 (by-catches in mixed fishery of SA 5 and 6)
- HERMAN, F. (Denmark)
 AR 4 : 28 (Danish research report for 1953)
 67 (the waters of the Convention Area)
 5 : 28 (Danish research report for 1954)
 6 : 27 (Danish research report for 1955)
 7 : 28 (Danish research report for 1956)
 8 : 27 (Danish research report for 1957)
 9 : 31 (Danish research report for 1958)
 10 : 32 (Danish research report for 1959)
 11 : 37 (Danish research report for 1960)
 R2(62): 33 (Danish research report for 1961)
 (65): 36 (Danish research report for 1964)
 R3(69): 57 (hydrographic conditions in SA 1, 1968)
 (70): 3 (hydrographic conditions in SA 1, 1969)
 (71): 17 (hydrographic conditions in SA 1, 1970)
 (72): 5 (hydrographic conditions in SA 1, 1971)
 (73): 27 (hydrographic conditions in SA 1, 1972)
 R4(67): 76 (temperature variations in SA 1 from 1950)
 SP 6 :389 (cod larvae re environment in SA 1)
 557 (cod growth and temperature in SA 1)
 817 (cod and hydrographic trends in SA 1)
 7 : 55 (vertical water movement along W Greenland)
- HEYERDAHL, E. G. (USA)
 RB 12 : 49 (effect of fishing on finfish in SA 5 and 6)
 R3(73):217 (by-catches in mixed fishery of SA 5 and 6)
- HILL, H. W. (UK)
 R2(73): 93 (UK research report for 1972)
 SP 10 : 41 (current system east of Grand Bank, 1972)
- HODDER, V. M. (Canada)
 AR 11 : Supplement (editor: fishery assessment re regulation problems)
 RB 1 : 28 (effect of catch size on trawl selectivity)
 2 : 8 (cod selection and girth-length for SA 2)
 31 (cod fishery trends off Nfld and Labrador)
 3 : 55 (trends in haddock fishery in SA 3)
 8 : 5 (larval nematodes in SA 3 and 4 herring)
 59 (characteristics of herring in Div. 3P and 4T)
 67 (characteristics of herring in Div. 3P and 4W)
 9 : 99 (fecundity of herring in Nfld area)
 10 : 15 (biology of herring in Fortune Bay, Nfld)
 11 : 43 (assessment of herring stock in Div. 3P and 4T)
 145 (studies on herring in SW Nfld area, 1965-71)
 13 : 31 (age and growth of Grand Bank haddock)
 53 (spawning and maturity of Grand Bank haddock)
 R3(62):141 (ICNAF and Westhoff gauge comparisons)
 (71):105 (status of SW Nfld herring stocks, 1965-70)
 SE 2 :155 (editor: report of cod ageing workshop, 1975)
 SP 6 :171 (haddock re temperature on Grand Bank)
 189 (haddock re temperature on St. Pierre Bank)
 515 (haddock fecundity re temperature in SA 3)
 11 : 1 (index of ICNAF publications, 1951-79)
 IN 1 : 1 (index of ICNAF meeting documents, 1951-64)
 2 : 1 (index of ICNAF meeting documents, 1965-74)
 3 : 1 (index of ICNAF meeting documents, 1975-79)
- HOGBEN, N. (UK)
 SP 6 :757 (wind and wave data from trawlers)
- HOLDEN, M. J. (UK)
 R3(69):109 (UK selection experiment in SA 3, 1967)
- HOLLIDAY, F. G. T. (UK)
 SP 6 :663 (studies on environment/endocrine relations)

HOLT, S. J. (FAO)

- AR 8 : 82 (note on mesh regulation assessment)
 RB 2 : 73 (mortality re life span in fish stocks)
 SP 1 : 27 (methods in fish population dynamics)
 77 (fishery resource assessment)
 2 : 5 (effect of fishing on resources)
 4 : 29 (tagging and advertising theory)
 5 :106 (application of gillnet selection data)

HONEY, K. A. (USA)

- RB 8 : 45 (selectivity of Bongo and Gulf III samplers)
 R3(68): 75 (catching efficiency of Bongo and Gulf III)

HORSTED, Sv. Aa. (Denmark)

- RB 6 : 65 (assessment of cod stocks in SA 1)
 R2(70): 30 (Danish research report for 1969)
 (72): 19 (Danish research report for 1971)
 (73): 15 (Danish research report for 1972)
 R3(64):140 (tagging publicity in ICNAF countries)
 (65):172 (defects in reporting tagged cod in SA 1)
 (66): 48 (effect of closure on trawling in SA 1)
 (67): 26 (year-class fluctuations in SA 1 cod)
 (69): 10 (assessment of W Greenland cod)
 17 (yield-per-recruit function for SA 1 cod)
 SE 4 : 23 (biomass estimate for shrimp in SA 1)
 51 (life cycle of shrimp in SA 1)
 67 (trawl survey for shrimp in SA 1)
 SP 4 : 22 (non-reporting of tagged cod in SA 1)
 6 :199 (temperature re fish and prawn in SA 1)
 389 (cod larvae re environment in SA 1)
 435 (effect of food supply on cod behavior)
 7 :251 (strength of 1963 year-class at W Greenland)

HORWOOD, J. W. (UK)

- SE 1 :151 (interactive fisheries: a two species model)

HOUSTON, A. S. (Canada)

- R3(68): 67 (implications of Nfld herring fishery)

HOYDAL, K. (Denmark)

- SE 4 : 31 (assessment of shrimp in SA 1)

HUMPHREYS, R. D. (Canada)

- R3(65):190 (size changes in herring from freezing)

HUNT, J. J. (Canada)

- SE 3 : 33 (age and growth of silver hake in SA 4)
 5 : 11 (length-at-age for silver hake in SA 4)

I

ICNAF (International Commission for the Northwest Atlantic Fisheries) (see List of Titles under Annual Reports for the listing of reports and under Meeting Proceedings for the proceedings of annual and special meetings of the Commission held during 1951-79; the proceedings of STACRES for 1951-57 are listed under Meeting Proceedings and those for 1958-79 are listed under Redbook; only selected references are listed below)

- AR 11 : Supplement (report of working group on assessment re regulation problems)

- 17 : 38 (report of working group on biological and economic assessment of conservation)
 25 : 51 (report of joint ICNAF/NEAFC meeting on international enforcement, Mar 1975)
 R (58): 50 (research needs for the Convention Area)
 R3(63):127 (report of workshop on ageing technique, 1962)
 (66): 3 (report of working group on SA 1 cod, 1966)
 82 (final report of working group on SA 1 cod)
 SE 2 :155 (report of cod ageing workshop, Oct 1975)
 3 :109 (list of standard oceanographic stations)

ICNAF Secretariat (see List of Titles under Annual Reports for listing of administrative reports and summaries of research by subareas for the years 1951 to 1979)

- AR 2 : 35 (statistics of groundfish landings to 1951)
 R (60): 81 (annotated list of fisheries papers, 1959)
 (61):148 (annotated list of fisheries papers, 1960)
 R3(62):185 (annotated list of fisheries papers, 1961)
 (63):157 (annotated list of fisheries papers, 1962)
 (66):191 (trawl materials and mesh sizes, 1964-65)
 (67):101 (compilation of selection data, 1962-66)
 (68): 29 (summary of discard statistics, 1966)
 (69):115 (summary of discard statistics, 1967)
 (70):181 (summary of discard statistics, 1968)
 189 (trawl materials and mesh sizes, 1966-68)
 (71):297 (summary of discard statistics, 1969)
 (72): 87 (trawl materials and mesh sizes, 1969-71)
 97 (summary of discard statistics, 1970)
 (73):249 (summary of discard statistics, 1971)

IKEDA, I. (Japan)

- R2(71): 90 (Japanese research report for 1970)
 (72): 55 (Japanese research report for 1971)
 (73): 53 (Japanese research report for 1972)
 R3(73):145 (assessment of squids in SA 5 and 6)

ILES, T. D. (Canada)

- RD 10 :131 (herring spawning grounds in SA 5)
 R3(70):134 (trends in Canadian herring fisheries)
 148 (vertebral counts in Bay of Fundy herring)
 (71): 93 (retention of herring in Bay of Fundy)
 (73):119 (length-weight data for Bay of Fundy herring)
 SP 6 :735 (herring physiology re environment)

IMANAGA, H. (Japan)

- R3(73):145 (assessment of squids in SA 5 and 6)

INNES, S. (Canada)

- SE 6 : 55 (census of NW Atlantic harp seals)

ISELIN, C. (USA)

- SP 6 :897 (temperature gradients in open ocean)

ISTOSHINA, M. A. (USSR)

- R3(62): 18 (dissolved O₂ distribution in Nfld area)

J

JEAN, Y. (Canada)

- SP 3 :142 (redfish in surveys in SA 4)
 6 :111 (cod re temperature in SA 4 - Abstr.)

