



**MISSION TO EXPLORE THE POTENTIAL FOR CFRAMP PARTICIPATION IN
THE ACTIVITIES OF THE INTERNATIONAL COMMISSION FOR THE
CONSERVATION OF ATLANTIC TUNAS (ICCAT)
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ABSTRACT

A CARICOM Delegation attended the 1991 ICCAT meetings as observers with a view to determining the potential benefits and mechanisms for CARICOM participation in ICCAT. In particular, the team evaluated the technical aspects of interaction between the Large Pelagics Subproject to be implemented by the Pelagic and Reef Fishes Resource Assessment Unit of CFRAMP, and ICCAT. CARICOM involvement in ICCAT will require that CFRAMP scientists make a variety of inputs, which are described. In return, several benefits are expected. These include: Up to date information on the status of stocks of concern to CARICOM Member States; exposure to assessment approaches and methodology through working in working groups with leading scientists in the field; Access to ICCAT data on catch, effort, and sizes in the Caribbean Region, and the insight into these data which is required to use them effectively; Information on new fishing technology being used in fishing for pelagics.

The team recommended that CARICOM participate in ICCAT activities in an exploratory mode for the duration of the Large Pelagics Subproject. At the end of that period, the costs and benefits of this interaction should be evaluated. The suggested mode of participation is as follows: CFRAMP scientists should participate, in order of priority, in the activities of the Working Groups on Western Atlantic Tropical Tunas, Tropical Tunas, Small Tunas, Billfish, and Swordfish, by attending the Working Group meetings wherever possible.

(Abstract continued)

In general this can be accomplished by attending the WG sessions in the week prior to the SCRS Plenary Meeting, However, from time to time these WGs will meet at other times. CFRAMP scientists should participate in the SCRS meeting, including the Sub-Committees on Environment and Statistics. A CFRAMP scientist should participate in the Commission Meeting, at least to the end of the panels on the species of concern to CARICOM Member States, and for the entire meeting, when there are agenda items of particular concern.

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BACKGROUND

ICCAT is responsible for the promotion and coordination of fishery research and management for all tunas, tuna-like species, and associated species in the Atlantic. It compiles and disseminates statistics, maintains databases, coordinates research, holds regular meetings, and produces a variety of publications on the assessment and management of these resources. The Commission meets every year, with alternating regular and special meetings. There are two Committees, the Standing Committee on Finance and Administration (SCFA) and the Standing Committee on Research and Statistics (SCRS).

The activities of the ICCAT concern CARICOM Member States inasmuch as they affect the activities of the numerous countries exploiting the tuna resources which occur in or migrate through CARICOM EEZs. The activities of the SCRS are of specific interest to CFRAMP inasmuch as they concern the technical aspects of stock assessment and the provision of management advice. The activities of the Commission and its bodies are fully described in a Biennial Report, which is issued in two parts, one in each year of the biennium.

A CARICOM Delegation, consisting of Dr. R. Mahon, Senior RAU Leader, CFRAMP, and Mr. Peter Murray, Data Management Officer, OECS Fisheries Unit, attended the 1991 ICCAT meetings as observers with a view to determining the potential benefits and mechanisms for CARICOM participation in ICCAT. In particular, the team evaluated the technical aspects of interaction between the Large Pelagics Subproject to be implemented by the Pelagic and Reef Fishes Resource Assessment Unit (St. Vincent RAU) of CFRAMP, and ICCAT. Their observations and conclusions are summarised below. Technical details of the deliberations of the SCRS and Commission are not reviewed, except where necessary to illustrate points.

STANDING COMMITTEE ON RESEARCH AND STATISTICS (SCRS)

The SCRS meets each year in November, to review the state of the stocks of tunas and tuna-like species in the Atlantic, and to provide management advice to the Commission, which meets the following week. The input to the SCRS comes from several Working Groups (WGs) within which the actual assessments are carried out: Tropical Tunas, Albacore, Bluefin Tuna, Billfishes, Swordfish, Southern Bluefin Tuna Small Tunas, Western Atlantic Tropical Tunas.

The WGs may meet at any time of year, often in the week before the SCRS meeting, to carry out assessments of the stocks. Scientists from all interested countries come to the WG meetings with their data and participate in the analyses. The contributions of the various scientists are presented to the WGs as SCRS Documents, which are subsequently published in the ICCAT Collective Volume of Scientific Papers (Redbooks). WG conclusions are arrived at by consensus and a report is prepared by each WG rapporteur.

