

List of Documents

Document Number	Document Ser. Number	Author(s) and Title
91/97	N1986	BAGGE, O., E. STEFFENSEN, and J. BAY. The fluctuations in abundance of the stock of cod compared to environmental changes and the fishery. (19 pages)
91/98	N1990	PAZ, J., and M. G. LARRAÑETA. Testing non-parametric methods to estimate cod recruitment in NAFO Div. 3NO. (8 pages)
91/99	N1991	MILLAR, R. B. Modelling the effect of environment on growth of cod: fitting to growth increment data <i>versus</i> fitting to size-at-age data. (7 pages)
91/100	N1992	ORLOVA, E. L., and A. K. CHUMAKOV. Comparative assessment of the intensity of feeding of cod of the southern Barents Sea and Newfoundland. (11 pages)
91/101	N1993	KENCHINGTON, T. J. Some effects of bottom trawling on the availability of cod biomass to an inshore longline fishery: a discussion. (21 pages)
91/102	N1994	SCHOPKA, S. A. The Greenland cod at Iceland 1941–1990 and its impact on assessment. (7 pages)
91/103	N1995	SINCLAIR, A. Distribution of Scotian Shelf cod with respect to age, depth and temperature. (13 pages)
91/104	N1996	SWAIN, D. P. Annual variation in the distribution of cod (<i>Gadus morhua</i>) in the southern Gulf of St. Lawrence. (20 pages)
91/105	N1997	MORRISON, C. The digestive tract of the cod eleutheroembryo (“yolk-sac larva”) and larva. (3 pages)
91/106	N1998	MORRISON, C. The reproductive stages of cod. Gross anatomy and histology. (1 page)
91/107	N1999	SERCHUK, F. M., and S. E. WIGLEY. Assessment and management of the Georges Bank cod fishery. (38 pages)
91/108	N2001	BRANDER, K. Comparison of spawning characteristics of cod (<i>Gadus morhua</i>) stocks throughout the North Atlantic. (14 pages)
91/109	N2002	HEESSEN, H. J. L. The distribution of cod in the southeastern North Sea. (17 pages)
91/110	N2003	FRÉCHET, A., and P. GAGNON. Changes in distribution of the 3Pn, 4RS cod stock and the failure of the winter fixed gear fisheries off southwestern Newfoundland. (13 pages)

Document Number	Document Ser. Number	Author(s) and Title
91/111	N2004	PAZ, J., M. CASAS, and G. PEREZ-GÁNDARAS. Summer feeding of cod (<i>Gadus morhua</i>) and its relationship with other biological parameters on Flemish Cap. (8 pages)
91/112	N2005	XU, X., J. BAIRD, C. BISHOP, and J. HOENIG. Temporal variability in cod maturity and spawning biomass in NAFO Divisions 2J+3KL. (12 pages)
91/113	N2006	MYERS, R. A. Recruitment variability of cod stocks. (13 pages)
91/114	N2007	MOGUEDET, Ph. Variation in cod abundance in NAFO Subdivision 3Ps on the period 1978–1990. (15 pages)
91/115	N2008	BAIRD, J. W., and C. A. BISHOP. Changes in stock abundance for some cod stocks in Subareas 2 and 3. (10 pages)
91/116	N2009	BOROVKOV, V. A., and V. P. SEREBRYAKOV. Fluctuations of cod year-class strength in the North Atlantic in relation to the spawning stock biomass and survival conditions. (15 pages)
91/117	N2010	GODØ, O. R., and H. R. SKJOLDAL. Fluctuations in abundance of the Barents Sea cod related with environmental and ecological changes. (1 page)
91/118	N2011	HOVGÅRD, H. Fluctuations in cod abundance off West Greenland in the 20th Century. (3 pages)
91/119	N2012	ROSE, G. A., L. FAHRIG, S. NARAYANAN, B. DeYOUNG, and C. WALTERS. The migration pathways of Atlantic cod (<i>Gadus morhua</i>) on the NE Newfoundland Shelf: a model based on oceanography and fish behaviour. (1 page)
91/120	N2013	ANDERSON, C. An overview of the ocean production enhancement network (OPEN). (2 pages)

Knud Løkkegaard

15 November 1923 – 9 March 1992



Knud Løkkegaard, one of the most prominent persons in international fisheries policy in the epoch-making period of the 1960s and 1970s, died in hospital in Hong Kong 9 March 1992 after a short period of illness, while he and his wife were visiting their son.