JENSEN, A. C. (USA)

- RB 2 : 5 (standard terminology for age readers)
 3 : 86 (trawl selection of silver and red hake)
 6 : 72 (migrations of dogfish in N Atlantic)
 R (59): 19 (recent variations in haddock growth)
 R3(63):131 (terminology for otolith reading)
 SP 1 :193 (time of formation of scale annuli)
 199 (haddock scale-otolith comparisons - Abstr.)
 4 :194 (field studies on tagging haddock)

JENSEN, J. M. (Denmark)

- R3(68): 81 (recaptures of tagged salmon in SA 1)

JOENSEN, J. S. (Denmark)

- AR 10 : 32 (Danish research report for 1959)
 R2(62): 33 (Danish research report for 1961)
 (63): 28 (Danish research report for 1962)

JOERIS, L. S. (USA)

- SP 4 : 38 (population studies from walleye tagging)

JONES, B. W. (UK)

- RB 10 : 53 (groundfish survey of Faroe Bank)

JONES, D. H. (UK)

- RB 1 :107 (adult redfish in open ocean)
 SP 7 :225 (redfish angling during NORWESTLANT surveys)

JONES, L. T. (UK)

- R3(62): 31 (plankton distribution off Nfld)

JONES, P. G. W. (UK)

- SP 7 : 57 (phosphate, silicate and O₂ distributions
 in NORWESTLANT surveys)
 10 : 41 (current system east of Grand Bank, 1972)

JONES, R. (UK)

- SP 1 :229 (Lee's phenomenon in haddock and plaice)
 4 : 84 (investigations on haddock movements)
 5 :116 (analysis of haddock selection data)

JONSSON, J. (Iceland)

- AR 3 : 38 (Icelandic research report for 1952)
 4 : 38 (Icelandic research report for 1953)
 5 : 42 (Icelandic research report for 1954)
 6 : 42 (Icelandic research report for 1955)
 7 : 39 (Icelandic research report for 1956)
 8 : 42 (Icelandic research report for 1957)
 9 : 54 (Icelandic research report for 1958)
 10 : 59 (Icelandic research report for 1959)
 11 : 53 (Icelandic research report for 1960)
 R2(62): 69 (Icelandic research report for 1961)
 (63): 49 (Icelandic research report for 1962)
 (64): 52 (Icelandic research report for 1963)
 (65): 66 (Icelandic research report for 1964)
 (66): 57 (Icelandic research report for 1965)
 (67): 64 (Icelandic research report for 1966)
 (68): 65 (Icelandic research report for 1967)
 (69): 52 (Icelandic research report for 1968)
 (70): 77 (Icelandic research report for 1969)
 SP 6 :537 (cod growth and temperature at Iceland)

JUNGE, C. O. (USA)

- SP 4 : 26 (bias in population estimates from tagging)

KKABATA, Z. (UK)

- SP 4 : 31 (parasites as biological tags)

KALLE, K. (FRG)

- SP 6 :645 (effect of oxygen lack on shoaling fish)

KANNEWORFF, P. (Denmark)

- SE 4 : 61 (shrimp density by photography in SA 1)
 67 (trawl survey for shrimp in SA 1)

KAPEL, F. O. (Denmark)

- RB 11 : 93 (studies on harp seals in SA 1, 1953-72)

KARAULOVSKY, V. P. (USSR)

- R3(70): 22 (temperature variations in SA 4 and 5)

KARVELIS, E. G. (USA)

- SP 4 : 38 (population studies from walleye tagging)

KAWAHARA, S. (Japan)

- SE 3 : 73 (studies on butterfish in SA 5 and 6)

KEIR, R. S. (ICNAF)

- AR 9 :106 (fishing power re vessel characteristics)

KELLY, G. F. (USA)

- SP 1 :215 (age and growth of redfish - Abstr.)
 335 (morphometrics of redfish in SA 3 to 5)
 3 : 28 (racial studies on N Atlantic redfish)
 220 (redfish distribution in Gulf of Maine)
 262 (age and growth of redfish in SA 5 - Abstr.)
 263 (characteristics of redfish at Eastport, Maine)
 4 :204 (population studies on tagged redfish)
 210 (effect of tagging on redfish growth)
 6 :481 (*Sphyrion lumpi* on redfish in SA 5)

KENNEDY, V. S. (Canada)

- RB 4 : 91 (otolith ageing of SA 4 witch flounder)

KESTEVEN, G. L. (FAO)

- SP 1 :139 (instrumentation for fishery research)

KHOKHLINA, N. S. (USSR)

- SP 3 :177 (redfish larvae in NE Atlantic)

KIPLING, C. (UK)

- SP 4 :130 (marking studies on spawning char)
 5 :128 (perch selection in gillnets)

KLIMENKOV, A. A. (USSR)

- R3(62): 23 (hydrographic conditions in SA 5, 1961)

KLIMENKOV, A. I. (USSR)

SE 4 : 47 (studies on shrimp in SA 1, 1976)

KLUST, G. (FRG)

R3(66):201 (synthetic materials and trade names)

KNIGHT, W. (Canada)

RB 7 : 52 (mortality estimates from age-length keys)

KOHLER, A. C. (Canada)

RB 1 : 22 (cod otolith exchange, 1963)
 4 : 87 (trends in halibut fishery in SA 3 and 4)
 8 : 21 (white hake tagging in Gulf St. Lawrence)
 R3(71):229 (cod and haddock abundance in SA 4)
 SP 1 :199 (haddock scale-otolith comparison - Abstr.)
 4 : 66 (cod growth from tagging in SA 4)
 6 :535 (cod behavior in Gulf St. Lawrence - Abstr.)
 833 (cod recruitment re environment)

KONSTANTINOV, K. G. (USSR)

R2(65):105 (USSR research report for 1964)
 (66): 86 (USSR research report for 1965)
 (67):112 (USSR research report for 1966)
 (68):102 (USSR research report for 1967)
 (69): 99 (USSR research report for 1968)
 (70):113 (USSR research report for 1969)
 (71):123 (USSR research report for 1970)
 (72): 81 (USSR research report for 1971)
 (73): 77 (USSR research report for 1972)
 R3(68): 3 (cod distribution off Labrador)
 (70): 49 (Div. 3M cod for experimental regulation)
 (72): 39 (diurnal migrations in sea fishes)
 SE 3 : 17 (variation in redfish catches in Div. 3M)
 SP 6 :221 (temperature as factor in fish migration)
 7 :219 (adult fish taken in NORWESTLANT surveys)

KOTTHAUS, A. (FRG)

AR 11 : 45 (FRG research report for 1960)
 SP 1 :217 (age and growth of redfish)
 3 : 42 (the race problem in redfish - Abstr.)
 45 (preliminary remarks on redfish otoliths)
 124 (redfish distribution in NW Atlantic)
 4 :123 (tagging of North Sea sole, 1959-60)
 6 :417 (larval redfish re temperature)

KOVALYOV, S. M. (USSR)

R3(73):121 (capelin studies in SA 2 and 3, 1971-72)

KREFFT, G. (FRG)SP 3 :243 (evolution of *Sebastinae* - Abstr.)KRONE, W. (OECD)

AR 17 : 64 (economic effect of conservation on SA 1 cod)

KUDLO, B. P. (USSR)

R3(71): 49 (hydrographic conditions in SA 1 to 3, 1970)
 (72): 11 (hydrographic conditions in SA 2 and 3, 1971)
 27 (water circulation in SA 2 and 3, 1970-71)
 SP 8 :149 (water circulation in NW Atlantic, 1960-69)
 10 : 69 (circulation in Nfld area, 1972-73)
 75 (salinity in SA 2 and 3, 1972-73)

SE 5 : 7 (water dynamics re cod in Div. 3M)
 6 : 47 (oceanographic observations on Flemish Cap)
 53 (geostrophic circulation in NW Atlantic)

KUDRIN, B. D. (USSR)

R3(73):121 (capelin studies in SA 2 and 3, 1971-73)

KUSMORSKAYA, A. P. (USSR)

AR 10 : 95 (USSR research report for 1959)

L

L'HERROU, R. (France)

R3(71): 29 (hydrographic conditions in 3P and 4V, 1970)

