



ISSN: 1995-1132

**CRFM Technical & Advisory Document Series  
Number 2012 / 6**

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# **CRFM Consultancy Report on Review of Existing Policy, Legal and Institutional Arrangements for Governance and Management of Flyingfish Fisheries in the Caribbean Large Marine Ecosystem**



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**CRFM Secretariat  
Belize  
May 2012**

# **CRFM Technical & Advisory Document – Number 2012 / 6**

## **CRFM Consultancy Report on Review of Existing Policy, Legal and Institutional Arrangements for Governance and Management of Flyingfish Fisheries in the Caribbean Large Marine Ecosystem**

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CRFM Secretariat  
Belize  
2012

## CRFM TECHNICAL & ADVISORY DOCUMENT – Number 2012 / 6

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Correct Citation:

Berry, David S., Tietze, Uwe. 2012. CRFM Consultancy Report on Review of Existing Policy, Legal and Institutional Arrangements for Governance and Management of Flyingfish Fisheries in the Caribbean Large Marine Ecosystem. CRFM Technical & Advisory Document – Number 2012 / 6. 99 pp.

**ISSN: 1995-1132**

**ISBN: 978-976-8165-56-5**

Published by the Caribbean Regional Fisheries Mechanism Secretariat  
Belize

## Foreword

The study documented in the present report has been completed as part of a contract awarded to the CRFM by the Caribbean Large Marine Ecosystem (CLME) Project “*Sustainable Management of the shared Living Marine Resources of the Caribbean Large Marine Ecosystem and Adjacent Regions*”. The aim of the CLME Project is to assist Caribbean countries to improve the management of their shared living marine resources through an ecosystem based approach. The CLME Project began on 1 May 2009 and will end on 30 April 2013. The Project implementing agency is the United Nations Development Programme (UNDP) in partnership with IOC of UNESCO and the executing agency is the United Nations Office for Project Services (UNOPS).

The aims of the CLME project are being addressed through regional-level and fishery / ecosystem-specific projects and studies. The Project seeks to evaluate and strengthen the technical-scientific information and knowledge base and to use this to inform the formulation of a Strategic Action Programme that will embrace a shared (ecosystem-based) management vision for the CLME, and to document agreed priority actions (policy, legal and investment reforms) for advancing the proposed ecosystem approach.

The CRFM is responsible for executing two Case Studies for the CLME project: these are aimed at strengthening the technical-scientific information and knowledge base and at examining options for promoting an ecosystem approach to fisheries governance for (i) the Eastern Caribbean flyingfish fishery and (ii) the large pelagic fishery. Readers should note that the present report is one of a set of four related reports that document findings of those SAP activities directed at the fisheries comprising the subjects of the two CRFM Case Studies, that is: (i) a review of existing policy, legal and investment arrangements for the governance and management of each of the two fisheries and (ii) stakeholder analyses for the two fisheries. In addition, readers should note that these four reports were reviewed and validated by stakeholders during a validation workshop, held in May 2012, and the report of this Workshop is published also as a CRFM Technical and Advisory Document.

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## Abbreviations and Acronyms