Knud Løkkegaard graduated in law at the University of Copenhagen in 1947. After a period as Head of Section (international relations) in the Ministry of Agriculture he became Private Secretary to the Minister of Fisheries during 1954–56. He was Danish Fisheries Attaché in Rio de Janeiro (1957–59), a position and place which he frequently told about with great pleasure. In 1960, he was Head of the Fisheries Department of the Organization for Economic Co-operation and Development (OECD), and 1961–63 Danish Commercial Attaché in Lisbon. He returned to the Danish Ministry of Fisheries in 1964 and apart from a half-year period (1977/78) as Head of Cabinet to the EEC Commissioner for Agri-

culture and Fisheries he served in that ministry as Head of Division until he retired in November 1983.

With his great experience in international affairs Knud Løkkegaard was appointed leader of Danish delegations to the two North Atlantic fisheries commissions, International Commission for the North-west Atlantic Fisheries (ICNAF) and Northeast Atlantic Fisheries Commission (NEAFC). He was also delegate to the Diplomatic Conference preparing the International Baltic Sea Fishery Commission (IBSFC) 1972–74 and became the first Chairman of that Commission (1974–77) and continued as the Head of Delegation to IBSFC thereafter. Likewise, he was Head of Delegation to FAO's Fisheries Committee (COFI) and 1st Vice-Chairman of COFI 1974–75. He was also a delegate to the UN Law of the Sea Conference.

At ICNAF Knud Løkkegaard was Head of the Danish Delegation 1965–76. He was the Commission's Vice-Chairman 1969–71, and Chairman 1971–73. He was also Chairman of Panel 1 1969–71 and of Panel 4 1975–77. Anybody familiar with international fisheries negotiations in that period will know that positions as head delegate and Chairman were not just posts of honour but jobs requiring insight, diplomatic ability and hard work. Knud Løkkegaard fully met these demands and further excelled in mastering the English language. His insight on matters under discussion was excellent, and his recognition of advisers' role made it a great pleasure to work with him in the delegation. He built his statements both on the scientific advice and on social-economic considerations as well as on the administrative, technical and political feasibility of the matter under discussion. He could keep firm standpoints as well as be very flexible, but always with a strong sense of fair play and honesty. Those sitting behind him could always judge the turn of events by the colour of his neck. If it turned a trifle red, there was mischief afoot on the other side of the table.

Knud Løkkegaard worked hard. Late night sessions were common in those years in ICNAF and no less in NEAFC where Knud Løkkegaard was in the firing-line during the period of introduction of quota systems in the North Sea and the implementation of the Common Market fisheries policy. In spite of the hard work, he always found time to create the social atmosphere and relations which characterized the commissions. His pleasant company, great sense

of humour and wide selection of good stories were highly appreciated. He liked the atmosphere around the international meetings, especially in the years when ICNAF and NEAFC built up their first TAC and quota regulations in a spirit of mutual understanding. Also during the period when the salmon fishery at Greenland was a "hot potato", Knud Løkkegaard was at his best.

The many years of fatiguing travel and meetings inevitably affected his health in the long run, and he decided to retire in November 1983, before reaching retirement age, to enjoy family life and social life with friends.

In recognition of his outstanding service, Knud Løkkegaard was invested a Knight of first grade of the order of the Dannebrog. He also held the Brazilian order of the Southern Cross and was officer of the Portuguese order of Henry the Navigator.

He did not participate in NAFO meetings until when Greenland withdrew from the EEC in 1985 and

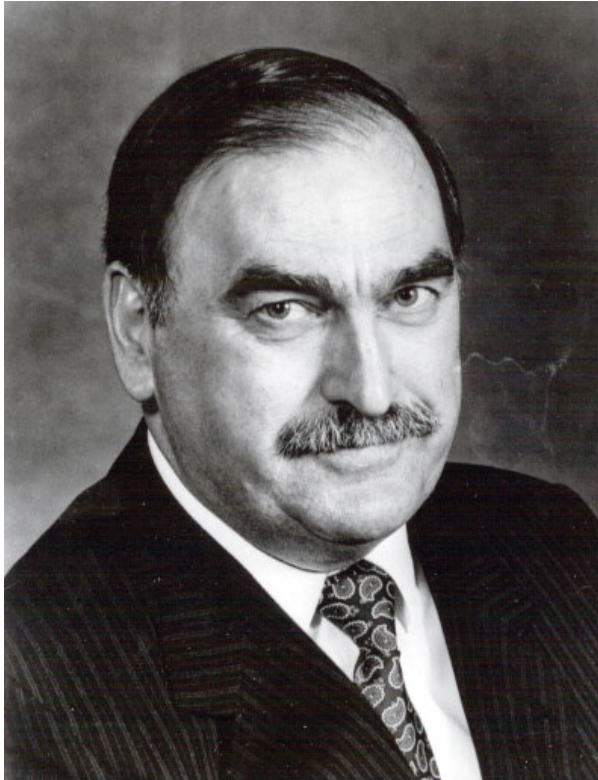
the Greenland Home Rule asked him to be a consultant in international fisheries affairs. As such he participated in NAFO meetings during 1985–89 as delegate of Denmark in respect of the Faroe Islands and Greenland. He was glad of this opportunity to renew his acquaintance with his many international friends and to make new friends.