The SCRS met from October 28th to November 11th, 1991, in Madrid, with the Species Working Groups meeting during the first week and the Plenary and Sub-Committee meetings in

the second week. The CARICOM delegates were admitted as observers, and briefly indicated what CARICOM is, then presented an overview of CFRAMP which will be included in the Collective Papers as SCRS/91/108. A summary of CFRAMP will appear in the Biennial Report (Appendix 1).

The SCRS Sub-Committee on Environment

This Sub-Committee met for the first time this year, with the aim of bringing environmental considerations into consideration by the population modellers. Some work on the factors determining the distribution of tunas, particularly around the Azores islands was presented. Given the small range of the fleets in CARICOM Member States, and the observed seasonal and inter-annual variability in availability of fishes in the southeastern Caribbean (FAO, 1991), the future work of this Sub-Committee could be useful in promoting our understanding of, and capability of predicting, the availability of fishes in CARICOM EEZs. In this Sub-Committee France indicated the availability of real time environmental data for the tropical Atlantic (see Technical Information below).

CARICOM informed the group about recent work on the environment in relation to fisheries in the southeastern Caribbean (FAOTCPRLA 8963 on 'Low catches of pelagic fishes', FAO, 1991), and agreed to provide copies of these studies to the Secretariat.

The SCRS Sub-Committee on Statistics

This Sub-Committee reviews the status of the statistical information which is being provided to the ICCAT Secretariat, and makes recommendations for work in this area.

- CFRAMP was asked to examine ways of monitoring trans-shipment of fish at ports in CARICOM Member States, specifically Trinidad.
- The positions and addresses of the Development Officer, OECS Fishery Unit, and the Data Manager/Analyst were given to ICCAT as contacts for fishery statistics.
- The Sub-Committee recognised that sharks are an important incidental catch of tuna fisheries. However, ICCAT does not include sharks in its database. The Sub-Committee has recommended that countries prepare reviews which outline the extent to which sharks are a component of their fisheries. These should be presented to ICCAT next year in order that the Sub-Committee can evaluate the workload involved in compiling shark statistics.

Working Group on Tropical Tunas

This WG deals with yellowfin, skipjack and bigeye tuna throughout the Atlantic. ICCAT considers there to be separate eastern and western Atlantic stocks of yellowfin and skipjack tuna, and a single Atlantic-wide stock of bigeye tuna. However, a review of the evidence for yellowfin tuna indicated that the two stock approach may not be as well founded as previously thought. Yellowfin and skipjack tunas are of considerable importance to CARICOM Member States, whereas bigeye tuna are presently of minor importance. The following points are considered noteworthy.

Quantitative assessments of western Atlantic yellowfin and skipjack tuna were presented for the first time last year as data from Venezuela became available. These assessments are preliminary and will take several years to refine. The main problem is that the data are from the localised area in which the Venezuelan fleet fishes. The efforts of the WG on Western Atlantic Tropical Tunas are, for the time being, directed at yellowfin tuna, in particular acquisition of better data for assessments.

Catches of western Atlantic yellowfin and skipjack declined in 1990 as the Venezuelan fleet was fishing mainly in the Pacific. Both stocks are therefore being fished at less than estimated MSY.

- The team concluded that CARICOM fishery scientists should become familiar with the fisheries for, and assessment of, skipjack and yellowfin tuna in the western Atlantic by participating in this WG in future (see also WG for Western Atlantic Tropical Tunas below). This conclusion is based on:
- the relative importance of yellowfin and skipjack tuna to islands in the southeastern Caribbean;
- the anticipated expansion of fishing capacity for these species in some islands, notably Grenada and St. Vincent and the Grenadines; and
- the extent to which catches of these species by non-CARICOM Member States appear to be coming from the EEZs of CARICOM Member States.

Working Group on Albacore

Albacore are not of major importance in CARICOM Member States.

- The team concluded that for the time being, CFRAMP need not become involved in the activities of this WG.

Working Group on Bluefin Tuna

The western Atlantic (and other) bluefin tuna assessment is technical, and is further complicated by national interests in this highly valuable, considerably overexploited resource. Bluefin tuna are not of major importance to CARICOM Member States. Much of the activity of this WG is devoted to assessing eastern Atlantic and Mediterranean stocks of bluefin tuna.

- The team concluded that for the time being, CFRAMP need not become involved in the activities of this WG, but should take note of the methodologies which are applied.

