

**Sharing and Exchange of Fishery Data in the Lesser Antilles:
Report of the Ad Hoc Working Group of the FAO WECAFC
Committee for the Development and Management
of Fisheries in the Lesser Antilles**

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BACKGROUND

At the Third Session of the Committee for the Development and Management of Fisheries in the Lesser Antilles, participants discussed aspects of regional data sharing in a session entitled "Operational aspects of collection and processing of national fishery statistical data, and presentation of statistics at a sub-regional level" (WECAFC 87/6, July, 1987). The discussion was constrained by time, and the Committee recommended that an ad hoc meeting of experts examine the questions of regional data sharing and centers, and it should report its findings back to the Committee.

The ad hoc working group met in Barbados on October 23, 1987. There were experts from the following countries/organizations: Caribbean Fishery Management Council (Mr. Miguel Rolon), France (Dr. Bertrand Gobert), OECS (Mr. Kerwyn Morris), Barbados (Mr. Patrick McConney and Mr. Stephen Willoughby), Trinidad and Tobago (Mr. Boris Fabres), and FAO (Dr. Robin Mahon). The meeting was chaired by Mr. Kerwyn Morris, Chairman of the WECAFC Lesser Antilles Committee, and R. Mahon acted as rapporteur.

OBJECTIVE

The overall objective was to discuss and recommend approaches to sharing data among eastern Caribbean countries, particularly the production of subregional data sets for assessment of shared resources.

DATA MANAGEMENT SYSTEMS

The Working Group first reviewed the data collection and management systems in each of the participating countries/organizations. The aim was to evaluate the actual and planned sharing availability and extent of compatibility of data.

CFMC

The Caribbean Fishery Management Council could serve as a data center for Puerto Rico and the U.S. Virgin Islands. Fishery data are collected by the government agencies responsible for fisheries: CODREMAR in Puerto Rico, and the Division of Fish and Wildlife in the U.S. Virgin Islands. These data will be stored at each of the fishery agencies of the local Government as well as with the CFMC. It will also be fed into the NMFS-SEFC database in Miami, where it will be available for users in the Southeast Region.

There are about 10 years of gear and area specific catch/effort data on demersal and coastal pelagic species. Additional biostatistical data has been collected for the last three years. Recently, there has also been data from U.S. longliners fishing in the area and a program of data collection on marine recreational fisheries in Puerto Rico. Although these data are collected in detailed form, they may only be available after sufficient aggregation to ensure that individual vessels/fishermen cannot be identified. The data are stored on IBM hardware using dBase III data management software.

OECS

The OECS Member States are now served by a Fishery Unit which is implementing a fishery data system. Summarized data on fishery structure, catch, effort, and prices will be supplied from each Member to the Fishery Unit where it will be compiled on an IBM PC/AT using Rbase 5 database software. The data supplied will be aggregated by month, landing site category, fishery type, and vessel type. The database structure and the categorization of data was reviewed and agreed upon at the OECS/ICOD workshop on fishery data collection systems for Eastern Caribbean Islands in June, 1987. Further details will be available in the proceedings of that workshop which are now in preparation.

That workshop also designed/refined data collection systems for OECS Member States as well as Anguilla, Barbados, and Tobago. Implementation/refinement of these systems is anticipated by early 1988, and data flows to the Fishery Unit should increase steadily through 1988. Each contributor will compile its data in a much more detailed form than supplied to the Fishery Unit, and will archive its detailed data monthly. A copy of the archived data will be sent along with the summarized data to the Fishery Unit for storage.

In addition to the data from the new and revised system, many islands have various types of data on catch and effort dating back as far as 10 years in some cases. The Fishery Unit will be gradually attempting to make these data available on microcomputer.

Barbados

Barbados has been collecting daily catch and effort data in several species categories at major landing sites around the island from as early as 1958. They were included in the OECS/ICOD workshop discussed above, where minor modifications and expansions to the existing system were recommended.

