

NORTHWEST ATLANTIC FISHERIES ORGANIZATION



Scientific Council Studies
Number 17

WORKBOOK

Introduction to Sequential Population Analysis

R. K. Mohn and R. Cook

Special Session on Fish Stock
Assessment Calibration Methods
9–11 September 1992

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Foreword

In accordance with its mandate to disseminate information on fisheries research to the scientific community, the Scientific Council of NAFO publishes the *Journal of Northwest Atlantic Fishery Science*, which contains peer-reviewed primary papers and notes on original research, and *NAFO Scientific Council Studies*, which contains review papers of topical interest and importance and sometimes includes contributions to special meetings and symposia. Each year since 1981, the Scientific Council held a Special Session on a topic of particular interest, and many of the documented contributions to those sessions have been published in NAFO publications or in other fishery-oriented periodicals.

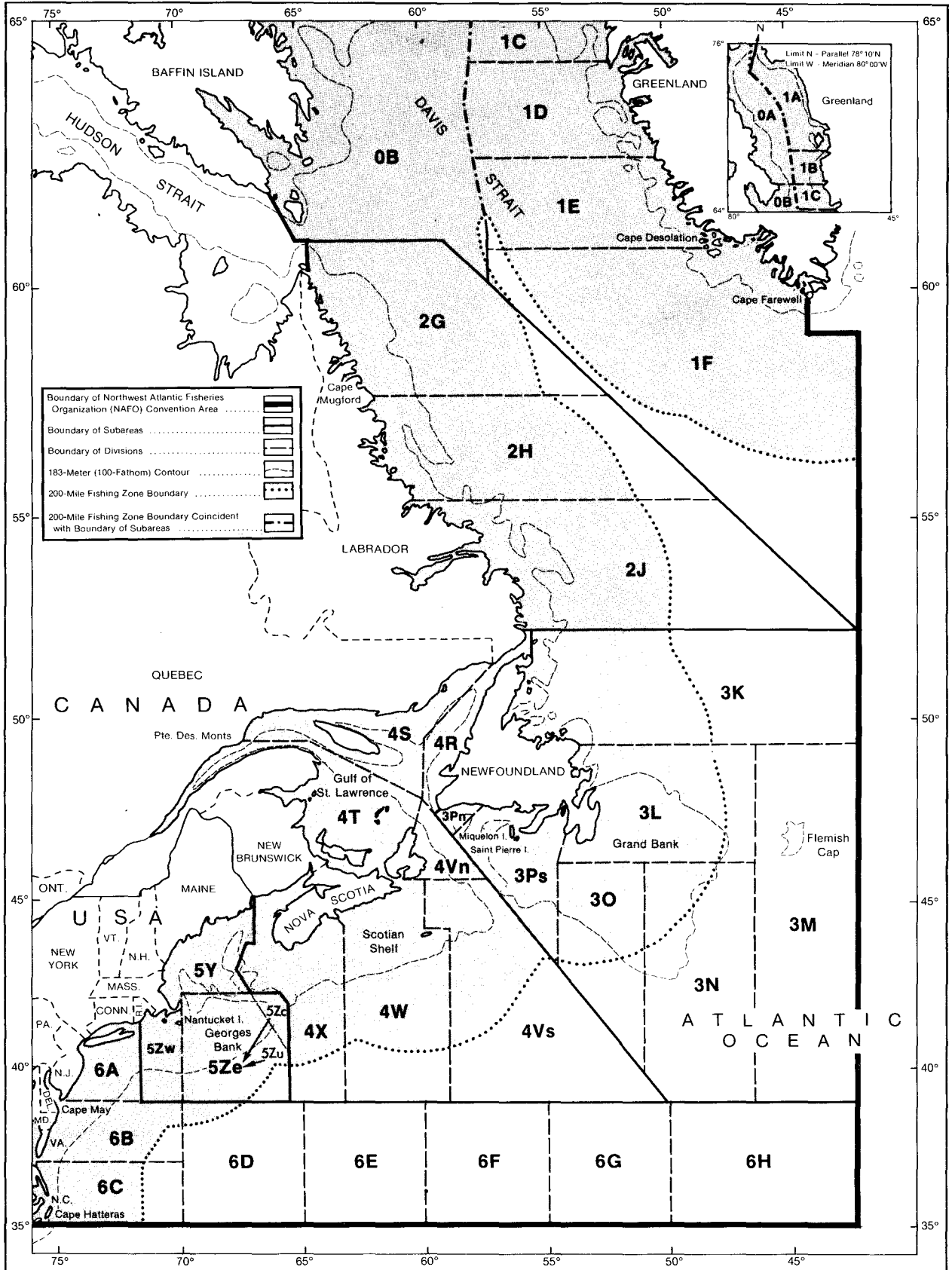
During 9-11 September 1992, the Scientific Council held a Special Session on "State-of-the-Art in Fish Assessment: a Tutorial/Workshop on Calibration Methods and Their Practical Use" at the NAFO Headquarters, Dartmouth, Nova Scotia, Canada, with R. K. Mohn (Canada) and R. Cook (EEC-United Kingdom) as co-conveners. For use during this tutorial/workshop R. K. Mohn prepared a workbook titled *Introduction to Sequential Population Analysis* and R. Cook prepared a working paper on ICES VPA Tuning Methods, while some additional working papers were circulated during the sessions. At its meeting of 14-18 September 1992, the Scientific Council agreed that the ICES VPA tuning methods be included in a revised workbook and that all materials contained in the other working papers be incorporated in a publication of a single volume of *NAFO Scientific Council Studies*. The tutorial material prepared by the authors now form the body of this Workbook, and the other working papers are appended.