Working Group on Billfishes

This WG is minimally active in ICCAT, primarily because there are no major commercial fisheries which target billfishes. However, they are a significant incidental catch, and are very important to recreational fisheries. Billfish WG activity consists almost entirely of the ICCAT Enhanced Research Program for Billfish which began in 1986. The efforts of this Program are focused on acquiring catch, effort and size data in all billfish fisheries, in promoting catch/release recreational fishing, and in facilitating tagging. The Program is active in four CARICOM Member States (Jamaica, Barbados, BVI, and Grenada), and will begin activities in Trinidad and Tobago next year.

In discussions held outside the SCRS meeting, the General, and Western Atlantic Coordinators of this Program, Dr. Brad Brown, Director, US National Marine Fisheries Service (NMFS), South East Fisheries Center (SEFC), and Dr. Eric Prince, Scientist, NMFS, SEFC, both expressed the hope that CFRAMP would cooperate with the Program. In turn, they indicated their willingness to share their expertise with large pelagic fishes, particularly in tagging, should it become a component of the Large Pelagics Subproject. CFRAMP will be invited to participate in the second ICCAT Billfish Workshop to be held in Miami, July 22-29, 1992.

- The team concluded that CFRAMP should coordinate with, and facilitate the efforts of the Billfish Program wherever possible, and should avoid duplication of its activities. This conclusion was based on:
- The probably high, but as yet unevaluated, importance of recreational fisheries to the tourist economies of many CARICOM Member States; and
- The known importance of these species in the pelagic fisheries of CARICOM Member States in the southeastern Caribbean.

The team also concluded that CFRAMP should participate in the Billfish Workshop mentioned above, and should attempt to schedule travel within the region to facilitate participation.

Working Group on Swordfish

The swordfish WG met in St. Andrews, NB, Canada in October, 1991. As usual the assessment was highly technical, and plagued by an inadequate knowledge of basic swordfish stock structure and biology. The technical component focused on modelling under various assumptions (i.e. what if? analyses). The bottom line remains that fishing mortality of adults is about double what it should be. Minimal regulations were introduced last year, but it is too soon to evaluate their effects. Fortuitously, there appears to have been good reproductive success in the past few years as juvenile swordfish are relatively abundant.

As regards the exploitation of swordfish in the EEZs of CARICOM Member States, there appears to have been a shift in reported fishing effort out of the Lesser Antilles, towards the east off the north coast of south America. This might be due to declining catch rates in the Lesser Antilles. This possibility could be examined using the logbook data from the US fleet. These data have been accessed at NMFS SEFC in the past by FAO/TCP/RLA 8963, on "Low catches of pelagics in the Lesser Antilles" (FAO, 1991).

- The team concluded that CFRAMP should become familiar with the assessment of swordfish by monitoring the activities of this WG, and wherever other travel permits, by participating in the WG meeting. This conclusion is based on:
- Past high levels of foreign fishing activity for swordfish in the EEZs of CARICOM Member States in the southeastern Caribbean, and recent attempts to develop swordfish fishing activities in this area.

Working Group on Southern Bluefin Tuna

Southern bluefin tuna are not relevant to the Caribbean region.

The team concluded that CFRAMP need not become involved in the activities of this WG.

Working Group on Small Tunas

This WG covers many species of considerable interest to CARICOM Member States (wahoo, various kingfishes, blackfin tuna, little tuna, bonito). If dolphinfish were to be considered by ICCAT, which they could be, as a species associated with tuna, they would come under this WG. Unfortunately, there is little or no activity in this WG: no papers were presented to the WG this year. The WG report addresses catch statistics only. The ICCAT Secretariat is aware that there is a need to increase the activities of this WG (discussions held outside the SCRS meeting), however the Secretariat did not envisage any significant increase in the activities of this WG in the foreseeable future. There are two reasons for this:

- First, the technical resources of most ICCAT Member Countries in which small tunas are important, are substantially committed to the assessment of the major commercial species
- Second, because many of these species are coastal, local management is feasible.

The USA is the main exception in the first case above, and is most active in assessing and managing these species in its EEZ. In discussions with Dr. Brad Brown (Director, NMFS, SEFC), and Dr. Nancy Parrack (Scientist, NMFS, SEFC), it became apparent that direct interaction with scientists from that laboratory would be very beneficial.

- The team concluded that CFRAMP inputs on small tunas could serve to stimulate some activity in this relatively dormant WG, with the effect of obtaining feedback from other individuals who are actively working on these species.
- In the short term, it appears that the most beneficial and affordable interactions would be with the NMFS SEFC.