LAEVASTU, T. (USA)

R4(67): 48 (surface temperatures in NW Atlantic)
 SP 6 :249 (fish distributions re currents)
 881 (oceanographic forecasting re fisheries)
 885 (effect of heat exchange on weather)

LAING, A. (UK)

AR 17 : 73 (economic effects of NE Atlantic fisheries)

LAMB, H. H. (UK)

SP 8 : 35 (hydro-meteorological events in N Atlantic)

LARKIN, P. A. (Canada)

SP 4 :117 (some aspects of fish marking mortality)

LARRANETA, M. G. (Spain)

R2(70):108 (Spanish research report for 1969)
 (71):116 (Spanish research report for 1970)
 (72): 79 (Spanish research report for 1971)
 (73): 73 (Spanish research report for 1972)

LASZCZYNSKI, S. (Poland)

R2(64): 67 (Polish research report for 1963)

LAUZIER, L. M. (Canada)

RB 2 : 42 (the sea-bed drifter)
 R2(62): 3 (Canadian research report for 1961)
 (63): 3 (Canadian research report for 1962)
 R3(65):167 (another cold year: 1964)
 R4(67): 24 (recent temperature trends in SA 4)
 SP 6 : 24 (effects on long-term environmental trends)
 591 (herring re temperature in Div. 4T)
 807 (temperature variations on Scotian Shelf)
 859 (temperatures in Bay of Fundy since 1921)

LAVIGNE, D. M. (Canada)

SE 6 : 55 (census of NW Atlantic harp seals)

LE CREN, E. D. (UK)

SP 1 : 97 (need for fish population assessments)
 4 :130 (marking experiments on spawning char)

LEAR, W. H. (Canada)

- RB 6 :119 (length-weight relation for G. halibut)
 9 : 27 (food of salmon in NW Atlantic)
 10 :163 (length-weight relation for salmon in SA 1)

LEE, A. J. (UK)

- RB 2 : 42 (the sea-bed drifter)
 R2(67):133 (UK research report for 1966)
 R4(67): 3 (temperature variations since 1950)
 48 (surface temperatures in NW Atlantic)
 SP 6 : 5 (adult fish distribution re environment)
 225 (cod re hydrography at Spitsbergen)
 7 : 31 (physical oceanography in NORWESTLANT surveys)
 245 (coordinator's summary of NORWESTLANT surveys)

LEIVESTAD, H. (Norway)

- SP 6 :749 (supercooling and osmoregulation in fish)

LENARZ, W. H. (USA)

- R3(73):209 (factors affecting catchability in SA 5-6)

LENZ, W. (FRG)

- R2(70): 41 (FRG research report for 1969)
 (71): 65 (FRG research report for 1970)
 (72): 37 (FRG research report for 1971)
 (73): 37 (FRG research report for 1972)
 R3(70): 37 (hydrographic conditions in SA 2-5, 1969)
 (73): 27 (hydrographic conditions in SA 1, 1972)
 33 (hydrography of Laurentian Channel)

LETACONNOUX, R. H. (France)

- R2(66): 32 (French research report for 1965)
 (67): 35 (French research report for 1966)
 (72): 29 (French research report for 1971)
 (73): 21 (French research report for 1972)
 SP 4 :327 (tagging long-finned tuna in Bay of Biscay)

LETT, P. F. (Canada)

- SE 1 :171 (recruitment re cod fishery in Div. 4T)
 5 : 61 (density-dependent processes in harp seals)

LEVIE, R. C. (USA)

- R3(67): 47 (application of mesh measuring gauges)

LILLELUND, K. (FRG)

- SP 6 :673 (abiotic factors re fish eggs and larvae)

LILLY, G. R. (Canada)

- SE 6 : 35 (cod growth and redfish year-classes in 3M)

LIMA-DIAS, M. (Portugal)

- R2(64): 70 (Portuguese research report for 1963)
 (65): 95 (Portuguese research report for 1964)
 (66): 71 (Portuguese research report for 1965)
 (67): 90 (Portuguese research report for 1966)
 (68): 85 (Portuguese research report for 1967)
 (69): 76 (Portuguese research report for 1968)
 (70): 96 (Portuguese research report for 1969)
 (71):106 (Portuguese research report for 1970)
 (72): 71 (Portuguese research report for 1971)
 (73): 67 (Portuguese research report for 1972)

LIVINGSTONE, R. (USA)

- AR 7 : 63 (USA research report for 1956)
 RB 7 : 56 (spawning of Georges Bank haddock)
 SP 4 :216 (haddock tagging and fish condition)

LØKEN, O. K. (Canada)

- SP 8 : 71 (growth and decay of glaciers)

LONCAREVIC, B. D. (Canada)

- SP 7 : 11 (bathymetric studies in NORWESTLANT surveys)
 8 :129 (bottom marine geology of NW Atlantic)

LOPEZ-COSTA, R. (Spain)

- AR 4 : 49 (Spanish research report for 1953)

LOPEZ-VEIGA, E. (Spain)

- R2(73): 73 (Spanish research report for 1972)
 SE 2 :155 (editor: report of cod ageing workshop, 1975)

LORD, E. I. (Canada)

- R3(68): 89 (developments in SA 5 scallop fishery)

LUBIENIECKI, B. (Poland)

- RB 10 : 79 (*Anisakis* in herring and mackerel in SA 6)

LUCAS, C. E. (UK)

- AR 3 : 47 (UK research report for 1952)
 4 : 55 (UK research report for 1953)
 5 : 58 (UK research report for 1954)
 6 : 63 (UK research report for 1955)
 7 : 62 (UK research report for 1956)
 8 : 75 (UK research report for 1957)
 9 : 85 (UK research report for 1958)
 10 :111 (UK research report for 1959)
 11 : 92 (UK research report for 1960)
 R2(62):140 (UK research report for 1961)
 (63):102 (UK research report for 1962)
 (64): 88 (UK research report for 1963)
 (65):120 (UK research report for 1964)
 (66):122 (UK research report for 1965)
 SP 1 :267 (report on differentiation of fish stocks)
 2 : 5 (report on effect of fishing on resources)
 6 : 1 (introduction to environmental symposium)
 7 : 9 (introduction to NORWESTLANT surveys)

LUNDBECK, J. (FRG)

- AR 6 : 39 (FRG research report for 1955)
 8 : 39 (FRG research report for 1957)
 SP 3 : 7 (introduction to redfish symposium)

LUX, F. E. (USA)

- RB 1 : 5 (characteristics of SA 5 yellowtail fishery)
 6 : 5 (growth of yellowtail off New England)
 47 (the yellowtail fishery off USA coast)
 7 : 5 (growth of American plaice in SA 5)
 R3(68):101 (mesh selection studies on yellowtail)
 (69):144 (USA-USSR trawl survey, autumn 1968)
 (70):111 (large mesh codends re yellowtail fishery)

LYSY, A. Y. (USSR)

- SE 4 : 47 (USSR studies on shrimp in SA 1, 1976)