The 16 previous issues of *NAFO Scientific Council Studies* are listed on the inside back cover of this volume. A group photograph of the participants is included for the first time in this issue of *Studies*.

February, 1993

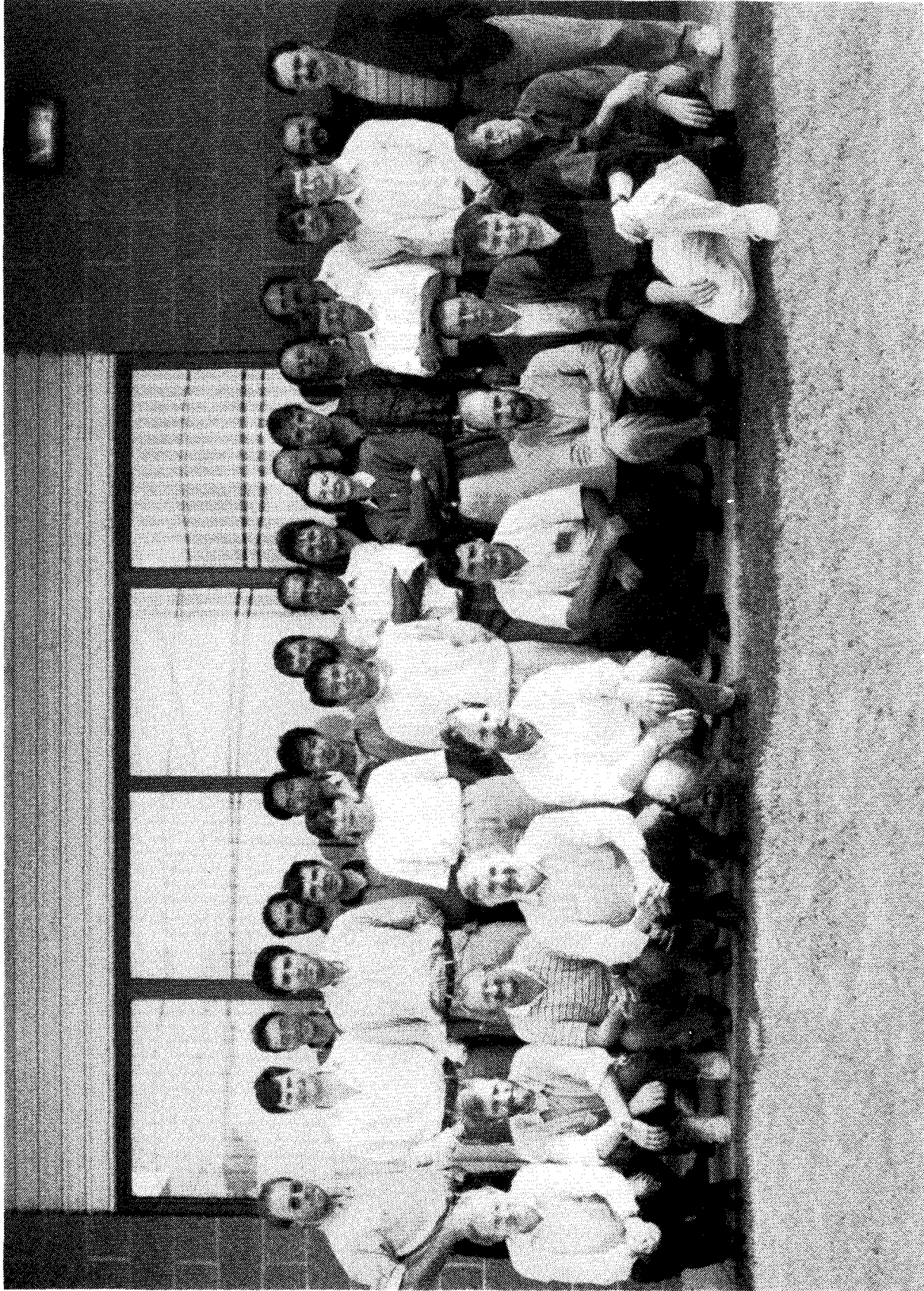
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MAP ILLUSTRATING NAFO'S CONVENTION AREA AND 200-MILE FISHING ZONE BOUNDARIES