Knud Løkkegaard's friends and colleagues will miss him. He will be remembered as one of those who contributed significantly to the work and spirit of international fisheries commissions in their probably most interesting and difficult period.

Svend Aage Horsted
Former Director of the
Greenland Fisheries Research Institute
Copenhagen, Denmark

Richard Wells

1 August 1937 to 19 December 1989



Richard (Dick) Wells, who was a well known expert on gadoid biology and fisheries management science, died after a brief illness at St. John's, Newfoundland, Canada on 19 December 1989. Dick was born in Corner Brook, Newfoundland and received his early education in that city. He graduated from Memorial University of Newfoundland in 1961 with a BA (Hons.) Degree, after which he taught high school for a short period. After working as a student assistant at the Biological Station of the Fisheries Research Board of Canada in St. John's during the summers of 1959 and 1961, Dick joined the scientific staff of the Biological Station in 1962. He graduated from Memorial University of Newfoundland with the degree of M.Sc. in Biology in 1968.

During his almost three decades as a fisheries scientist, Dick worked primarily on the biology of cod and haddock in the Newfoundland–Labrador area. In the early years of his career he conducted research on offshore cod in general and Labrador

and northern Newfoundland cod in particular. In 1965 he was appointed scientist-in-charge of research on cod and haddock on the southern Grand Bank and cod on the Flemish Cap. In 1968 he was appointed scientist-in-charge of research on cod in the northern Newfoundland and Labrador areas and the Gulf of St. Lawrence. He held this position until his appointment in 1974 as Section Head of the newly formed Gadoid Section of the Groundfish Division, a position he held until his death.

Throughout his career, Dick played a key role in the process of providing scientific advice to both national and international fisheries managers. He became involved in the International Commission for the Northwest Atlantic Fisheries (ICNAF) at about the time the first TAC's were set in 1973 and he played an important part in the advice leading to these early TAC's. When the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) was formed in 1977 as a result of extension of Canada's jurisdiction to 200 miles, Dick was the first Chairman of the Groundfish Subcommittee of CAFSAC (1977–79). He subsequently served as Chairman of CAFSAC during 1985–86. In addition during 1982–83 he served as the Chairman of the Scientific Council of the Northwest Atlantic Fisheries Organization (NAFO), the organization that replaced ICNAF in 1979. In all of these capacities Dick was instrumental in shaping the manner in which scientific advice on the management of the living marine resources in the Northwest Atlantic was provided to both Canada and NAFO.

Locally, Dick made a significant contribution to our understanding of the biology of cod and the response of this species of fishing pressures and environmental changes in the Newfoundland/Labrador area. His knowledge of the science of cod and his grasp of fisheries management problems in general placed him in great demand by government and fishing industry officials alike and he attended countless meetings, seminars, briefings, etc. where his well-reasoned views were highly valued. In fact, the events in the Newfoundland fishery in recent years placed such demands on his time that his own personal research tended to suffer. In 1988, he and some of his colleagues in the Gadoid Section, who were deeply involved in the assessment and provision of scientific advice for cod, were awarded the Departmental Merit Award by the Minister of Fisheries and Oceans for their outstanding contribution in this regard.

In the midst of all these demands Dick maintained the sense of humour for which he became noted and was expert at diffusing any tense situation with this wry sense of humour. He had a deep personal commitment to scientific excellence and honesty in research which is too often taken for granted. With the death of Dick Wells, the Government of Canada has lost a dedicated employee, the fishing industry has lost a very knowledgeable scientist, who was always cognisant of the fact that it is fishermen who are affected most when management

decisions are taken, and the scientific community has lost a most valued colleague. Those of us who knew him best have lost a caring friend whose presence will long be missed in the corridors of the Northwest Atlantic Fisheries Centre in St. John's.