<b>BARNUFO</b>	Barbados Union of Fisherfolk Organizations
<b>CARIFIS</b>	Caribbean Fisheries Information System
<b>CCA</b>	Climate Change Adaptation
<b>CCRF</b>	Code of Conduct for Responsible Fisheries
<b>CERMES</b>	Centre for Resource Management and Environmental Studies
<b>CFRAMP</b>	CARICOM Fisheries Resources Assessment and Management Programme
<b>CLME</b>	Caribbean Large Marine Ecosystem
<b>COSAP</b>	Congrès pour l'Organisation Syndicale des Artisans Pêcheurs
<b>CRFM</b>	Caribbean Regional Fisheries Mechanism
<b>DRM</b>	Disaster Risk Management
<b>EAF</b>	Ecosystem Approach to Fisheries
<b>ECFFP</b>	Eastern Caribbean Flyingfish Project
<b>FAD</b>	Fish Aggregating Device
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FPAP</b>	Fédération Professionnelle des Armateurs à la Pêche
<b>ICZM</b>	Integrated Coastal Zone Management
<b>IQ</b>	Individual Quota
<b>IWCAM</b>	Integrated Watershed and Coastal Area Management
<b>JICA</b>	Japan International Cooperation Agency
<b>LAPE</b>	Lesser Antilles Pelagic Ecosystem
<b>LMP</b>	Land Based Marine Pollution
<b>LRS</b>	Licensing and Registration System
<b>NFO</b>	National Fisherfolk Organization
<b>OECS</b>	Organisation of Eastern Caribbean States
<b>SAP</b>	Strategic Action Programme
<b>SAPEM</b>	Syndicat des Artisans Pêcheurs et Eleveurs Marins
<b>SCPWG</b>	Small Coastal Pelagic Fish Resource Working Group
<b>SIMP</b>	Syndicat Indépendant des Marins Pêcheurs
<b>SLAC</b>	FAO Sub-regional Office for the Caribbean
<b>SMMA</b>	Soufriere Marine Management Area
<b>TAC</b>	Total Allowable Catch
<b>TDA</b>	Transboundary Diagnostic Analysis
<b>TIP</b>	Trip Interview Program
<b>UBN</b>	Unsatisfied Basic Needs
<b>UWI</b>	University of the West Indies
<b>WECAFC</b>	Western Central Atlantic Fishery Commission

## Executive Summary

Many of the marine resources in the Caribbean are considered to be fully or overexploited. A Transboundary Diagnostic Analysis identified three priority transboundary problems that affect the CLME: unsustainable exploitation of fish and other living resources, the degradation and modification of natural habitats, pollution and contamination. The fourwing flyingfish fishery is the single most important small pelagic fishery in the southern Lesser Antilles. It is a shared resource, which has been traditionally exploited by seven different States, i.e. Barbados, Dominica, Grenada, Martinique, Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago. With expanding fleet capacity and limited cooperation among the States exploiting the flyingfish, there is concern that the resource may become overfished. While the flyingfish fishery is a directed fishery, it is at the same time part of a multi-species, multi-gear fishery, which also targets regional large pelagic species.

Tagging and genetic studies suggest that there is a single stock of four-wing flyingfish within the southeastern Caribbean area expanding from Dominica to Trinidad and Tobago. This stock constitutes the management unit for the management and conservation of flyingfish in the southeastern Caribbean. An important ecosystem linkage of flyingfish concerns the growing longline fisheries for large pelagics in the region that depend on flyingfish fisheries for bait. Flyingfish is also an important component of the pelagic food web. Dolphinfinch is particularly vulnerable to any substantial decrease in the abundance of flyingfish. While no specific studies have been carried out in the Caribbean on the negative impact of land based human activities on the health of marine resources and fishery resources therein, it is assumed that flyingfish, which spend a part of their life cycle in coastal waters, might be negatively affected.

Weaknesses in the regional fisheries data collection system are of particular concern for flyingfish under an ecosystem management regime. The most recent regional flyingfish stock assessments carried out by WECAFC and CRFM concluded that the regional flyingfish stock is not currently overfished. The maximum recorded catch of flying fish in the Eastern Caribbean was determined by WECAFC as 4 700 tonnes. The assessments concluded that no immediate action was required by management to conserve the stock unless a significant increase in catches occurred and a trigger point of 5000 tonnes was established, when action would need to be taken to ensure that the stock does not become overfished. However this data has been subject to recent scrutiny and needs to be subject to further verification.

Most existing national fisheries management plans and policies are of a more generic and general nature, some still in draft form and in the process and need of being revised and updated. They do not contain any specific provisions for the management and conservation of flyingfish with the exception of, in some cases, meshsize regulations for gillnets. As far as ecosystem considerations and the involvement of fishery industry and other stakeholders in the formulation, implementation, evaluation and revision / updating of fisheries management plans through Fishery Advisory Committees and other means is concerned, it was observed that this was done in the past on an ad hoc basis and not in a consistent manner. Present fisheries management plans and regulations also do not address the important issue of cooperation and linkages with other Government agencies, authorities and stakeholders to deal with the degradation of coastal and aquatic ecosystems that might negatively affect the reproduction and health of flyingfish and other fish and organisms flyingfish depends on for food and reproduction.