Working Group on Western Atlantic Tropical Tunas (WATT)

This WG was formed with the aim of increasing the amount of effort put into the assessment of western Atlantic tropical tuna stocks. The WG met for the first time in Miami in April, 1991, at which time it devoted its time to assessment of western Atlantic yellowfin tuna. A considerable part of its effort was oriented towards compilation of data. The absence from the WG of several of the major players in the fishery (Cuba, Venezuela, Brazil) was a significant issue at the SCRS, where it was considered that insufficient notice had been given to potential participants.

The WATT WG met again during the week of the SCRS to discuss its activities for the coming year. Acquisition of data from countries in the Southwest Atlantic was considered to be a major impediment to assessment of western Atlantic tuna stocks. Therefore, the WG will hold a data compilation meeting, probably in Brazil, in July, 1992. The meeting will also address data for billfishes and swordfish.

The activities of this WG are of considerable interest to CFRAMP. Should its activities develop significantly in the future, this WG can provide a forum at which CARICOM scientists can make input into the assessment of the tuna resources which are most important in their EEZs.

- The team concluded that CFRAMP should become fully involved in the activities of this WG. This conclusion is based on:

- The importance to CARICOM Member States of the resources to be considered by the WATT WG;
- The fact that this WG will almost certainly hold its major meeting in the western Atlantic the costs of participation will be significantly less than for other WGs.
- The exposure to current assessment methodology which CARICOM scientists can acquire by interacting with scientists in the WG environment.

COMMISSION MEETING

The ICCAT Commission meets every year in the week immediately following the SCRS meetings, to review and adopt the reports of the Standing Committees (SCRS & SCFA), and any current special Working Groups and Committees. A significant part of the Commission meeting is devoted to administration, budgeting for meetings, etc. The Species WG Reports in the SCRS report are discussed in four panels which recommend management measures to the Commission.

The CARICOM delegates were admitted as observers, and presented a brief summary of what CARICOM is, and of CFRAMP. Many of the smaller countries, or those with relatively low catches, were represented by the scientists who had been their representatives at the SCRS. In general, only the major fishing nations such as the USA, Japan and Spain were represented by diplomatic delegations. Several of the larger delegations included lobbyists from industry.

- The team concluded that as long as CARICOM was an observer (see other matters below), it could be adequately represented in the Commission Meeting by a scientist who would stay over from the SCRS. This individual would probably only need to stay for the relevant panels (first 2-3 days), unless there were particular issues requiring input.

OTHER MATTERS

Technical Information

Three technical items which are relevant to CARICOM Member States came up at the SCRS meetings.

Real time environmental data: The French organisation IFREMER provides marine environmental data, essentially temperature, for the tropical Atlantic on a real-time basis by fax. The quality of these data are considered to be better than those provided by the US NOAA National Climatic Data Center. Further details of the types of data, the coverage in the Caribbean, and the equipment requirements are being sought from IFREMER. Access to these data may not be feasible for the small-scale vessels typical of the eastern Caribbean, but as more

of them become equipped with radios, a centralised service which indicated the whereabouts of frontal structures, could be considered in the region.

Bird radar: Certain innovations in radar technology are making it possible to detect flocks of seabirds, which are usually good indicators of the presence of fishes. Details of this technology are being sought.

Drifting FADs: Surface tuna fleets in the eastern tropical Atlantic have apparently begun to use drifting FADs to attract fish on a relatively large scale. Details of the construction of these FADs were not available at the meeting. However, they are apparently being deployed in groups, and are visited by smaller boats which radio the purse seine vessel when appropriate quantities of fish have accumulated. To some extent this approach is used by Barbadian fishermen. An expansion of this method could be considered in the eastern Caribbean, for fishermen who are trolling.

Acquisition of ICCAT data

The CARICOM delegation met with Dr. P. Miyake, Assistant Executive Secretary, to discuss the acquisition of data from the ICCAT database. Acquisition of any data is possible, without cost, but there can be significant delays (3-4 months) for observers, as Member Countries are given priority. The CARICOM delegation requested all catch and effort data for the wider Caribbean region. The data were provided on diskettes, in a microcomputer MS-DOS readable format, before the end of the meeting.

These data will allow CFRAMP to examine catch rates and species composition of the catch of pelagic fishes taken by various gears in the Caribbean region. Although the scale on which the data are reported is often quite large (10 degree squares for some data), they should still be able to provide some useful information about what can be expected by commercial and research fishing operations in the region.