M

- MAGNÚSSON, Jacob (Iceland)
 AR 7 : 39 (Icelandic research report for 1956)
 9 : 54 (Icelandic research report for 1958)
 10 : 59 (Icelandic research report for 1959)
 R2(62): 69 (Icelandic research report for 1961)
 SP 3 :242 (report on redfish sex and maturity)
 251 (redfish maturity and migration - Abstr.)
 6 :289 (redfish larvae on Irminger Sea - Abstr.)
 7 :145 (redfish larvae in NORWESTLANT surveys)
- MAGNUSSON, Jutta (Iceland)
 SP 7 : 11 (bathymetry studies in NORWESTLANT surveys)
- MANCHESTER, K. S. (Canada)
 SP 7 : 11 (bathymetry studies in NORWESTLANT surveys)
- MANKEVICH, E. M. (USSR)
 SP 6 :571 (cod growth re environment in Barents Sea)
- MANKOWSKI, W. (Poland)
 SP 6 :541 (zooplankton production and fisheries)
- MARAK, R. R. (USA)
 RB 7 : 56 (spawning of Georges Bank haddock)
 R3(70): 96 (haddock egg surveys in SA 5)
- MARCOTTE, A. (Canada)
 R2(62): 3 (Canadian research report for 1961)
 (63): 3 (Canadian research report for 1962)
- MARGETTS, A. R. (UK)
 SP 4 :255 (efficiency of tag reporting and recovery)
 5 : 12 (effect of mesh size on trawl operation)
 156 (differing selectivities of two trawls)
 158 (selection in different parts of trawl)
- MARI, A. (Cuba)
 SE 3 : 29 (natural mortality of silver hake in SA 4)
 6 : 23 (fecundity of silver hake on Scotian Shelf)
- MARKHAM, W. E. (Canada)
 SP 9 : 29 (variation in ice season off Canada)
- MARR, J. C. (USA)
 SP 4 : 15 (return rate of tagged skipjack)
 308 (blood group characteristics in fish)
- MARTI, J. J. (USSR)
 AR 8 : 73 (USSR research report for 1957)
 SP 6 :355 (drift migrations of fish in N Atlantic)
- MARTIN, J. H. A. (UK)
 SP 6 :855 (hydrography of Faroe-Shetland Channel)
- MARTIN, T. W. (USA)
 SP 1 :335 (morphometrics of redfish in SA 3 to 5)
- MARTIN, W. R. (Canada)
 AR 3 : 57 (knowledge of groundfish stocks in SA 4)
 4 : 23 (Canadian research report for 1953)
 5 : 19 (Canadian research report for 1954)
 6 : 21 (Canadian research report for 1955)
 7 : 21 (Canadian research report for 1956)
 8 : 19 (Canadian research report for 1957)
 9 : 20 (Canadian research report for 1958)
 10 : 19 (Canadian research report for 1959)
 11 : 23 (Canadian research report for 1960)
 R2(62): 3 (Canadian research report for 1961)
 (63): 3 (Canadian research report for 1962)
 SP 1 : 17 (characteristics of salt cod fleet catches)
 3 :148 (Canadian redfish catches, 1949-58)
 6 :833 (cod recruitment re environment in SA 4-5)
- MATHER III, F. J. (USA)
 SP 4 :288 (tagging techniques for large pelagics)
- MATTA, F. (Italy)
 R2(62): 76 (Italian research report for 1961)
- MAY, A. W. (Canada)
 AR 9 :103 (cod investigations in SA 2, 1950-58)
 RB 1 : 28 (effect of catch size on trawl selection)
 2 : 8 (selection and girth-length for SA 2 cod)
 19 (otolith ageing of Grand Bank cod)
 4 : 67 (study on Labrador cod fisheries)
 116 (otolith age validation for SA 2 cod)
 5 : 5 (biology and fishery of W Nfld cod)
 10 :163 (length-weight relation for SA 1 salmon)
 R (61):123 (mesh measuring gauge comparisons)
 R3(62):141 (ICNAF and Westhoff gauge comparisons)
 154 (effect of gauge pressure on mesh measuring)
 (68): 21 (comparative fishing by research vessels)
 SP 6 :149 (cod distribution re temperature in SA 2)
 545 (cod growth and temperature in Nfld area)
- MAYO, R. K. (USA)
 SE 1 : 31 (assessment of redfish in Div. 4VWX)
- McCRACKEN, F. D. (Canada)
 AR 8 : 83 (summary of selection data for ICNAF area)
 99 (cod fishery in Gulf St. Lawrence, 1958)
 9 :101 (top-side chafing gear studies)
 RB 1 : 43 (haddock fishery off SW Nova Scotia)
 5 : 99 (trends in Scotian Shelf haddock fishery)
 7 : 8 (movements of haddock tagged off Digby, NS)
 R (58): 40 (report on topside chafing gear)
 (59): 22 (notes on tagging publicity methods)
 (60): 66 (codend selection with various chafers)
 77 (bibliography on Atlantic halibut)
 R2(68): 3 (Canadian research report for 1967)
 (69): 3 (Canadian research report for 1968)
 (71): 3 (Canadian research report for 1970)
 R3(64):143 (mesh equivalents for trawl materials)
 SP 3 :142 (redfish in groundfish surveys, 1957-59)
 4 : 89 (tags and methods used for cod in SA 4)
 5 :131 (codend and hook selection for groundfish)
 6 :113 (haddock re temperature in SA 4)
- McDERMOTT, J. P. (USA)
 SP 4 :216 (haddock tagging and fish condition)
- McKAY, B. J. (UK)
 SP 7 :187 (feeding of cod and redfish larvae)

- McPHERSON, G. (UK)
 SP 4 : 336 (tagging methods in herring research)
- MEAD, G. W. (USA)
 SP 3 : 9 (redfish systematics and natural marks)
- MEDCOF, J. C. (Canada)
 R2(64): 3 (Canadian research report for 1963)
- MEDICO, E. J. (USA)
 R3(67): 47 (application of mesh measuring gauges)
- MEISTER, A. L. (USA)
 R3(67): 53 (salmon spawning in Maine rivers, 1962-66)
 58 (migrations of salmon tagged in Maine)
- MERCER, M. C. (Canada)
 R3(73):153 (Canadian squid catches, 1920-68)
- MERRIL, A. S. (USA)
 RB 1 : 88 (estimating natural mortality of scallops)
- MESNIL, B. (France)
 SE 2 : 55 (life cycle of the squids, *Illex* and *Loligo*)
- MESSIAH, S. N. (Canada)
 RB 7 : 59 (immature herring of Bay of Fundy)
- MESSTORFF, J. (FRG)
 AR 10 : 45 (FRG research report for 1959)
 11 : 45 (FRG research report for 1960)
 RB 1 : 82 (photographing cod otoliths)
 R2(62): 55 (FRG research report for 1961)
 (63): 39 (FRG research report for 1962)
 (64): 42 (FRG research report for 1963)
 (65): 52 (FRG research report for 1964)
 (66): 33 (FRG research report for 1965)
 (67): 48 (FRG research report for 1966)
 (68): 42 (FRG research report for 1967)
 (69): 31 (FRG research report for 1968)
 (70): 41 (FRG research report for 1969)
 (71): 65 (FRG research report for 1970)
 (72): 37 (FRG research report for 1971)
 (73): 37 (FRG research report for 1972)
 R3(63):135 (otolith ageing of whiting)
 (68): 21 (comparative fishing by research vessels)
 (70): 37 (hydrography in SA 2 to 5, 1969)
- MEYER, A. (FRG)
 AR 9 : 46 (FRG research report for 1958)
 10 : 45 (FRG research report for 1959)
 11 : 45 (FRG research report for 1960)
 RB 2 : 78 (sawing otoliths for age reading)
 R2(62): 55 (FRG research report for 1961)
 (63): 39 (FRG research report for 1962)
 (64): 42 (FRG research report for 1963)
 (65): 52 (FRG research report for 1964)
 (66): 33 (FRG research report for 1965)
 (67): 48 (FRG research report for 1966)
 (68): 42 (FRG research report for 1967)
 (69): 31 (FRG research report for 1968)
 (70): 41 (FRG research report for 1969)
 (71): 65 (FRG research report for 1970)
 (72): 37 (FRG research report for 1971)
 (73): 37 (FRG research report for 1972)
 R3(65):148 (cod tagging at W Greenland, 1959-64)
 (67): 3 (efficient use of SA 1 cod stocks)
 (73): 41 (length-weight data for SA 1 cod stocks)
 SP 6 :767 (ice and wind re fishing off E Greenland)
- MIDTUN, L. S. (Norway)
 SP 6 :213 (fish distribution re temp. in Barents Sea)
- MILLER, D. S. (Canada)
 R3(73):119 (length-weight data for Bay of Fundy herring)
 SE 1 : 31 (assessment of redfish in Div. 4VWX)
 2 : 7 (estimating mortality at different catch levels)
- MINET, J. P. (France)
 RB 10 : 99 (age and growth of A. plaice in Div. 4V)
 13 : 11 (feeding studies on cod in SA 2 to 4)
 R3(71): 29 (environmental conditions in Div. 3P and 4V)
 (72): 45 (sexual maturity of A. plaice in Div. 3P)
 (73): 59 (food of A. plaice in Div. 3P and 4V)
 SE 3 : 7 (dynamics of cod stock in Div. 3Pn+4RS)
 4 : 15 (survey for shrimp in SA 0, 1977)
- MOHN, R. K. (Canada)
 SE 5 : 61 (density-dependent processes in harp seals)
- MOHR, H. (FRG)
 SP 6 :775 (fish behavior re environment and fishing)
- MOMBECK, F. (FRG)
 RB 8 : 87 (*Merluccius bilinearis* and *M. albidus*)
- MONSTAD, T. (Norway)
 R3(73):127 (observations on capelin in Nfld area)
- MONTEIRO, R. (Portugal)
 R2(64): 70 (Portuguese research report for 1963)
 R3(68):110 (trawl selection of cod with Polish chafer)
- MORICE, J. (France)
 R2(68): 30 (French research report for 1967)
 (71): 34 (French research report for 1970)
 (72): 29 (French research report for 1971)
 (73): 21 (French research report for 1972)
- MUIR, B. S. (Canada)
 SP 4 :369 (population studies on tagged maskinonge)
- MUSICK, J. A. (USA)
 R3(67): 35 (designation of hakes in ICNAF statistics)
- MYHRE, R. J. (USA)
 SP 4 : 42 (errors in Pac. halibut tagging data)