A. T. Pinhorn, Science Branch
Northwest Atlantic Fisheries Centre
St. John's, Newfoundland, Canada

NOTICE

Gear Selectivity/Technical Interactions in Mixed Species Fisheries

SYMPOSIUM

Hosted by the Scientific Council of NAFO
13–15 September 1993

The Scientific Council of NAFO is pleased to announce this Symposium and invite papers from the general international scientific community. The Symposium will be co-convened by S. Murawski (USA) and P. Stewart (Scotland), and organized by the NAFO Secretariat. The purpose of this Symposium is to focus attention on measures to achieve indirect controls on fishing mortality in mixed-species, multi-gear fisheries. The intent is to concentrate on population level effects rather than on specific results of gear and mesh experiments.

Specific Topics

Gear Selectivity and Performance in Commercial Fleets

This topic will examine effects of changes in gear selectivity and performance on exploitation pattern and fishing mortality rates. Papers to be considered could include:

- Short-term effects of mesh changes on catch rates
- Impact on yield-per-recruit and long-term yield
- Mesh selection vs partial recruitment
- Application of domed and flat-topped partial recruitment vectors
- Effects of gear geometry and modifications
- Square vs diamond mesh selectivity in trawl codends, gillnets and longlines

Multi-Species, Mixed Fishery Interactions

This topic will explore methods of managing multi-gear, mixed-species fisheries to derive maximum biological and/or economic benefits from the resources. Papers to be considered could include:

- Effects of uniform mesh size regulation applied across fisheries
- Optimal harvest strategies
- By-catch and discarding impacts
- Economic vs biological considerations
- Optimum utilization of fleet capacity
- Impact on management strategies

Publication of Papers

Papers presented at the Symposium will be considered for publication in the *Journal of Northwest Atlantic Fishery Science* or *NAFO Scientific Council Studies*, depending on the nature and quality of the paper.

Further information may be obtained from:

	Co-conveners	NAFO Secretariat
S. A. Murawski Population Dynamics Branch National Marine Fisheries Service Northeast Fisheries Center Woods Hole, MA 02543 USA	P. A. M. Stewart The Agriculture & Fisheries Department Marine Laboratory P. O. Box 101, Victoria Aberdeen AB9 8DB Scotland	Tissa Amaratunga Assistant Executive Secretary Northwest Atlantic Fisheries Organization P. O. Box 638 Dartmouth, Nova Scotia Canada B2Y 3Y9
Telephone: (508) 548-5123 Telefax: (508) 548-1158 E Mail: smurawski@whoi.edu	Telephone: 0224 87 6544 Telefax: 0224 29 5511 Telex: 019-31475	Telephone: (902) 469-9105 Telefax: (902) 469-5729

NOTICE

Impact of Anomalous Oceanographic Conditions at the Beginning of the 1990s in the Northwest Atlantic on the Distribution and Behaviour of Marine Life

SYMPOSIUM

Hosted by the Scientific Council of NAFO
14–16 September 1994

The Scientific Council at its September 1992 Meeting chose this theme for the Special Session to be held at NAFO Headquarters, 192 Wyse Road, Dartmouth, Nova Scotia, Canada, during the week preceding the NAFO Annual Meeting in 1994.

Details of organizational arrangements, including confirmation of time and place, outline of topics to be covered, and deadlines for the submission of abstracts and completed manuscripts will be finalized during the June 1993 Meeting of the Scientific Council.

Co-conveners: E. Buch
Royal Danish Administration
of Navigation and Hydrography
Farvandsvaesenet
P. O. Box 1919
DK-1023 Copenhagen K
Denmark

M. Sinclair
Bedfird Institute of Oceanography
P. O. Box 1006
Dartmouth, Nova Scotia
Canada B2Y 4A2

M. Stein
Institut für Seefischerei
Palmaille 9
D-22787 Hamburg
Germany

NOTICE

The Role of Marine Mammals in the Ecosystem

SYMPOSIUM

Hosted by the Scientific Council of NAFO in Collaboration with ICES
6–8 September 1995

The Scientific Council at its September 1992 Meeting chose this theme for the Special Session to be held in September 1995.

Details of organizational arrangements, including confirmation of time and place, outline of topics to be covered, and deadlines for the submission of abstracts and completed manuscripts will be finalized during the June 1993 Meeting of the Scientific Council.