Although the government's Agricultural Planning Unit has computer records of most of the above data, these are in aggregated form. The Fishery Division is pursuing funding for computerization of the data. They have requested IBM or compatible equipment and Rbase 5 software.

France

In Martinique and Guadeloupe, responsibility for the collection and management of fishery data lies with the Department of Marine Affairs. In Martinique, there are records of fish passing through the Fort-de-France market. The Antillean Fisheries program of Pole Caraibe, a research consortium consisting of IFREMER, ORSTOM, and the Universite de Antille/Guyane, is conducting an intensive one year project of sampling landing places. One product of this project should be a less intensive ongoing data collection system which may be implemented within a couple of years under the authority of the Department of Marine Affairs.

Data from the Pole Caraibe program are being compiled on IBM compatible microcomputer using dBase III.

Trinidad and Tobago

Of Trinidad and Tobago, the latter was involved in the OECS/ICOD workshop discussed above. The system designed for Tobago should be operational in 1988, and if data collection is not computerized there, this system may be possible in Trinidad. There are also several years of catch data from various landing points around Tobago. Trinidad is in the process of reviving its data collection system which covers the major landing sites around the island.

Data are currently stored on an IBM compatible system using Rbase 5000. The hardware and software are already in place. However, there is the intention to move towards a minicomputer system.

General Observations

From the descriptions of the systems provided above, it is clear that there is a considerable amount of data on catch and effort for various species and groups of species throughout the region. Further, these data are, or are about to be, organized and computerized such that there will be the potential for compilation into subregional data sets which could be useful in addressing management of shared resources, or in comparing fisheries within the subregion. Considering

that data collection and management are at an early stage in most instances, it was considered appropriate and important to examine the best mechanisms for ensuring the compatibility of data and for sharing the data.

Note that most places are using IBM PC compatible hardware, which is consistent with the FAO suggestion that IBM PC hardware running MS-DOS be the standard.

APPROACHES AND PROBLEMS

In the ensuing discussion, two approaches were considered, and the pros and cons of each discussed. The approaches were a regional data center or a semi-formal system of communication among regional entities.

Data Center

A data center was seen as an expensive and inefficient means of bringing data together for solving special problems. Data centers were seen as appropriate only when there was a need for regular, routine summarization of data. For example, when there are specific objectives to be met by having the data all in one place, such a center seems appropriate.

Semi-Formal Systems

This approach was seen as more appropriate for the perceived needs of the eastern Caribbean region. Data would be transferred only on request from a user, and only those data needed to address a particular problem would be transmitted. The system would facilitate the compilation of problem oriented data sets as required to answer specific questions and as resources become available for their analysis. Such a system would nonetheless require some degree of documentation and coordination in order to facilitate data compatibility and its transfer, preferably in computer readable form.

There was a consensus that there should be a minimum level of institutionalization. The group considered that there were enough "organizations" in place in the region, but there was not enough personnel to meet their objectives. WECAFC, or some subunit of WECAFC, was seen as the appropriate umbrella for a data sharing group. The working group considered that a minimum level of organization would be a coordinator, and he would contact persons in each participating country/organization.

The working group was concerned that participating in the sharing program should not carry obligations to collect particular data. That is to say, the program should serve to facilitate exchange of data normally collected by the participating country/organization. Furthermore, participation should not imply any obligation to provide data in any particular format or level of aggregation. The aim would be to facilitate exchanges on a purely cooperative basis.

The working group recognized that in order to get the system started, it would be necessary to: document data collection and management systems of participants, examine them for compatibility, and suggest ways of improving compatibility, etc. Therefore, an initial program was recommended and the terms of reference outlined.

TERMS OF REFERENCE

To facilitate the sharing of fishery data on resources of common interest, particularly shared resources by:

1. Evaluating the compatibility of the data specifications in the participating countries/organizations.
2. Evaluating the compatibility of the data management hardware and software.
3. Suggesting mechanisms and protocols for exchanging data.
4. Specifying the types and amounts of data which could be released for sharing by various countries/organizations.