N

- NAGASAKI, F. (Japan)
R3(73):145 (assessment of squid in SA 5 and 6)
- NAUMOV, V. M. (USSR)
R3(67): 90 (effect of chafers on trawl selection)
- NEEDLER, A. W. H. (Canada)
AR 3 : 25 (Canadian research report for 1952)
- NEFYODOV, G. N. (USSR)
RB 5 : 44 (serum proteins in redfish re maturation)
86 (serum proteins in redfish types)
130 (redfish taxonomy re muscle thermostability)
- NETZEL, J. (Poland)
RB 3 :106 (biology of blueback and alewife in SA 5)
- NEVINSKY, M. M. (USSR)
RB 10 : 23 (A. plaice spawning in NW Atlantic)
11 :111 (witch flounder spawning in NW Atlantic)
R3(62): 62 (groundfish distribution in SA 2 to 4)
- NICHY, F. E. (USA)
RB 6 : 5 (growth of yellowtail off New England)
107 (growth patterns in silver hake otoliths)
- NICULESCU-DUVAZ, M. (Romania)
R2(68): 92 (Romanian research report for 1967)
(69): 89 (Romanian research report for 1968)
- NIELSEN, J. (Denmark)
SP 4 : 17 (comparison of tags used in SA 1)
- NIKOLSKAYA, T. L. (USSR)
R3(73): 53 (depth distribution of redfish in SA 2 and 3)
- NOSKOV, A. S. (USSR)
R2(62):128 (USSR research report for 1961)
(63): 79 (USSR research report for 1962)
(64): 92 (USSR research report for 1963)
(65):105 (USSR research report for 1964)
(66): 86 (USSR research report for 1965)
(67):112 (USSR research report for 1966)
(68):102 (USSR research report for 1967)
(69): 99 (USSR research report for 1968)
(70):113 (USSR research report for 1969)
(71):123 (USSR research report for 1970)
(72): 81 (USSR research report for 1971)
(73): 77 (USSR research report for 1972)
SE 5 : 31 (feeding studies on *Illex* and *Loligo*)
43 (feeding of larval herring in SA 5, 1965-75)
- NOVOTNY, A. J. (USSR)
SP 4 : 64 (marking salmon fry by trace elements)

O

- O'DOR, R. K. (Canada)
RB 14 : 67 (maturity and fecundity in *Illex*)
SE 6 : 7 (studies on reproduction in *Illex*)
15 (feeding and growth in captive *Illex*)
- OECD (Organization for Economic Coopeartion and Development)
AR 17 : 74 (fishing fleet projections to 1970)
- OLDHAM, W. S. (Canada)
RB 9 : 85 (biology of cusk on Scotian Shelf)
- ORITSLAND, T. (Norway)
RB 11 : 37 (maturity and reproduction in hooded seals)
135 (studies on hooded seals off Nfld)
R3(71):185 (studies on harp seals off Nfld)
- O'ROURKE, F. J. (Ireland)
SP 3 :100 (biochemical studies on *Sebastes*)
- OYNES, P. (Norway)
SE 4 : 35 (Norwegian studies on shrimp in SA 1)
6 : 27 (studies on shrimp in SA 1, 1977-78)

P

- PACHECO, A. L. (USA)
SE 1 : 59 (status of summer flounder in SA 5 and 6)
- PAKHORUKOV, V. I. (USSR)
R3(62): 23 (hydrographic conditions in SA 5, 1961)
- PALMER, J. E. (USA)
SE 2 :111 (variability in catchability coefficients)
3 : 79 (variance in age composition of mackerel)
- PALOHEIMO, J. E. (Canada)
RB 2 : 48 (heterogeneity in groundfish sampling)
- PANKRATOV, A. M. (USSR)
RB 10 :125 (Georges Bank herring spawning, 1970)
- PARKER, R. R. (Canada)
SP 4 :117 (some aspects of fish marking mortality)
- PARRISH, B. B. (UK)
AR 9 : 85 (UK research report for 1958)
106 (fishing power re vessel characteristics)
17 : 69 (biological effect of conservation on NE Atlantic fisheries)
R2(67):133 (UK research report for 1966)
(68):125 (UK research report for 1967)
(69):118 (UK research report for 1968)

- R3(63):150 (selection in manila and synthetic trawls)
 SP 1 :113 (methods used in fish age and growth)
 151 (notes on methods in fisheries research)
 4 :336 (tagging methods in herring research)
 5 :166 (selection process in fishing operations)
 171 (effect of small-mesh covers on selection)
 6 : 22 (effect of environment on fishing process)
 93 (effect of environment on herring)
- PARSONS, D. G. (Canada)
 RB 11 : 5 (status of redfish stocks in SA 3)
 12 : 37 (status of redfish stocks in SA 2 and 3)
 SE 1 : 19 (diurnal variation in redfish in Div. 3P)
- PARSONS, L. S. (Canada)
 RB 8 : 5 (larval nematodes in SA 3 and 4 herring)
 59 (herring characteristics in Div. 3P and 4T)
 67 (herring characteristics in Div. 3P and 4W)
 9 : 5 (classifying spawning herring by meristics)
 10 : 15 (biology of herring in Fortune Bay, Nfld)
 37 (meristics of SA 3 and 4 herring stocks)
 11 : 5 (status of redfish stocks in SA 3)
 73 (morphometrics of herring in SA 3 and 4)
 145 (herring in SW Nfld area, 1965-71)
 12 : 37 (status of redfish stocks in SA 2 and 3)
 SE 1 : 19 (diurnal variation in redfish in Div. 3P)
 73 (distribution of grenadiers in ICNAF area)
- PAULIK, G. J. (USA)
 SP 4 :230 (mortality rates from tagged pink salmon)
 238 (detection of incomplete tag reporting)
- PAVLOV, M. A. (USSR)
 AR 10 : 95 (USSR research report for 1959)
 11 : 83 (USSR research report for 1960)
- PAVSHTIKS, E. A. (USSR)
 R3(62):56 (plankton studies in SA 3 to 5, 1960-61)
 SP 6 :583 (herring feeding re plankton distribution)
- PAYUSOVA, A. N. (USSR)
 RB 5 :130 (redfish taxonomy re muscle thermostability)
- PECKENIK, L. N. (USSR)
 R2(62):128 (USSR research report for 1961)
 SP 6 :209 (redfish distribution re temperature)
- PEET, R. F. (Canada)
 R3(72):65 (recaptures of salmon tagged at Labrador)
- PENTTILA, J. A. (USA)
 RB 10 : 5 (yellowtail mortality from surveys in SA 5)
 12 : 29 (growth and mortality of cod in SA 5)
- PERKINS, F. E. (USA)
 R3(69):33 (fecundity of herring in SA 4 and 5)
- PERODOU, J. B. (France)
 RB 13 : 11 (feeding studies on cod in SA 2 to 4)
 SE 4 : 15 (survey for shrimp off Baffin I.)
- PETROV, V. N. (USSR)
 R3(73):101 (studies on white hake in SA 3, 1969-72)
- PHILLIPS, J. B. (USA)
 SP 3 : 51 (identification problem in *Sebastes*)
- PINHORN, A. T. (Canada)
 RB 2 : 25 (sampling for age and growth of cod)
 7 : 32 (effect of mesh increase on Div. 3NO cod)
 8 : 37 (effect of mesh increase on SA 2 and 3 cod)
 75 (assessment of Div. 2J cod stock)
 9 : 75 (assessment of S Nfld cod stock)
 11 : 31 (natural mortality in Div. 2J+3KL cod)
 107 (assessment of cod in Div. 3NO)
 12 : 37 (status of redfish in SA 2 and 3)
 R3(69):90 (cod length conversion factors)
 (70):65 (catch/effort relations of SA 2 and 3 cod)
 (71):239 (abundance indices for cod in Div. 3P)
 (72):35 (assessment of Div. 2J+3KL cod stock)
 (73):37 (cod abundance in Div. 3NO and 3Ps)
 45 (abundance indices for SA 2 and 3 cod)
 SE 1 :107 (status of groundfish resource in SA 2 and 3)
 SP 6 :545 (cod growth re temperature in Nfld area)
- PITT, T. K. (Canada)
 RB 4 : 53 (diurnal variation in A. plaice catches)
 10 : 63 (assessment of A. plaice on Grand Bank)
 11 :125 (status of yellowtail in Div. 3LNO)
 12 : 23 (food of yellowtail and plaice in Div. 3NO)
 R3(70):103 (trends in A. plaice fishery in SA 3)
 (72):73 (assessment of yellowtail in Div. 3LN)
 (73):71 (catch/effort relation for A. plaice in 3LNO)
- SE 3 : 23 (status of witch flounder in Div. 2J+3KL)
 SP 3 : 56 (meristic studies on NW Atlantic redfish)
 4 :294 (tagging methods for cod in Nfld area, 1960)
- PODRAZHANSKAYA, S. G. (USSR)
 R3(71):115 (food of roundnose grenadier in ICNAF area)
- PONOMARENKO, I. J. (USSR)
 SP 6 :349 (factors re cod recruitment in Barents Sea)
- POPE, J. A. (UK)
 SP 4 :342 (design and analysis of tagging data)
 5 :171 (effect of small-mesh covers on selection)
 175 (experimental design in selection expts.)
 180 (sampling catches at sea)
- POPE, J. G. (UK)
 RB 9 : 65 (cohort analysis for stock assessment)
 10 : 53 (groundfish survey of Faroe Bank)
 11 : 17 (sources of error in effort regulation)
 SE 1 :157 (biological interactions re mixed fisheries)
 163 (mixed fishery theory re cod and redfish)
- POSGAY, J. A. (USA)
 RB 1 : 88 (estimating natural mortality in scallops)
 R2(71):156 (USA research report for 1960)
 R3(70):96 (haddock spawning from egg survey in SA 5)
 SP 4 :268 (tagging experiments on sea scallops)