Co-conveners: Dr G. B. Stenson
Department of Fisheries and Oceans
Northwest Atlantic Fisheries Centre
P. O. Box 5667
St. John's, Newfoundland
Canada A1C 5X1

J. Sigurjonsson
Marine Research Institute
P. O. Box 1390
Skúlagata 4
121 Reykjavik
Iceland

NOTICE

Microfiche of ICNAF Meeting Documents, 1951-79

The International Commission for the Northwest Atlantic Fisheries (ICNAF) came into being in July 1950, and the first annual meeting took place at Washington, USA, in April 1951. From that time until the termination of ICNAF in 1979 (29 annual meetings and numerous special and midterm meetings), documentation of research and statistical activities grew as the Commission's interest expanded from developing the groundwork for scientific investigation of the marine living resources during the 1950s and 1960s to managing more than 70 fish and invertebrate stocks in the Northwest Atlantic during the 1970s, until the 200-mile fishery conservation zones of the coastal states were implemented in 1977. However, ICNAF continued until 1979, when it was replaced by the Northwest Atlantic Fisheries Organization (NAFO).

Under the ICNAF regime, it was the mandate of the Standing Committee on Research and Statistics (STACRES) to keep under review and provide regular assessments of the exploited stocks, and to develop policies and procedures for the collection, compilation, analysis and dissemination of fishery statistics in the Convention Area and adjacent waters. Thousands of meeting documents were generated during the 30-year life of ICNAF, most of which were scientific in nature. The Scientific Council of NAFO recognized the historical value of this long series of ICNAF documents and, in 1983, recommended that all papers related to fishery science and statistics should be assembled and copied on microfiche.

Before 1965, all ICNAF documents were designated "Meeting Documents", with no distinction between documents presented at scientific meetings and those for consideration by Commissioners. During 1965-72, documents were issued in two

series, designated as "Commission Documents" and "Research Documents". During 1973-79, further division occurred with the issue of "Summary Documents". The microfiche series contains all documents from 1951-64, all Research and a few relevant Commission documents for 1965-72, and all Research and Summary documents for 1973-79. The task of locating and preparing the papers for microfiche began in early 1985 and was completed in late 1986. Nearly 2,700 documents (31,500 pages) have been recorded on 632 fiche (98-page format, negative). When organizing the material, an index fiche was included to start the series for each year, to provide the user with ready access to the authors and titles of papers and the document numbers. The title strip on each fiche is color-coded by document series, and contains the name of the document series, the year of issue and the document number(s).

A limited number of microfiche sets are available for immediate shipment on a "first come, first served" basis. When the current supply has been exhausted, subsequent orders will involve a delay of approximately 4-5 weeks before delivery.

The price of a set of ICNAF microfiche is \$ 770.00 Canadian which includes delivery by first-class mail in Canada and by airmail to all other countries. Payment in Canadian funds should accompany the order. Please address orders and make cheque (or money order) payable to:

Northwest Atlantic Fisheries Organization
(NAFO)
P. O. Box 638, Dartmouth, Nova Scotia
Canada B2Y 3Y9

Fax No.: (902) 469-5729

Telex No.: 019-31475

Information for Authors in Preparing Manuscripts for NAFO Scientific Publications

General Guidelines

The manuscript should be typed in English on white paper, preferably 21.5 x 28 cm (8.5 x 11 in.), on one side only. All typing should be double-spaced with at least 2.5 cm margins around the page. Avoid breaking words at the end of lines. Number all pages, including the title page, consecutively with arabic numbers in the center of the top margin. The sequence of the material should be: title page, abstract, text, references, tables, captions for figures, and figures.

Content of Manuscript

Title page

This page should contain the title, followed by the name(s) and address(es) of the author(s) including professional affiliation, and any related footnotes. Limit the title to what is documented in the manuscript, and keep it as concise as possible.

Abstract

An informative abstract must be provided, which does not exceed one double-spaced page or about 250 words, the ultimate length being dependent on the size of the manuscript. The abstract should concisely indicate the content and emphasis of the paper. It should begin with the main conclusion from the study and be supported by statements of relevant findings. It is important that the abstract accurately reflect the paper's contents, because it is often separated from the main body of the paper by abstracting and indexing services.

Text

In general, the text should be organized into Introduction, Materials and Methods, Results, Discussion, Acknowledgements and References. Authors should be guided by the organization of papers that have been published in the NAFO Journal or Studies and by such authorities as the Council of Biological Editors Style Manual (CBE, 9650 Rockville Pike, Bethesda, MD 20814, USA). The Introduction should be limited to the purpose and rationale of the study, with literature review and other information limited to what is needed to define the problem. The Materials and Methods should provide the framework for obtaining answers to the problems which concern the purpose of the study. The Results should answer the questions evolving from the purpose of the study in a comprehensive manner, avoiding any confusion between facts and inferences and the restatement of table and figure captions in the text. The Discussion should give the main contributions

from the study, with appropriate interpretation and comparison with those of other authors. Speculation should be limited to what can be supported with reasonable evidence, in the case of short papers, it is often useful to combine Results and Discussion to avoid repetition. Acknowledgements should be limited to the names of individuals who provided significant scientific and technical support, including reviews, during the preparation of the manuscript, and the names of agencies which provided financial support.