Gaps also exist in relation to adherence in the region to major international treaties related to ocean governance, fisheries and environmental law. The report provides an overview of the international legal framework governing large pelagic fisheries. It examines and recommends ratification of the following treaties: the *United Nations Convention on the Law of the Sea*, the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks*, the *International Convention for the Conservation of Atlantic Tunas*, the *Agreement Establishing the Caribbean Regional Fisheries Mechanism*, the *Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement)*, the *Common Fisheries Policy Agreement*, the *Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*, the *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)* and the *Protocol concerning specially protected areas and wildlife to the Convention for the protection and development of the marine environment of the wider Caribbean region (the SPAW Protocol)*.

Given the likely concerns about reporting and other obligations under these treaties, the report also recommends utilising existing regional organisations and arrangements either as vehicles for treaty membership, or as mechanisms to assist their member states to fulfil their treaty obligations. The Western Central Atlantic Fishery Commission and the Association of Caribbean States, for example, are recommended as mechanisms for information sharing and consensus building, and both the Caribbean Community (CARICOM) and Organisation of Eastern Caribbean States (OECS) are recommended as a potential sub-Regional Fisheries Management Organisations.

Ocean governance principles and best practices, as set out in international non-binding instruments such as the FAO Code of Conduct for Responsible Fisheries, its related Plans of Action and Technical Guidelines, and the Castries Declaration on Illegal, Unreported and Unregulated Fishing, are recommended for adoption by states in the region. Such principles include using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach, and principles of good governance.

Unfortunately, national fisheries laws and regulations are generally silent about such principles. For this reason, national fisheries statutes and regulations must be revised and updated to conform to modern fisheries standards and to ensure that they appropriately implement international treaty obligations.

The recommendations in this report for improvements of fisheries management approaches, plans, measures, data collection and sharing are grouped with reference to the five stages of the fisheries management cycle, i.e. (1) generation of data and information, (2) analysis of data and information and generation of advice, (3) decision-making, (4) implementation and (5) review and evaluation. They include recommendations for improvements of flyingfish catch and effort data quality and sharing, recommendations for studies on ecosystem and trophic interactions as well as recommendations for economic and social evaluations of flyingfish fisheries to be carried out in cooperation with fishers' organisations and fishery industry. Substantial progress towards filling these information gaps needs to be made and regionally harmonized / compatible and up-to-date databases on vessels fishing for flyingfish, their fishing effort and catch need to be established.

As far as decision-making in the fisheries management cycle is concerned, representatives of national and sub-regional fisheries authorities and organisations are generally aware that flyingfish being a shared resource can only be managed at a sub-regional level. In case it is found that the trigger point of 5000 tonnes established by the Third meeting of the WECAFC ad hoc Flyingfish Working Group has been reached, it is recommended that CRFM should then advise their members through the recently established Ministerial Sub-Committee on flyingfish fisheries on how to limit and manage the overall catch of flyingfish. With a view to limit fishing effort, the allocation of total allowable fishing effort through limited licensing is recommended. Another management measure to be considered is the closing of the flyingfish fishery during a part of the season. However, the socio-economic implications of this measure need to be considered carefully in terms of the effects of a closure on the economics of fishing operations and on the supply of fish to processors and consumers and as bait to longline fisheries.

The management tasks should be carried out with technical advice from the CRFM/WECAFC Working Group on Flyingfish in the Eastern Caribbean. Implementation and review of flyingfish fisheries management would benefit from well functioning Fisheries Advisory Committees in the member states. Impact and outcomes of management decisions on flyingfish stocks, stakeholders and marine ecosystem should be regularly reviewed at the regional level and evaluated together with concerned stakeholders. Depending on the outcome of these evaluations, management plans and measures should be adjusted on a regular basis. Monitoring, control and surveillance should be carried out by the national fisheries authorities as well as by CRFM at the regional level. Nevertheless, although CRFM has the potential for such an RFMO role, its powers and capacity would need to be expanded in order for it to be effective.