POSTOLAKY, A. I. (USSR)

R3(67): 22 (growth studies on Labrador cod)
 SP 7 :139 (life-cycle pattern of Labrador cod)

POWLES, P. M. (Canada)

RB 3 :103 (otolith ageing of A. plaice in SA 4)
 4 : 91 (otolith ageing of witch in Div. 4VWX)
 121 (length-weight relation for SA 4 flounders)

PRATT, J. D. (Canada)

R3(72): 65 (recaptures of salmon tagged at Labrador)

PTITSINA, L. G. (USSR)

SE 5 : 43 (feeding of larval herring in SA 5, 1965-75)

PYEFINCH, K. A. (UK)

R2(71):153 (UK research report for 1970)
 (72): 95 (UK research report for 1971)
 (73): 93 (UK research report for 1972)

QQUARTIN, G. V. (Portugal)

AR 8 : 52 (Portuguese research report for 1957)
 9 : 66 (Portuguese research report for 1958)
 10 : 80 (Portuguese research report for 1959)
 11 : 61 (Portuguese research report for 1960)
 R2(62): 98 (Portuguese research report for 1961)
 (63): 62 (Portuguese research report for 1962)

RRAMOS, I. (Cuba)

SE 6 : 23 (fecundity of silver hake on Scotian Shelf)

RAMSTER, J. W. (UK)

RB 1 : 85 (hydrography in SA 2 and 3, 1962)
 SP 10 : 41 (current system east of Grand Bank, 1972)

RASMUSSEN, B. (Norway)

AR 4 : 40 (Norwegian research report for 1953)
 5 : 43 (Norwegian research report for 1954)
 6 : 43 (Norwegian research report for 1955)
 7 : 41 (Norwegian research report for 1956)
 8 : 45 (Norwegian research report for 1957)
 SP 1 :223 (otoliths of *S. marinus* and *S. viviparous*)

RAST, B. (Poland)

Rd(70):117 (fecundity of Georges Bank herring)

REES, E. I. S. (Canada)

SP 4 : 300 (tagging redfish from deep water)

REINIGER, R. F. (Canada)

SP 10 : 57 (circulation in Nfld Ridge area, 1972)

REINTJES, J. W. (USA)

SP 4 :362 (marking menhaden with fluorescent pigments)

RIKHTER, V. A. (USSR)

R3(69):129 (trawl surveys in SA 4 and 5, 1968)
 144 (USA-USSR cooperative surveys, 1968)
 (72): 49 (red hake abundance, 1965-72)
 55 (mortality of red hake in SA 5 and 6)

ROBE, R. Q. (USA)

SP 10 :121 (circulation east of Grand Bank, 1973)

ROBINSON, G. A. (UK)

RB 11 : 61 (plankton recorder surveys, 1961-71)
 R2(71):153 (UK research report for 1970)
 (72): 95 (UK research report for 1971)
 (73): 93 (UK research report for 1972)
 SP 7 : 95 (phytoplankton in recorder surveys, 1963)
 123 (zooplankton in recorder surveys, 1963)
 10 : 95 (plankton recorder surveys, 1972)

ROBSON, D. S. (USA)

RB 3 : 5 (relative fishing power of individual ships)
 SP 4 :330 (maximum likelihood estimates from tagging)

RODEWALD, M. (FRG)

AR 10 : 45 (FRG research report for 1959)
 R4(67): 6 (surface temp. variation in N Atlantic)
 SP 8 : 9 (temp. variations in N Atlantic, 1960-70)

RODRIGUEZ-MARTIN, O. (Spain)

AR 4 : 49 (Spanish research report for 1953)
 5 : 51 (Spanish research report for 1954)
 6 : 55 (Spanish research report for 1955)
 9 : 80 (Spanish research report for 1958)
 10 : 92 (Spanish research report for 1959)
 11 : 73 (Spanish research report for 1960)
 R2(62):113 (Spanish research report for 1961)
 (63): 70 (Spanish research report for 1962)
 (66): 83 (Spanish research report for 1965)
 (67):107 (Spanish research report for 1966)
 (68): 99 (Spanish research report for 1967)

ROJO, A. (Spain)

AR 5 : 51 (Spanish research report for 1954)
 6 : 55 (Spanish research report for 1955)
 7 : 58 (Spanish research report for 1956)
 8 : 61 (Spanish research report for 1957)

ROLLEFSEN, G. (Norway)

SP 1 :339 (report on knowledge about A. halibut)
 3 :253 (report on redfish age and growth)

ROSCOE, B. (Canada)

R3(69): 79 (size changes re herring from freezing)

RUCABADO, J. (Spain)

R2(70):108 (Spanish research report for 1969)
 (71):116 (Spanish research report for 1970)
 (72): 79 (Spanish research report for 1971)
 (73): 73 (Spanish research report for 1972)

RUFFMAN, A. S. (Canada)

SP 8 :129 (bottom geology of NW Atlantic)

RUIVO, M. (Portugal)

AR 5 : 50 (Portuguese research report for 1954)
 6 : 47 (Portuguese research report for 1955)
 7 : 48 (Portuguese research report for 1956)
 8 : 52 (Portuguese research report for 1957)
 9 : 66 (Portuguese research report for 1958)
 10 : 80 (Portuguese research report for 1959)
 11 : 61 (Portuguese research report for 1960)

SSAETERSDAL, G. (Norway)

SP 1 :201 (ageing haddock by scales and otoliths)
 5 :185 (methods used in mesh selection experiments)
 189 (selectivity of longlines)

SANDEMAN, E. J. (Canada)

RB 6 : 35 (diurnal variation in redfish availability)
 79 (age and growth of redfish in Nfld area)
 R (61):123 (mesh measuring gauge comparisons)
 R3(62):154 (effect of gauge pressure on mesh measuring)
 SP 1 :227 (growth of young redfish - Abstr.)
 3 :241 (caudal pigments in redfish larvae - Abstr.)
 276 (age and growth studies on redfish)
 4 :300 (tagging redfish from deep water)

SARNITS, A. A. (USSR)

RB 4 : 76 (silver hake distribution in SA 4 and 5)

SAUNDERS, R. L. (Canada)

R3(66):159 (effect of SA 1 fishery on Miramichi salmon)

SAUSKAN, V. I. (USSR)

RB 4 : 76 (silver hake distribution in SA 4 and 5)
 R3(70):123 (USA-USSR herring egg survey, 1969)
 159 (USA-USSR trawl surveys, 1969)

SAVILLE, A. (UK)

SP 6 :335 (factors re dispersal of eggs and larvae)

SAVVATIMSKY, P. I. (USSR)

RB 3 : 49 (studies on redfish in SA 2 and 3)
 R3(71):125 (age and growth of roundnose grenadier)

SCHAEFER, H. (FRG)