Mathematical equations and formulae must be accurately stated, with clear definitions of the various letters and symbols. If logarithmic expressions are used, the type of function (base 10 or natural logarithms) must be clearly indicated in the text or by appropriate symbols (" \log_{10} " or "log" for ordinary logarithms, and " \log_e " or "ln" for natural logarithms).

References

Good judgment should be used in the selection of references, which must be restricted largely to significant published literature. References to unpublished data and documents, manuscripts in preparation, and manuscripts submitted to other journals (if not yet accepted for a particular issue) must not be cited in the list of references but may be noted in the text as unpublished data or personal communications (with full mailing address of the authors). Citation of meeting documents which have limited circulation should be avoided whenever possible, except when such documents contain significant new findings for which no other published sources of the information exist.

Literature references cited in the text must be by author's surname and year of publication, e.g. (Collins, 1960). The surnames of two authors may be used in a citation, but, if more than two authors are involved the citation should be (Collins *et al.*, 1960). The citation of mimeographed manuscript reports and meeting documents should contain the abbreviation "MS", e.g. (Collins *et al.*, MS 1960). All papers referred to in the text must be cited in the References alphabetically by the author's surname and initials, followed by the initials and surnames of other authors, year of publication, full title of the paper, name of the periodical, volume and/or number, and range of pages. Abbreviations of periodicals should, if possible, follow the "World List of Aquatic Sciences and Fisheries Serials Titles", published periodically by FAO (Food and Agriculture

Organization of the United Nations). References to monographs should, in addition to the author(s), year and title, contain the name and place of the publisher and the number of pages in the volume. Reference to a paper in a book containing a collection of papers should also contain the page range of the paper, name(s) of editor(s), and actual title of the book. The accuracy of all references and their correspondence with text citations is the responsibility of the author.

Tables

All tables must be discussed or mentioned in the text. Tables should be carefully constructed so that the data presented in them are clearly understood and that they fit within either a column or page of the periodical. Each table should start on a separate page and be headed by a description which, together with the column headings, makes the table intelligible with reference to the text. Tables must be numbered consecutively in arabic numerals, which correspond with the order of presentation in the text. The required position of tables in the text should be indicated in the left margin of the relevant page. Place the tables after the list of references.

Figures

All figures must be referred to or discussed in the text. Each figure in the form of illustration or photograph must be on a separate sheet and numbered consecutively with arabic numerals.

The figure number should be clearly indicated on the back or in the bottom margin of each illustration. Figure captions should be typed on a separate sheet which follows the tables in paging sequence. The approximate location of each figure in the text should be indicated in the left margin of the relevant page. A complete set of originals or clear, good quality copies must accompany the original of the manuscript and good quality photocopies must be appended to the other copies for review purposes.

When preparing figures, consideration should be given to details such as shading and lettering with respect to the effects of reduction in size to a page width (17 cm) or a single column width (8 cm) (e.g. lettering should not be overbearing or too small). Ideally dimensions of figures should not exceed 17 cm x 20 cm. If over-sized figures are necessary, only good quality page-size photocopies should be submitted and the large originals should be retained by the author and submitted only if requested by the Associate Editor or the NAFO Secretariat. If the paper contains photographs which

will not photocopy clearly (e.g. poor contrast photographs), a set of such photographs must accompany each copy of the manuscript. Colour photographs are expensive to reproduce in colour and should be avoided if possible. If they are essential to the understanding of the text, the author will be required to pay for the additional cost of reproduction.

Manuscript Submission

Journal of Northwest Atlantic Fishery Science

The Journal provides a forum for the primary publication of original research papers. While it is intended to be regional in scope, papers of general applicability and methodology, irrespective of region, may be considered. Both practical and theoretical papers are eligible. Space is also provided for notes, letters to the editor and notices.