## **1. Introduction**

### **1.1 Background**

Many of the marine resources in the Caribbean are considered to be fully or overexploited. The Caribbean Large Marine Ecosystem (CLME) Project focuses on assisting Caribbean countries to improve the management of their shared living marine resources through an ecosystem approach. A Transboundary Diagnostic Analysis (TDA) (CLME Project. 2011) identified three priority transboundary problems that affect the CLME: unsustainable exploitation of fish and other living resources, the degradation and modification of natural habitats and pollution and contamination. The TDA will serve as the scientific basis for the development of an agreed programme of interventions for the CLME, otherwise known as a Strategic Action Programme (SAP). The SAP will have a shared vision for the CLME and adjacent regions; agreements will be made regarding the priority interventions, reforms and investments required. The Caribbean Regional Fisheries Mechanism (CRFM) is the responsible agency for carrying out case studies to test governance models at the local, national, sub-regional and regional levels for the flyingfish fisheries.

The fourwing flyingfish (*Hirundichthys affinis*) fishery is the single most important small pelagic fishery in the southern Lesser Antilles. It is a shared resource which has been traditionally exploited by seven different States, i.e. Barbados, Dominica, Martinique, Grenada, Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago. With expanding fleet capacity and limited cooperation among the States exploiting the flyingfish, there is concern that the resource may become overfished.

This case study identifies and analyses the priority transboundary problems and issues. The policy, legal and institutional reforms needed to address such transboundary issues and achieve long-term conservation and sustainable use of the resources are also identified. A major and necessary component of the case study is an evaluation of the existing policy cycles and linkages among the countries and institutions involved with the flyingfish fishery.

### **1.2 Terms of Reference**

CRFM contracted two consultants to carry out the component of the case study aimed at analysing existing governance arrangements and proposing recommendations for their improvement. The consultants have expertise in international fisheries, environmental law and policy and fisheries governance and management.

The general objectives of the consultants' assignment were to:

- review and analyse existing policy, legal and institutional arrangements and investments for governance and management of the flyingfish fishery using the principles and standards established in international law and policy and best practices for the conservation and management of such transboundary resources as the benchmark for the exercise;
- identify policy, legal and institutional deficiencies and restrictions / constraints that may hinder effective transboundary governance and management of the flyingfish fishery;
- make recommendations to improve such policy, legal and institutional arrangements for the flyingfish fishery, including, as appropriate, identifying mechanisms for effective decision-making, implementation and ensuring compliance with the measures agreed upon to achieve long-term conservation and management of these resources.

Within the general objectives provided in the previous section, the specific objectives of the consultancy are:

- consult with relevant government departments and other relevant regional, sub-regional and local organisations in participating states for the relevant case study to obtain information on existing policies, laws, regulations and other fishery-related agreements and institutional arrangements for fisheries governance and management;
- review, analyse and assess the strengths, weaknesses and linkages of institutional arrangements that can support fisheries governance and management within the context of their respective policy cycles at the local, national and regional levels;
- determine the extent of incorporation and application of internationally recognized principles and standards for governance and management in existing policy, legal and institutional arrangements including:
  - (i) the ecosystem based management (EBM) approach,
  - (ii) the precautionary principle,
  - (iii) data collection and sharing,
  - (iv) data quality and provision of scientific advice
  - (v) stakeholder participation
  - (vi) transparency and accountability,
  - (vii) monitoring, control, surveillance and enforcement,
  - (viii) decision-making,
  - (ix) dispute resolution,
  - (x) sub-regional and regional cooperation, including cooperation with international organisations, other regional fisheries bodies as required,
  - (xi) adoption of conservation and management measures, including regulations, and
  - (xii) monitoring and evaluation
- determine to what extent fisheries policies and institutions are integrated into the wider national and regional frameworks for economic development and environmental protection and management;
- identify root causes and recommend practical reforms and interventions needed to address weaknesses in the policy, legal and institutional frameworks, taking into account the potential of the CRFM, including the CRFM Annual Scientific Meetings as a foundation and also a catalyst for addressing matters regarding the provision of scientific advice and the adoption and implementation of regionally agreed conservation and management measures (all interested States would be invited to participate);
- produce a draft and final report on the findings and recommended reforms, including the identification of a sub-regional/ regional decision-making forum and other policy, legal and institutional changes and investments needed at the local, national, sub-regional, and regional levels for effective fisheries governance and management using ecosystem based approaches, the precautionary and other relevant, internationally agreed principles and approaches.

