1. **PROJECT NO:** MF0303

2. **TITLE:** Management of Fisheries in the English Channel

3. **COMMENCED:** 91/92

4. **STA PLANNED COMPLETION DATE:** 3/94

5. **ACTUAL COMPLETION DATE:** 3/94

6. **RESULTS:**

   (a) Fishery description and compilation of available data on fishing activity and resource stocks. An essential preliminary to the project work programme was that the Anglo-French Group agreed the definitions and descriptions of métiers (the fundamental fleet/fishery unit which would be used to investigate technical interactions) and corresponding data requirements. A portfolio of descriptions, area charts and tables showing the nature and probable level of interactions between métiers, was compiled into a catalogue, presented in English and French.

   (b) Stock identity and biogeographical description of resources. A 1-year EC contract (1991/1992) has enabled two research fellows (1 at Lowestoft and 1 in France) to assist the Group to compile, analyse and prepare a report (in English) on the stock identity of 25 important fish and shellfish resource species in the English Channel. The final report (sent to EC in March 1993) has been translated into French by IFREMER, and prepared as a Laboratory Leaflet by DFR.

   (c) Development of investigative analytical models and examination of management scenarios. Proforma have been designed for recording fishing activity and catch data for the English Channel, and the ICES Area VII and VIII fleet model was run using catch-at-length data for the main species taken by a small number of métiers. The results showed that existing data for other species and métiers, appropriately collated, could be used to make a partial analysis of the Channel fisheries complex. This has subsequently been done, but there are still some data deficiencies, and better and more comprehensive biological and catch data (including discards) on quota and non-quota species, and on fishing vessel activity, are required for a full analysis of fisheries interactions in the Channel.

7. **OVERALL CONCLUSIONS**

The Anglo-French (MAFF/IFREMER) Channel Fishery Study Group has prepared a comprehensive description of the English Channel fishery, using the métier concept to allocate the activity of vessels to fleet/fishery units which have characteristic exploitation patterns on particular species groups. A thorough review of information on the biological and population characteristics of the 25 most important resource species in the Channel, obtained from published material, analysis of MAFF and IFREMER data and by personal communication, has been presented in a report on stock identity to EC in March 1993.

The development of a mathematical model with which to investigate the Channel fleets' activities, their interactions and the effects of management options on yields and stocks has been hampered by data deficiencies. Further progress with this project depends on the availability of appropriate biological sampling and discard data for all important stocks in the Channel, and an improvement in the quantitative data on the activities of UK vessels fishing in the Channel (IFREMER already collect these routinely).

8. **TARGETS AND OUTPUT**

Apart from deficiencies in the modelling database, which were outside the control of this project, targets and output were met. The development of the conceptual approach to describing and analysing the activity, interactions and effects on resource populations of fisheries in the English Channel, is described in the Group...
meetings reports (see 11), and the fishery description and account of stock identity information have been published.

9. UPTAKE AND IMPLEMENTATION

Two products of this project have been used outside CFSG. Our adoption, definition and elucidation of the métier concept, to describe and evaluate fishing activity in the Channel, has served as a model for the area-orientated ICES stock assessment working groups. These were set up in 1992 and given a new term of reference, to investigate biological and technical interactions between species and fleets so that integrated management advice can be formulated. This is precisely the objective identified by CFSG in 1990, and both the Northern and Southern Shelf Demersal Working Groups have based their information collection and fishery descriptions on the métier model. The re-arrangement of assessment area responsibilities for ICES working groups, and the difficulties encountered in managing ICES-division area-based quotas on depleted stocks, have emphasised the need to know more about the identity and movements of fishery resources within and between areas. CFSG's stock identity report has, therefore provided a timely example of the methods which may be adopted to provide this information. Our work was considered to be a significant contribution to the initial meeting of the ICES Study Group on Stock Identity Protocols in August 1993, and its emphasis on the utility of non-genetic data has provided a stimulating counterpoint to the current drive to evaluate the application of molecular tools in the analysis of stock structure in fish populations.

10. FURTHER WORK

In order to model the exploitation activity of fisheries in the English Channel, their interactions and the effects of management options on resource populations and the industry, it will be necessary to collate and compile biological, assessment and fisheries activity and econometric data, initially French and English, but eventually including all exploiting nations. Catch data and fleet activity data will continue to be collected by IFREMER, MAFF SFI and stock assessment groups working in Channel. It is proposed that by collaborating with and enhancing other assessment and research projects, including EC-funded biological sampling of non-quota species and discards, gaps in the database will be filled. Mathematical analysis and development of models involving stock management units and fleet métiers will then enable us to examine the likely effects of management scenarios.

11. LIST OF PUBLICATIONS:

CFSG catalogue of fishery métiers in the English Channel (final draft), ~250 pp.