SP 3 :104 (biochemical contribution to redfish problem)

SCHAEFER, M. B. (USA)

SP 4 :306 (tagging and recovery of tunas, 1955-59)

SCHERBINO, M. N. (USSR)

RB 3 : 70 (estimating fish density by hydroacoustics)

SCHUBERT, K. (FRG)

R2(68): 42 (FRG research report for 1967)

(69): 31 (FRG research report for 1968)
 (70): 41 (FRG research report for 1969)
 (71): 65 (FRG research report for 1970)
 (72): 37 (FRG research report for 1971)
 (73): 37 (FRG research report for 1972)

SCHULE, J. J. (USA)

SP 6 :909 (aspects of oceanographic prediction)

SCHUMACHER, A. (FRG)

RB 8 : 15 (assessment of cod stock in SA 1)

SCOBIE, R. W. (USA)

SP 10 : 79 (international ice patrol operations, 1972)

SCOTT, J. S. (Canada)

RB 10 :107 (otolith ageing and growth of sand lance)
 R2(70): 3 (Canadian research report for 1969)
 (72): 5 (Canadian research report for 1971)
 (73): 5 (Canadian research report for 1972)
 SE 3 : 93 (distribution of *Illex* in SA 4, 1970-76)

SEMIONOVA, T. N. (USSR)

R3(62): 56 (plankton studies in SA 3 to 5, 1960-61)

SEREBRYAKOV, V. P. (USSR)

RB 10 : 23 (A. plaice spawning in NW Atlantic)
 R3(71): 83 (haddock spawning in NW Atlantic)
 SP 6 :425 (environment re cod eggs and larvae)

SERGEANT, D. E. (Canada)

R3(71):157 (production of harp seals in NW Atlantic)
 SP 7 :241 (mammal sightings during NORWESTLANT surveys)

SHAW, E. (USA)

SP 6 :753 (optomotor response and fish schooling)

SHERMAN, K. (USA)

RB 8 : 45 (selectivity of Bongo and Gulf III samplers)
 R3(68): 75 (catching efficiency of Bongo and Gulf III)
 SP 6 :611 (zooplankton distribution in Gulf of Maine)

SHESTOV, V. P. (USSR)

R3(70): 75 (vertebral numbers in SA 3 haddock)

SHMARINA, L. R. (USSR)

SP 6 :635 (herring re temperature in NE Atlantic)

SIDORENKO, I. N. (USSR)

RB 3 : 49 (studies on redfish in SA 2 and 3)
 R2(63): 79 (USSR research report for 1962)

SIGAEV, I. K. (USSR)

RB 10 :125 (Georges Bank herring spawning in 1970)
 R3(69): 45 (temperature variation in SA 4 and 5, 1962-68)
 (70): 22 (annual temperature variations in SA 4 and 5)
 123 (USA-USSR herring egg survey, 1969)
 SE 3 : 57 (temperature re herring spawning in Div. 5Z)
 97 (geostrophic circulation in SA 4 and 5)
 SP 10 :115 (hydrography in SA 4 and 5, 1972)

SIMPSON, A. C. (UK)

SP 4 :188 (tagging studies on crabs and lobsters)

SINDERMANN, C. J. (USA)

SP 3 : 9 (redfish systematic and natural marks)
 111 (natural tags of NW Atlantic redfish)
 118 (serological studies on redfish - Abstr.)
 6 :603 (diseases of herring re environment)

SISSEWINE, M. P. (USA)

RB 13 : 81 (factors affecting catchability of trawls)
 SE 2 : 71 (assessment of squids in SA 5 and 6)
 137 (effect of random fluctuations on fisheries)
 3 : 49 (mackerel abundance from trawl surveys)

SKUD, B. E. (USA)

SP 6 : 15 (effect of environment on herring)

SMED, J. (Denmark)

SP 6 :821 (surface temp. in N Atlantic, 1976-1961)

SMIDT, E. (Denmark)

R2(66): 25 (Danish research report for 1965)
 (69): 23 (Danish research report for 1968)
 (71): 27 (Danish research report for 1970)
 (72): 19 (Danish research report for 1971)
 R3(71):275 (summary of NORWESTLANT surveys, 1963)
 (73): 51 (growth studies on cod in SA 1)
 SE 4 : 7 (exploitation of shrimp in SA 1)
 45 (diurnal variation in shrimp catches)
 SP 6 :199 (fish and shrimp stocks re temp. in SA 1)
 435 (effect of food supply on cod behavior)
 7 :175 (halibut eggs and larvae in NORWESTLANT surveys)

SONINA, M. A. (USSR)

SP 6 :565 (haddock abundance in Barents Sea)

SOROKIN, V. P. (USSR)

SP 3 :245 (gametogenesis and migration in redfish)

SPRAGUE, L. (USA)

SP 4 :308 (blood group characteristics in fish)

SQUIRES, H. J. (Canada)SP 3 :119 (*Sphyrion lumpi* on redfish - Abstr.)SREEDHARAN, A. (Canada)

R3(69): 96 (age-length key studies)

STANEK, E. (Poland)

RB 3 :106 (biology of blueback and alewife in SA 5)
 R2(73): 59 (Polish research report for 1972)
 R3(69): 3 (cod stocks in Div. 2J and 3K, 1962-68)

STEELE, D. H. (Canada)

SP 1 :311 (redfish in Gulf of St. Lawrence - Abstr.)

STEELE, J. H. (UK)SP 6 :463 (problems in study of marine resources)
7 : 85 (chlorophyll in NORWESTLANT surveys)STEPANOV, G. N. (USSR)

R3(68): 95 (selection in kapron and manila trawls)

STODDARD, R. R. (USA)

R (59): 19 (recent variation in haddock growth)

STRZYZEWSKI, W. (Poland)

RB 10 :117 (selectivity of Polish-type chafer)
 R3(66):112 (effect of chafing gear on selection)
 SP 5 :193 (the stretch of meshes in trawls)

SUNDNES, G. (Norway)

SP 6 :743 (energy metabolism and fish migration)

SURKOVA, E. I. (USSR)

SP 3 :285 (age and growth of redfish)

SVETLOV, I. I. (USSR)

RB 7 : 15 (cod distribution re temperature in SA 1)
 R3(62): 3 (hydrographic conditions in SA 1, 1961)
 (71): 73 (cod distribution re temperature in SA 1)
 SP 6 :209 (redfish re temperature in SA 1)

SYSOEVA, T. K. (USSR)

SP 6 :411 (feeding of cod larvae re plankton)

T

TAIT, J. B. (UK)

SP 6 :855 (hydrography of Faroe-Shetland Channel)
 901 (forecasting environmental conditions in NE Atlantic)

TÅNING, Å. (Denmark)

AR 3 : 69 (hydrography re fluctuations in fish stocks)
 SP 1 :313 (distribution of some stocks in N Atlantic)
 3 :234 (larval stages of *Sebastes* and *Helicolenus*)

TAYLOR, C. C. (USA)

AR 3 : 68 (fish distribution re temperature - Abstr.)
 R (59): 19 (recent variation in haddock growth)
 SP 1 : 13 (problems of sampling oceanic stocks)
 243 (Lee's phenomenon in SA 5 haddock)

TEMPLEMAN, W. (Canada)

AR 3 : 25 (Canadian research report for 1952)
 62 (knowledge of fish stocks in SA 2 and 3)
 79 (hydrography re abundance in SA 2 and 3)
 4 : 23 (Canadian research report for 1953)
 5 : 19 (Canadian research report for 1954)
 6 : 21 (Canadian research report for 1955)
 7 : 21 (Canadian research report for 1956)