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Participants of Special Session on Fish Stock Assessment Calibration Methods, 9-11 September 1992

Report of Tutorial/Workshop

R. K. Mohn and R. Cook (co-conveners)

The Special Session on "State-of-the-Art in Fish Assessment: a Tutorial/ Workshop on Calibration Methods and Their Practical Use" hosted by the Scientific Council with R. K. Mohn (Canada) and R. Cook (EEC-United Kingdom) as co-conveners, was held at NAFO Headquarters in Dartmouth, Nova Scotia, Canada, during 9-11 September 1992. The Special Session was attended by scientists from Australia, Canada, Denmark (in respect of the Faroe Islands and Greenland), EEC-Denmark, EEC-France, EEC-Germany, EEC-Portugal, EEC-United Kingdom, EEC-Spain, Japan and the Russian Federation.

Introduction

The basic format for the 3-day session consisted of morning lectures and afternoon hands-on working groups. The morning lecture periods were broken into subsections dealing with basics of Virtual Population Analysis, ad hoc tuning methods, Laurec-Shepherd method and Adaptive Framework calibration; with opportunities to discuss specific problems. The final day lecture session addressed diagnostics and included a discussion on research and contemporary topics. The afternoon hands-on sessions provided examples for computer manipulations of the data. The small groups of computer users had the opportunity of addressing specific concerns, questions and clarifications with the co-conveners as well as scientists knowledgeable about the contemporary methods of calibration.

Comments

The participants agreed the Special Session was a good idea and successfully carried out, and it should be done again. The format of prepared material and lectures in the morning with hands-on sessions in the afternoons worked well. The number of the participants was about optimal and it would have been difficult to accommodate many more. The broad range of expertise among the participants proved to be beneficial as the more experienced helped the others. On the other hand the broad range made it more difficult to keep everyone interested while assuring that beginners were not lost. Depending on the topic, future sessions might benefit from targeting or screening the level of experience in the participants.

Participant feedback, in the form of the questionnaires, evaluation sessions together with casual conversation, was quite positive. The overwhelming majority of participants expressed an interest in attending a similar workshop in 1-3 years. A particularly useful comment from the evaluation session was that a series of increasingly difficult examples would have helped to bridge the gap between the Workbook examples and real fisheries data. More feedback during the sessions would have helped the conveners, but a specific recommendation on how this might be achieved was not obvious.

The computer facilities worked well, especially considering the fact that everyone brought their own hardware, software and systems. A printer would have improved productivity, especially a laser printer. Future workshops should assure that sufficient numbers of computers are available and that software and data are distributed before the meeting.