The CRFM coordinated and provided administrative support throughout the assignment.

### 1.3 Travel Itinerary of Consultants

For the purpose of consulting with relevant government departments and regional, sub-regional organisations to obtain information on existing policies, laws, regulations and other fishery-related agreements and institutional arrangements for fisheries governance and management, the consultants carried out a twelve-day mission to the sub-region.

The mission included participation in the Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries (CCRF) in the Caribbean: Achieving Improved Fisheries Management and Utilization in the wider Caribbean Region. The workshop was held at the University of the West Indies, Cave Hill Campus, Barbados, from 6 - 9 December 2011. It was co-organized by FAO, the Ministry of Agriculture, Food, Fisheries and Water Resource Management of Barbados, the Centre for Resource Management and Environmental Studies (CERMES) and the Western Central Atlantic Fishery Commission (WECAFC). Many of topics discussed were relevant to the assignment of the consultants and the workshop offered an opportunity to interview representatives from Barbados, Dominica and regional organisations and consult with participants regarding the terms of reference of the assignment.

Following the participation in the regional workshop, the consultants visited Saint Lucia, Saint Vincent and the Grenadines, Grenada and Trinidad and Tobago. The persons met in these countries and their designations are shown in *Annex II* of this report. The travel itinerary of the consultants is shown below.

**Travel Itinerary of Consultants**

<b>Date of visit</b>	<b>Country</b>
6 – 10 December	Barbados
12 December	Saint Lucia
13 December	Saint Vincent and the Grenadines
14 December	Grenada
15 December	Trinidad
16 December	Tobago

Prior to and following the mission, various publications and documents were consulted with reference to the assignment; the more important ones are shown in *Annex III*.

## 2. Legal and Policy Framework

### 2.1 Introduction

In the past, international and national legal frameworks for fisheries governance have been limited due to their focus on single fish stocks, their strict geographically limited areas of national jurisdiction, and because they have relied heavily upon formal legal enforcement mechanisms. Recent literature on ocean governance, in contrast, has stressed key concepts such as the precautionary principle, the ecosystem based approaches to fisheries and environmental management (approaches that do not allow sole focus on a single stock), and the need for the use of, sharing and dissemination of, the best available scientific information. This literature has highlighted the inadequacies of the traditional legal approaches to fisheries management. As a result, it has suggested alternative forms of ocean governance, including regional ocean governance institutional networks, such as the Large Marine Ecosystem (LME) Governance Framework (Mahon *et al.* 2011a; Fanning and Mahon 2011). The latter is conceptualised on the basis of vertically and horizontally linked policy cycles operating on different geographical scales and at multiple levels, including local, national, regional and global levels (Mahon *et al.* 2011a). Such models

are particularly relevant to the Wider Caribbean Region, which is geopolitically complex in terms of diversity of size, development, culture, capacity, language, national and regional governance institutions (Mahon *et al.* 2011a). Such complexity in fact has been argued to reduce the governability of the Caribbean Sea Large Marine Ecosystem (Mahon *et al.* 2010).