Manuscripts are considered for publication with the understanding that their content is unpublished and is not being submitted elsewhere for publication. Each manuscript is assigned to an Associate Editor for scientific editing and is normally reviewed by two referees for appraisal regarding its suitability as a primary article. Submissions (original and three copies) should be addressed to:

Assistant Executive Secretary
Northwest Atlantic Fisheries Organization
P. O. Box 638
Dartmouth, Nova Scotia
Canada B2Y 3Y9

NAFO Scientific Council Studies

The Studies publishes papers which are of topical interest and importance to the current and future activities of the Scientific Council, but which are not considered to be sufficiently high quality to meet the standards for primary publication in the Journal. Such papers have usually been presented as research documents at Scientific Council meetings and nominated for publication by the Standing Committee on Publications. These manuscripts are not normally refereed but undergo critical scrutiny by the Studies editor and if necessary by an expert familiar with the subject matter. Manuscripts (one copy only) should be addressed to:

Assistant Executive Secretary
Northwest Atlantic Fisheries Organization
P. O. Box 638
Dartmouth, Nova Scotia
Canada B2Y 3Y9

Scientific Publications of the Northwest Atlantic Fisheries Organization

Journal of Northwest Atlantic Fishery Science

This publication began after the ICNAF Research Bulletin which terminated with No. 14 in September 1979. Each annual volume consists of one or more numbers.

- Vol. 1 – One number, 10 papers 112 pages (Published December 1980)
- Vol. 2 – One number, 10 papers, 76 pages (Published October 1981)
- Vol. 3 – Two numbers, 17 papers, 180 pages (Published May and December 1982)
- Vol. 4 – One number, special issue on early stages of marine fishes, 424 pages (Published July 1983)
- Vol. 5 – Two numbers, 26 papers, 224 pages (Published January and November 1984)
- Vol. 6 – Two numbers, 17 papers, 179 pages (Published June and December 1985)
- Vol. 7 – Two numbers, 18 papers, 177 pages (Published December 1986 and December 1987)
- Vol. 8 – One number, 7 papers, 88 pages (Published December 1988)
- Vol. 9 – Two numbers, 13 papers, 159 pages (Published September and December 1989)
- Vol. 10 – One number, special issue of an invited review paper, 57 pages (Published December 1990)
- Vol. 11 – One number, 7 papers, 80 pages (Published February 1991)
- Vol. 12 – One number, 7 papers, 84 pages (Published January 1992)
- Vol. 13 – One number, 7 papers, 114 pages (Published December 1992)
- Vol. 14 – One number, 12 papers on changes in biomass, production and species composition of the fish populations in the Northwest Atlantic over the last 30 years, 160 pages (Published December 1992).

NAFO Scientific Council Studies

This publication replaced ICNAF Special Publication, which terminated with Number 11 (revised) in August 1980, and ICNAF Selected Papers, which terminated with Number 6 in January 1980. One or more numbers are published annually.

- No. 1 – Miscellaneous papers (11), 101 pages (Published March 1981)
- No. 2 – Manual on groundfish surveys, 56 pages (Published December 1981)
- No. 3 – Miscellaneous papers (8), 82 pages (Published April 1982)
- No. 4 – Papers on remote-sensing applications to fishery science (12), 98 pages (Published September 1982)
- No. 5 – Papers on environmental conditions in 1970–79 (12), 114 pages (Published December 1982)
- No. 6 – Miscellaneous papers (8), 104 pages (Published December 1983)
- No. 7 – Miscellaneous papers (9), 98 pages (Published August 1984)
- No. 8 – Miscellaneous papers (12), 96 pages (Published April 1985)
- No. 9 – Papers on squid (17), 180 pages (Published November 1985)
- No. 10 – Miscellaneous papers (9), 112 pages (Published August 1986)
- No. 11 – Miscellaneous papers (11), 127 pages (Published March 1987)
- No. 12 – Miscellaneous papers (8), 90 pages (Published March 1988)
- No. 13 – Miscellaneous papers (5), 82 pages (Published November 1989)
- No. 14 – Miscellaneous papers (6), 74 pages (Published May 1990)
- No. 15 – Miscellaneous papers (7), 68 pages (Published May 1991)
- No. 16 – Papers on Management Under Uncertainties (22), 190 pages (Published November 1991)

NAFO Scientific Council Reports

This publication (issued annually) replaced ICNAF Redbook which terminated with the issue in December 1979.