- 8 : 19 (Canadian research report for 1957)
83 (summary of selection data for ICNAF area)
9 : 20 (Canadian research report for 1958)
10 : 19 (Canadian research report for 1959)
11 : 23 (Canadian research report for 1960)
15 : 47 (possible conservation actions for ICNAF area)
RB 4 : 5 (characteristics of salmon in SA 1 and 2)
5 : 62 (characteristics of salmon off Nfld)
6 : 53 (snella fishing for cod off Greenland)
10 : 83 (G. halibut distribution in NW Atlantic)
12 : 91 (Flemish Cap as study area for cod and redfish)
13 : 31 (age and growth of Grand Bank haddock)
53 (maturity and spawning of Grand Bank haddock)
14 : 5 (migrations of cod stocks in Nfld area)
77 (haddock maturity and spawning in Div. 3P)
85 (haddock age and growth in Div. 3P)
R2(62): 3 (Canadian research report for 1961)
(63): 3 (Canadian research report for 1962)
(64): 3 (Canadian research report for 1963)
(65): 3 (Canadian research report for 1964)
(66): 3 (Canadian research report for 1965)
(67): 3 (Canadian research report for 1966)
(68): 3 (Canadian research report for 1967)
(69): 3 (Canadian research report for 1968)
(70): 3 (Canadian research report for 1969)
(71): 3 (Canadian research report for 1970)
(72): 5 (Canadian research report for 1971)
R3(62): 79 (cod stocks in the NW Atlantic)
(65):153 (unknowns in research for MSY estimates)
(66):143 (hydrographic conditions in SA 1 to 3, 1965)
(68): 37 (hydrographic conditions off Nfld, 1967)
(69): 39 (hydrographic conditions off Nfld, 1968)
(70): 11 (hydrographic conditions off Nfld, 1969)
(71): 5 (hydrographic conditions off Nfld, 1970)
(72): 19 (hydrographic conditions off Nfld, 1971)
(73): 19 (hydrographic conditions off Nfld, 1972)
R4(67): 69 (temperature anomalies at St. John's, Nfld)
SP 1 :199 (haddock scale-otolith comparisons - Abstr.)
3 : 56 (vertebral numbers in redfish, 1947-54)
119 (*Sphyrion lumpi* on redfish - Abstr.)
120 (report on redfish distribution in N Atlantic)
154 (redfish distribution in N Atlantic)
157 (redfish distribution in SA 0 and 2, 1959)
241 (caudal pigmentation in redfish larvae - Abstr.)
4 :272 (tagging methods for cod in Nfld, 1954-55)
294 (tagging methods for cod in Nfld, 1950)
318 (*Lernaeocera* as indicator of cod movements)
5 :201 (trawl selection for groundfish in Nfld area)
6 : 11 (effect of environment on adult fish)
131 (cod and low temperature in SE Nfld area)
137 (mass mortalities re temperature in Nfld area)
149 (cod distribution re temperature in SA 2)
171 (haddock re temperature on Grand Bank)
189 (haddock re temperature on St. Pierre Bank)
449 (cod and haddock behavior re food)
523 (year-class success in N Atlantic stocks)
795 (sea and air temperatures at St. John's, Nfld)
8 :223 (year-class success in cod and haddock)
10 : 17 (hydrographic conditions off Nfld, 1951-73)
- TERRÉ, J. J. (Cuba)
SE 3 : 29 (natural mortality of silver hake in SA 4)
- THOMSON, J. M. (Australia)
SP 4 : 50 (tagging methods used in Australia)
- TIBBETTS-LANGE, A. M. (USA)
SE 2 : 71 (assessment of squids in SA 5 and 6)
85 (squid fishery in SA 5 and 6, 1963-64)
- TIBBO, S. N. (Canada)
R3(68): 62 (size composition of swordfish catches)
(70):134 (events in the Canadian herring fishery)
SP 6 :579 (herring movements in Bay of Fundy)
591 (herring fishery re temp. at Magdalen I.)
- TOKAREVA, G. I. (USSR)
RB 3 : 64 (redfish distribution in SA 2 and 3)
R3(65):178 (age composition of redfish in SA 3)
- TRAVIN, V. I. (USSR)
AR 9 : 81 (USSR research report for 1958)
10 : 95 (USSR research report for 1959)
11 : 83 (USSR research report for 1960)
SP 3 : 90 (USSR investigations on redfish)
- TREFETHEN, P. S. (USA)
SP 4 : 64 (marking salmon fry with trace elements)
81 (sonic tracking of fish)
- TRESCHEV, A. I. (USSR)
R3(66):132 (effect of chafers on trawl selection)
(67): 90 (effect of chafers on selectivity)
(68): 95 (selection in kapron and manila trawls)
(73):233 (definition of fishing unit measures)
SP 5 :218 (on selectivity of trawls and drift-nets)
- TROUT, G. C. (UK)
AR 4 : 55 (UK research report for 1953)
5 : 58 (UK research report for 1954)
9 : 85 (UK research report for 1958)
SP 1 :207 (otoliths for age determination)
3 : 94 (*Sebastes viviparous* and redfish problem)
291 (growth of young *S. viviparous*)
297 (otoliths of 0-group redfish)
300 (bibliography of N Atlantic redfish)
- TRUSKANOV, M. D. (USSR)
RB 3 : 70 (estimating fish density by hydroacoustics)
- TURNER, G. E. (Canada)
R3(72): 59 (Miramichi R. salmon tagging, 1968-70)
- TURUK, T. N. (USSR)
R3(72): 39 (diurnal vertical migration in sea fish)
- U**
- ULLTANG, Ø. (Norway)
R2(73): 57 (Norwegian research report, 1972)
SE 4 : 35 (Norwegian studies on shrimp in SA 1)
43 (estimating TAC for shrimp in SA 1)
6 : 27 (studies on shrimp in SA 1, 1977-78)

V

VALEUR, H. (Denmark)

R2(73): 15 (Danish research report for 1972)
 SP 7 : 29 (ice conditions in NORWESTLANT surveys)
 9 : 7 (polar ice variation in SA 1, 1900-72)

VESSEY, E. (Canada)

SE 6 : 7 (studies on reproduction in *Illex*)
 15 (feeding and growth in captive *Illex*)

VINOGRADOV, V. I. (USSR)

RB 9 : 41 (food of silver and red hake in SA 4 to 6)
 R3(69):129 (trawl surveys in SA 4 and 5, 1968)
 (73): 75 (feeding of yellowtail in SA 5 and 6)
 SE 5 : 31 (feeding studies in *Illex* and *Loligo*)
 43 (feeding of larval herring in SA 5, 1965-75)

VLADIMIRSKAYA, E. V. (USSR)

RB 2 : 53 (zooplankton distribution in Nfld area)
 4 : 41 (*Calanus* distribution off Nfld, 1958-61)

W

WALFORD, L. A. (USA)

AR 10 :112 (USA research report for 1959)
 SP 1 : 5 (report on biological survey problems)
 105 (report on efficient use of scientific talent)

WALTER, G. G. (USA)

SE 1 :129 (non-equilibrium regulation of fisheries)

WELCH, W. R. (USA)

R3(70): 31 (temperature conditions in SA 5, 1968-69)
 R4(67): 33 (temperatures at Boothbay Hr, Maine, 1950-66)

WELLS, R. (Canada)

RB 5 :137 (length conversion factors for haddock)
 8 : 37 (effect of mesh increase on SA 2 and 3 cod)
 11 :107 (assessment of cod in Div. 3NO)
 13 : 31 (age and growth of Grand Bank haddock)
 53 (sex and maturity of Grand Bank haddock)
 R3(69): 94 (length-girth relation for SA 3 haddock)
 (70): 65 (catch/effort relation for SA 2 and 3 cod)
 (72): 35 (assessment of cod stock in Div. 2J+3KL)
 (73): 45 (abundance indices for SA 2 and 3 cod)
 SE 2 :155 (editor: report of 1975 cod ageing workshop)
 SP 6 :545 (cod growth and temperature in Nfld area)
 7 :181 (A. plaice eggs and larvae in NORWESTLANT surveys)

WENT, A. E. J. (Ireland)

SP 1 :265 (measurement of net meshes)

WESTRHEIM, S. J. (USA)

SP 3 : 12 (taxonomy of Pacific ocean perch)

WIBORG, K. F. (Norway)

SP 3 :241 (fish eggs and larvae at Norway - Abstr.)

WIGLEY, R. L. (USA)

SP 6 :501 (groundfish abundance re food in SA 5)

WILES, M. (Canada)

RB 5 : 5 (biology and fishery of W Nfld cod)

WILIMOVSKY, N. J. (Canada)

SP 4 :359 (a radioactive tag for herring)

WILLIAMS, T. (UK)

R2(73): 93 (UK research report for 1972)
 SP 4 :156 (efficiency of tags and attachments)

WIMPENNY, R. S. (UK)

AR 3 : 47 (UK research report for 1952)
 6 : 63 (UK research report for 1955)
 7 : 62 (UK research report for 1956)
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SPECIAL PUBLICATION

Abbreviation: SP

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(This publication, issued annually, is now computer-compiled from catch and effort statistics reported by member countries of ICNAF; data for non-members are included when available.)

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- Vol. 5 for 1960 was issued in 2 parts:
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(The publication of the actual biological sampling data was discontinued following the issue of Vol. 17 for 1972; Vol. 18 and subsequent issues contain a listing of biological sampling data on file at the Secretariat.)