However, as this report makes clear, it is inadvisable to shift the focus entirely away from formal rules and formal enforcement mechanisms. Such a shift would downplay an important part of fisheries governance architecture, which must be made up of several inter-related components. As argued by Garcia, fisheries governance requires three basic frameworks: '(1) a normative framework to elaborate the fisheries policy, plans, laws, and regulations; (2) an operational framework to control and regulate fishery production; and (3) a cognitive framework to provide the decision-support information' (Garcia 2010, p. 91). The optimum approach must combine the normative and operational frameworks (the formal legal architecture, including express rules, clear and binding decision-making processes, and legal enforcement capacity) with the cognitive framework (ocean governance data, principles and policies, including policy cycles). Successful fisheries management requires all three components.

For this reason the present legal governance analysis does not downplay the formal, international legal rules and processes created by treaties, and the need for express articulation of rules and policies in international and national law. It conceives of ocean governance as a multi-tiered, multifaceted and multidisciplinary process, one that requires formal legal rules and structures, but also policies, principles, data gathering, analysis and data sharing. Moreover, as highlighted in the ecosystem based approach, management of transboundary fisheries such as those involving flyingfish and large pelagic fish requires considerable cooperation between a wide range of actors, from states and state institutions, to fishers, to civil society, to national and international stakeholders in order for it to be successful.

Although flyingfish and large pelagic fish are the subject of two different reports, this report will refer to both together in many cases because of 'the multispecies nature of the pelagic fishery, which includes the flyingfish fishery', and because the two are closely related in actual fisheries practices in some jurisdictions (Mahon *et al.* 2007, p. 261). As pointed out by Mahon *et al.* (2007), at p. 261, '[n]ot only are flyingfish taken on the same trips as the large pelagics, and may constitute a significant proportion of the daily pelagic catch (particularly in Barbados), but they are also used as bait for the large pelagics'. In fact, the economics of the flyingfish fishery make the two fisheries 'largely inseparable' in the Eastern Caribbean (Fanning and Oxenford 2011, p. 231). As described by Fanning and Oxenford (2011), at p. 231:

*The directed flyingfish fishery is part of a multi-species, multi-gear pelagic fishery. While travelling to and from port and while the gillnets are soaking, fishers use hook and line gear, either trolled or stationary, to fish for regional large pelagic species, primarily dolphinfish, but also wahoo (Acanthocybium solandri) and, in Barbados, ocean triggerfish (Canthidermis spp). Flyingfish is used as the bait in the hook and line fishery. The economics of this fishery make the two activities largely inseparable, as neither is likely to be economically viable alone, and the major flyingfish catch comes from this troll/gillnet sector.*

Moreover because of the predator-prey relation of large pelagic fish and flyingfish, overfishing of the former may produce ripple effects throughout the food webs as a result of trophic linkages, potentially including trophic cascades (Fanning and Oxenford 2011; Rice and Ridgeway 2010; Singh-Renton *et al.* 2011). Dolphinfish, in particular, appear to have trophic linkages that make them highly sensitive to flyingfish biomass (Fanning and Oxenford 2011). In such a context, fisheries *governance* structures, institutions and rules for flyingfish, particularly in the context of an ecosystem-based approach, cannot avoid taking into account large pelagic fish, and *vice versa*.

## 2.2 General Role of International Law

In order to understand the strengths and limitations of a legal architecture for fisheries governance, a brief comment is necessary on the nature of international legal obligations and the relationship of international law and domestic law (the national law of a country). Several misconceptions continue to plague popular understandings and the literature regarding the role, and consequences, of specific international legal treaties.

There are two main binding sources of international law: (1) treaties, and (2) customary international law. Both of these sources impose formal binding commitments on all of the states subject to analysis in this report – Barbados, Dominica, France (with respect to Martinique), Grenada, St Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.

However, it must be emphasised that treaties generally only bind their parties (*Vienna Convention*, Articles 34 - 37). As a result when assessing ocean governance issues it is necessary to ascertain the precise treaty commitments that each state has undertaken, on a country by country basis, in order to be able to identify their exact obligations. Customary international law, in contrast, may be more general in nature, and can bind states without their express consent. Custom develops from the practice of states, when that practice is accompanied by the recognition of a legal obligation to behave in that manner. Customary international law can be global, regional and even local in nature (Brownlie 2008, pp. 6 - 12).