In return, the ICCAT Secretariat requested that CFRAMP review, and where necessary revise, the catch and effort data which had been provided to ICCAT by CARICOM Member States. To facilitate this they provided a printout of these data for the past ten years.

IATTC activities

The observer from the Inter-American Tropical Tuna Commission (IATTC) indicated that there was a growing interest in the ecology of association of tuna with natural drifting objects (see drifting FADs above). The IATTC will be hosting a workshop on this subject in February 1992. It is unlikely that anyone from CFRAMP will be able to attend. However, CFRAMP has been put on the IATTC mailing list and will receive all information pertaining to that workshop.

Interaction with NMFS

There was a large contingent of scientists from the US National Marine Fisheries Service, South East Fisheries Center, including the Director, Dr. Brad Brown. Many of these scientists are working on pelagic resources which are of interest to CARICOM Member States: billfish, yellowfin tuna, swordfish, skipjack tuna, and small tunas such as kingfish and blackfin tuna. Several of these scientists are in the forefront of the development of new assessment techniques which may be useful to CFRAMP. For example, 'A Surplus Production Model Incorporating Covariates'¹ (ASPIC), a versatile approach to production modelling, which does not require equilibrium assumptions, can incorporate catches from several gears, and provides estimates of the precision of model parameters.

Informally, the Director of the SEFC and several of the scientists expressed considerable interest in CFRAMP, particularly as several of them have worked in the Caribbean before. Whereas, their mandate may not permit extensive involvement in CFRAMP activities, it appears likely that their expertise could be accessed for workshops, Subproject formulation, etc. For pelagics, it may be particularly useful to access the expertise of the newly formed Unit for Tagging Studies, headed by Dr. Eric Prince. CFRAMP will explore this potential further.

CARICOM Membership in ICCAT

The rules for membership in ICCAT are explained in Annex I of the Basic Texts (ICCAT, 1985). Article XIV defining who can become a member of ICCAT was modified in 1984 to accommodate organisations; particularly with the EEC in mind. However, the protocol modifying this article has not yet been ratified by all the Member Countries. One difficulty is that once an organisation joins, its Member States can no longer be individual members of ICCAT. Thus if the EEC joins some European countries will be obliged to withdraw from the Commission.

In order for an organisation to become a Member of ICCAT, its Member States must "...have transferred to it competence over the matters governed by this Convention, including the competence to enter into treaties in respect of those matters" (Article XIX, Item 4).

Member Country contributions to the annual budget of ICCAT are calculated in three parts by a formula which is explained in Article X.

- (a) There is a basic fee of US\$1,000.00.
- (b) There is a contribution of US\$1,000.00 for each Panel membership (see Article VI).

CARICOM would probably need to join only one panel.

After these contributions have been made, the amount required to make up the budget is divided among the Contracting Parties partly in proportion to their contributions under a and b above and partly in proportion to the amounts of tuna caught and processed.

On the basis of the estimated Member Country contributions for 1992-1993 presented at the Commission Meeting, CARICOM would probably have to pay in the vicinity of US\$ 20,000-25,000 per annum for membership in ICCAT. However, in 1989, the Commission formed a Working Group on Calculation of Member Country Contributions to revise the scheme for payment described above. The thrust of their activities is to minimise the payments required by developing countries, leaving the major industrialized countries with the majority of the cost of ICCAT.

At this point, there does not appear to be any major benefit to full membership in ICCAT. CARICOM can probably obtain all the required benefits from ICCAT as an observer. The only real additional benefit of ICCAT membership appears to be the right to vote on fishery management issues, and ICCAT administrative issues. The former are usually resolved by consensus. The latter involve selection of SCRS chairman, every two years, and selection of Executive Secretary, which is for an indefinite period.

In due course, if ICCAT becomes more active in management of resources which are of primary concern to CARICOM Member States, CARICOM might want to consider membership. However, it is worth noting that membership carries with it the obligation to observe ICCAT regulations.

SUMMARY

General

In view of ICCAT's mandate for research, assessment and management of tunas and tuna-like species in the Atlantic Ocean, it would be inappropriate for CFRAMP to engage in such activities without interacting with ICCAT. This interaction could range from simply acquiring the documents produced by ICCAT, to full participation in their meetings and programs, and possibly, membership in ICCAT. A CFRAMP team participated in the ICCAT meetings in November, 1991 to explore the most appropriate level of participation in ICCAT.