- 1980 – Reports of seven meetings in 1979 and 1980, 190 pages (Published December 1980)
- 1981 – Reports of four meetings in 1981, 148 pages (Published December 1981)
- 1982 – Reports of two meetings in 1982, 110 pages (Published December 1982)
- 1983 – Reports of three meetings in 1983, 152 pages (Published December 1983)
- 1984 – Reports of three meetings in 1984, 126 pages (Published December 1984)

NAFO Scientific Council Reports (continued)

- 1985 – Reports of three meetings in 1985, 146 pages (Published December 1985)
- 1986 – Reports of three meetings in 1986, 156 pages (Published December 1986)
- 1987 – Reports of three meetings in 1987, 138 pages (Published December 1987)
- 1988 – Reports of two meetings in 1988, 150 pages (Published December 1988)
- 1989 – Reports of two meetings in 1989, 180 pages (Published December 1989)
- 1990 – Reports of two meetings in 1990, 188 pages (Published December 1990)
- 1991 – Reports of two meetings in 1991, 164 pages (Published December 1991)
- 1992 – Reports of four meetings in 1992, 212 pages (Published December 1992)

NAFO Statistical Bulletin

This publication replaced ICNAF Statistical Bulletin which terminated with Vol. 28 (revised). The volume numbering continues the series.

- Vol. 29 – Fishery statistics for 1979, 290 pages (Originally published July 1981; revised edition published November 1984)
- Vol. 30 – Fishery statistics for 1980, 280 pages (Originally published August 1982; revised edition published October 1984)
- Vol. 31 – Fishery statistics for 1981, 276 pages (Originally published September 1983; revised edition published March 1985)
- Vol. 32 – Fishery statistics for 1982, 284 pages (Published December 1984)
- Vol. 33 – Fishery statistics for 1983, 280 pages (Published December 1985)
- Vol. 34 – Fishery statistics for 1984, 304 pages (Published December 1986)
- Vol. 35 – Fishery statistics for 1985, 322 pages (Published December 1987)
- Vol. 36 – Fishery statistics for 1986, 304 pages (Published October 1989)
- Vol. 37 – Fishery statistics for 1987, 295 pages (Published April 1990)
- Vol. 38 – Fishery statistics for 1988, 307 pages (Published February 1991)
- Vol. 39 – Fishery statistics for 1989, 300 pages (Published February 1993)

NAFO List of Fishing Vessels

This triennial publication replaced ICNAF List of Fishing Vessels which terminated with the 1977 list in April 1980.

- 1980 – List for 1980, 48 pages (Published March 1983)
- 1983 – List for 1983, 43 pages (Published April 1985)
- 1986 – List for 1986, 48 pages (Published July 1988)
- 1989 – List for 1989, 44 pages (Published January 1992)

Inventory of Sampling Data

The first publication under the aegis of NAFO was published in April 1989. The "Inventory of Sampling Data 1979–84" (250 pages) was prepared in the same format as the previous ICNAF inventory.

NAFO Index of Meeting Documents

This publication contains lists of all documents along with a subject and author index of Scientific Council documents issued during a 5-year period.

- 1979–84 – 146 pages (Published March 1985)
- 1985–89 – 116 pages (Published December 1990)

A price list for these publications may be obtained upon request. Orders for current and back issues and standing orders for future issues should be forwarded to the Executive Secretary, Northwest Atlantic Fisheries Organization, P. O. Box 638, Dartmouth, Nova Scotia, Canada B2Y 3Y9.

NAFO Scientific Council Studies

Previous Issues

- No. 1. Miscellaneous Selected Papers (101 pages, published March 1981)
- No. 2. Manual on Groundfish Surveys in the Northwest Atlantic. W. G. Doubleday, Editor (55 pages, published December 1981)
- No. 3. Miscellaneous Selected Papers (82 pages, published April 1982)
- No. 4. Special Session on Remote Sensing, September 1981 (98 pages, published September 1982)
- No. 5. Symposium on Environmental Conditions in the Northwest Atlantic During 1970–79, September 1981 (113 pages, published December 1982)
- No. 6. Miscellaneous Selected Papers (103 pages, published December 1983)
- No. 7. Miscellaneous Selected Papers (97 pages, published August 1984)
- No. 8. Miscellaneous Selected Papers (95 pages, published April 1985)
- No. 9. Special Session on Squids, September 1984 (179 pages, published November 1985)
- No. 10. Miscellaneous Selected Papers (112 pages, published August 1986)
- No. 11. Miscellaneous Selected Papers (128 pages, published March 1987)
- No. 12. Miscellaneous Selected Papers (90 pages, published March 1988)
- No. 13. Miscellaneous Selected Papers (82 pages, published November 1989)
- No. 14. Miscellaneous Selected Papers (82 pages, published November 1989)
- No. 15. Miscellaneous Selected Papers (68 pages, published May 1991)
- No. 16. Special Session on Management Under Uncertainties, September 1990 (189 pages, published November 1991)
- No. 17. Workbook – Introduction to Sequential Population Analysis (98 pages, published February 1993)