As a practical matter, the role of customary international law may be more limited in current fisheries governance. This is because proof of customary international law is very challenging, especially in fields that have experienced rapid evolution, such as the international law of fisheries. Proof of custom requires evidence of two elements, namely, the relevant level of (1) **state practice** – states engaging in the behaviour over a significant period of time (duration), with a high degree of uniformity (consistency and repetition), and generality (the number of states) – and (2) **opinio juris sive necessitatis**, the subjective recognition of the state that its behaviour is shaped by a binding obligation of international law (*Asylum Case, Nicaragua Case, North Sea Continental Shelf Cases*). Extensive historical and current evidence of state practice, including statements by the executive (which can demonstrate intention and the recognition of a legal obligation), will frequently be required.

For this reason, the present report will focus primarily upon treaty obligations, which are set out clearly, in writing, and are binding. Treaties are voluntary legal commitments which become enforceable under international law following both the formal consent of the state to be bound (usually by means of signature or ratification, depending upon the requirements of the treaty), and the entry into force of the treaty. A treaty that has entered into force imposes upon its parties binding international legal obligations, which must be performed in good faith (*Vienna Convention*, Article 26; Menon 1992, pp. 43 - 47; Shaw 2003, pp. 811 - 12). Once these obligations come into existence they bind the state as a matter of *international law*, even in the absence of any subsequent national legislative action. This distinction must be emphasised: treaties bind states that have dualist constitutional systems (all common law states) only as a matter of international law. Their effect in domestic law is highlighted below.

However, it also must be noted in this context that it is well established under international law that a state cannot invoke the provisions of its domestic law (or lack of provisions, including implementing legislation) as a justification for its violation of a treaty or customary international legal obligation (*Vienna Convention*, Art 27; *Alabama Claims Arbitration*). Thus treaties are binding as a matter of international law, and any non-compliance caused by domestic law is inexcusable. In addition, breaches of international law are enforceable at the international level; they cannot generally be enforced before domestic courts and tribunals.

## 2.3 Rules Regarding the Effect of International Law in the National Jurisdiction

International legal treaties and customary international law can become part of the domestic law of states in different ways. In the Commonwealth Caribbean customary international law is deemed to be part of the law of the land (Morrison 2001). However, the applicability of rules of customary international law in the domestic legal order is subject to (1) the overriding effect of statute law and, with one exception (*Trendtex*), (2) that of binding judicial precedent. As stated by Professor Ian Brownlie (2008, p. 41): ‘customary rules are to be considered part of the law of the land and enforced as such, with the qualification that they are incorporated only so far as is not inconsistent with Acts of Parliament or prior judicial decisions of final authority’.

Treaties, however, are not part of the law of the land in the Commonwealth Caribbean. They have no binding force in domestic law without transformation (*R v Lyons; Higgs; JH Rayner; Ex p Brind; Salomon*). This means that treaties generally require specific statutory enactment before they can give rise to rights and obligations in the national forum. Further, it is clear as a matter of the common law that a sovereign state is fully capable of complying with or breaching its international legal obligations. Although the common law recognises a rebuttable presumption that legislation should be interpreted so as to conform to treaty obligations (*Lyons; Bennion 2008*), ‘the sovereign power of the Queen in Parliament extends to breaking treaties’ (*Salomon*, p. 143). Thus a domestic court would be perfectly entitled to hold that domestic law is clear, and must be applied as such, even if its application involves the state in a breach of its international legal obligations (*Mortenson*). It must be emphasised in this context that breaches can involve acts of commission and omission (in other words, not implementing a treaty obligation in the domestic law).

The consequence of these rules is that states must not only be *parties* to treaties, they must also *convert or transform* those treaties (and in some cases customary rules) into domestic law in order for them to be effective in the national forum. This can be done by statutory enactment, but great care must be taken to properly, and fully, transform the international legal obligation into domestic law. Statutes which only partially transform international legal obligations are not only deficient; they may cause national actors, and the state itself, to be in breach of international law.