CARICOM involvement in ICCAT will require that CFRAMP scientists make a variety of inputs, as described below. In return, several benefits are expected.

- Up to date information on the status of stocks of concern to CARICOM Member States.
- Exposure to assessment approaches and methodology through working in working groups with leading scientists in the field.

- Access to ICCAT data on catch, effort, and sizes in the Caribbean Region, and the insight into these data which is required to use them effectively.
- Information on new fishing technology being used in fishing for pelagics.

The team recommends that CARICOM continue to participate in ICCAT activities in an exploratory mode for the duration of the Large Pelagics Subproject. At the end of that period, the costs and benefits of this interaction should be evaluated. The suggested mode of participation is as follows:

- CFRAMP scientists should participate, in order of priority, in the activities of the Working Groups on Western Atlantic Tropical Tunas, Tropical Tunas, Small Tunas, Billfish, and Swordfish, by attending the WG meetings wherever possible

In general this can be accomplished by attending the WG sessions in the week prior to the SCRS Plenary Meeting. However, from time to time these WGs will meet at other times.

- CFRAMP scientists should participate in the SCRS meeting, including the meetings of the Sub-Committees on Environment and Statistics.

In both cases above, participation includes the contribution of information on fishery research and management. CFRAMP and the OECS Fishery Unit would also be in a position to coordinate or centralise, the provision of national fishery statistics to ICCAT.

- A CFRAMP scientist should participate in the Commission Meeting, at least to the end of the panels on the species of concern to CARICOM Member States, and for the entire meeting, when there are agenda items of particular concern.

CFRAMP Participation in 1992

CFRAMP participation is recommended at the following meetings:

- Meeting of Working Group on Western Atlantic Tropical Tunas (WATT), to assemble data for western Atlantic stocks -- Brazil, July 1-7, 1992.
- The Second ICCAT Billfish Workshop to conduct assessments for western Atlantic billfish -- Miami, July 22-29, 1992.
- ICCAT Annual Meeting of the Species Working Groups, SCRS, and Commission - Madrid, November, 1992.

The following inputs would be required of CFRAMP:

- A compilation of available data on catches and catch rates of pelagics in CARICOM Member States (for WG on WATT in Brazil).
- Review of national statistics provided to ICCAT during the past 10 years (as soon as possible).
- Preparation of a review of the contribution of sharks to pelagic catches in CARICOM Member States (for annual meeting).
- Report on the state of pelagic fisheries in CARICOM Member States (for annual meeting).

REFERENCES

FAO. 1991. Factors responsible for low catches of large pelagic fishes in the eastern Caribbean. Terminal Statement for FI: TCP/RLA/8963, FAO, Rome: 11 pp.

ICCAT. 1985. Basic texts. International Commission for the Conservation of Atlantic Tunas, Madrid, Spain: 99 pp.

APPENDIX 1: SUMMARY TO BE INCLUDED IN THE ICCAT BIENNIAL REPORT

CARIBBEAN COMMUNITY AND COMMON MARKET (CARICOM)

The CARICOM Fishery Resource Assessment and Management Program (CFRAMP) (SCRS/91/108), which began in 1991, is an eight-year, Can. \$20 M program, funded by the Canadian International development Agency (CIDA), the International Center for Ocean Development of Canada (ICOD) and CARICOM. Its goal is to promote the management and conservation of fishery resources in CARICOM, to permit their exploitation on a sustainable basis. The Program will be coordinated by the CARICOM Fishery Management Unit, which has been established in Belize City, Belize for this purpose. There will be two major thrusts: institutional strengthening and resource assessment. Institutional strengthening activities will involve training for CARICOM nationals as well as enhancement of basic fishery management systems at the national and regional levels. The latter will include assistance at the national level with: Fishery management planning; Fishery data collection and management systems; Licensing/registration systems; Community participation in fishery management; and Advisory/decision making mechanisms. A specific activity will aim to define the best mechanisms for fishery research and management at the regional level.

Resource assessments will be carried out by three Resource Assessment Units located in Belize (lobster and conch), Trinidad (shrimp and groundfish) and St. Vincent and the Grenadines (oceanic and coastal pelagics, and deep and shallow reef related demersal fishes). The resource assessment projects to be undertaken will be designed by the RAU staff in collaboration with the participating countries. CFRAMP fully recognises the migratory and shared nature of most of the pelagic species which are exploited by CARICOM Member States. Participation in the activities of ICCAT is seen as one of the most effective ways to acquire data and information on, and to contribute to overall knowledge and management of these resources.