Bundesforschungsanstalt
Bibliothek
für Fischerei, Hamburg

THÜNEN
Digitalization sponsored
by Thünen-Institut

REPORT OF THE
STUDY GROUP ON METHODS OF SPATIAL AND TEMPORAL INTEGRATION

This report is not to be quoted without prior consultation with the General Secretary. The document is a report of an expert group under the auspices of the International Council for the Exploration of the Sea and does not necessarily represent the views of the Council.

International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

Palægade 2–4 DK-1261 Copenhagen K Denmark

Report of Study Group on Methods of Spatial and Temporal Integration

1 Tasks for 1995

For 1995 the Study Group was tasked as follows:

The Study Group on Methods of Spatial and Temporal Integration (Chairman: Prof W.S.C Gurney, UK) will work by correspondence in 1995 to:

a) available for analysing field data and optimising the temporal and spatial design of surveys for determining spatial patterns in stage specific abundances and mortalities of fish eggs and larvae;

b) prepare detailed specifications, budget requirements and evaluation criteria for a programme of analytical method development designed to meet the most important technical shortfalls, making use of case study data as necessary.

The Group should include the following skills: geostatistics, conventional statistics, hydrodynamic modelling, numerical methods, larval fish biology and ichthyoplankton surveys.

Announced composition of the Study Group to work by correspondence in 1995 was Dr J. Bartsch, Germany, Ms M.V. Besada, Spain, Dr J. Beyer, Denmark, Dr S. Ehrich, Germany, Mr J. Fumega, Spain, Prof. W. Gurney, United Kingdom, Dr G. Hubold, Germany, Mr P. Margonski, Poland, Mr R. Oeberst, Germany, Dr P. Pepin, Canada, Prof. D. Schnack, Germany, Dr J.H. Steele, USA, Dr T.K. Stokes, United Kingdom, Dr H. v. Westernhagen, Germany

2 Background to the Proposed Study Group Work:

A major objective and need of recruitment research is to accurately and precisely estimate stage specific abundances of ichthyoplankton, including egg, yolk-sac larvae and post-larval stages. A further objective is to obtain stage-specific mortality rates from abundance information, and to describe the spatial patterns of mortality as they relate to the stage-specific distributions and abundances. Bottlenecks in this process are:

(a) lack of methods for estimating spatial patterns in rates of abundance data, and

(b) lack of guidance on optimal survey designs, particularly regarding the relevant temporal and spatial scales that must be sampled.

Candidate data sets on herring larvae from areas of the North Sea together with output from hydrodynamic models are available and are believed to be suitable for the proposed exercise.

At the 1994 Council Meeting it was requested by the Biological Oceanography Committee that ICES should support the Study Group by seeking ways of providing funds (eg. by eliciting contributions from member organisations) or assisting in the provision of the funds (eg. by acting as negotiator with international funding agencies) necessary to conduct the specified task. Funding was a prerequisite to achieving significant technical progress.

A recommendation to this effect was drafted requesting the assistance of the General Secretary in locating sources of funding for this project. However this was not agreed to, and the Study Group was therefore asked to proceed to locate funds without a formal ICES input.

3 Progress in 1995.

During 1995, the chairman has worked in close consultation with Pierre Pepin, and Mike Heath (present and past chairmen of the Working Group on Recruitment Processes) with a view to finding sources of funding to allow the work programme identified by the Study Group to proceed in the desired way. A number of discussions have also been held with various scientists, and this has resulted in the formulation of various ideas. One possibility is to develop a proposal for FAIR (EC) funding, possibly with a parallel proposal on the US/Canadian side at the same time. An appropriate post-Doc research fellow has also been identified who could take charge of this work.

In these circumstances, and in the absence of any formal encouragement from ICES and SCOR (who co-sponsor the Study Group), it is proposed that the work programme identified by the Study Group should proceed as outlined above. This means that the Study Group should formally be disbanded at this stage, but re-instated later as and when results of the work are becoming available. However since this work forms a crucial element of the tasks of the Working Group on Recruitment Processes, and is also a very important element and contribution to the GLOBEC programme by ICES, the Working Group on Recruitment Processes should closely monitor this work on a continuous basis. This the Study Group proposes that its work be continued meantime from with the Parent Working Group with the following Term of Reference:

"Review progress in the analysis of case study data being used to develop techniques for optimising the temporal and spatial design of fish egg and larvae surveys."

The justification for this proposed item is that this activity was originally developed by the Study Group on Methods of Spatial and Temporal Integration, which

has now, for the time-being, completed its work. An individual has now been identified who has the capability to carry out the required programme and it has been ascertained that he would be willing to do it with appropriate funding (~1/2 postdoc positions for 3 years). This will allow the expediting of the research which was identified last year by the study group.

Until that work has been carried out there is nothing of use which the study group can do. However the parent working group should closely monitor this activity to ensure that the work is continuing. Once these studies are underway, the working group may well be in position to re-instate this study group with a composition that is optimally matched to the task in hand.