## 2.4 International Legal Rules and Frameworks

Two sets of international legal rules must be analysed in order to conceptualise a legal institutional governance framework for flyingfish fisheries management. The first set of rules includes the substantive rules governing fisheries management – those treaties and non-binding norms that establish management techniques, policies and principles. The second set of rules is found in those treaties that establish the institutional architecture necessary for fisheries governance. To be effective, these latter treaties must create international or regional organisations with subject-area competence, the capacity to make legally binding decisions, and which have effective dispute settlement and enforcement processes.

### 2.4.1 Substantive Multilateral Fisheries and Environmental Treaties

A number of treaties create obligations related to fisheries, including those related to flyingfish, for the states subject to analysis in this report. As noted below, one of the key recommendations of this report is for states to become parties to the multilateral treaties discussed below. This recommendation echoes the recent Resolution of the members of the Western Central Atlantic Fishery Commission on strengthening the implementation of international fisheries instruments, under which the members of WECAFC ‘AGREE TO MAKE ALL EFFORTS to become party to a legally binding international fisheries instrument where this has not yet been done’ (FAO 2012c, Appendix D). This recommendation is



essential for the simple reason that only states that are parties to treaties generally can benefit from the rights or obligations available under those treaties.

The seminal treaty in this area, the 1982 *United Nations Convention on the Law of the Sea (UNCLOS)*, sets up a global legal regime to regulate almost all matters related to the sea. It divides the ocean into various zones, over most of which states have sovereign powers, and within which ships have certain rights. Within the specific areas of the territorial sea and contiguous zone (Part II), the exclusive economic zone (EEZ) (Part V), and the high seas (Part VII), *UNCLOS* sets out rules related to fishing and conservation of marine resources. It also provides specific rules on the protection and preservation of the marine environment in Part XII of the *Convention*, and binding dispute settlement procedures in Part XV of the *Convention*. Disputes related to fisheries, however, may be expressly excluded from some forms of dispute settlement (*UNCLOS*, Article 297(3)), and this is an area of the *Convention* that has been subject to critical commentary for its weaknesses (Boyle 2001).

Because flyingfish are a transboundary fishery, they pass through most of the zones established in the *Convention*, including the territorial sea (extending up to 12 nautical miles (n.m.) from the baseline), the exclusive economic zone (extending up to 200 n.m. from the baseline), and the high seas (lying beyond the internal waters, territorial seas, archipelagic waters and exclusive economic zones of states) (*UNCLOS*, Articles 3, 57 and 86). As these fish pass through each area their use, conservation and management is subject to the specific rules of that area. Flyingfish are governed in particular by the overlapping rules applicable to the exclusive economic zone (*UNCLOS*, Articles 62 - 63). In the EEZ flyingfish are governed by a conservation regime based upon the concept of total allowable catch, the latter being determined by the coastal state (*UNCLOS*, Article 61). Article 61 provides guidance on how total allowable catch is to be determined, including through use of best available scientific evidence and through cooperation between the coastal state and competent international organisations. Further, Article 61(3) - (4) provides:

3. *Such [conservation and management] measures shall also be designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether sub-regional, regional or global.*
4. *In taking such measures the coastal State shall take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.*

Only after total allowable catch has been determined in line with the above, will the objective of optimum utilisation of EEZ resources arise (see *UNCLOS* Article 62). Optimum utilisation requires the coastal state to allow other states to have access to the surplus of the allowable catch (*UNCLOS*, Article 62(2)-(3); Vicuña 2001). As a result, the provisions of *UNCLOS* condition the fishing rights of distant water fishing states within a coastal state's EEZ upon the existence of a surplus of total allowable catch. The latter is determined by the coastal state, and disputes about such determinations can be excluded from the *UNCLOS* compulsory dispute settlement regime (Boyle 2001).

Coastal states are granted enforcement authority in their EEZs (*UNCLOS*, Article 73). However they are granted very limited enforcement authority by the *Convention* over fisheries on the high seas. Ships on

the high seas have been accorded the freedom to fish, subject to ‘due regard for the interests of other States in their exercise of the freedom of the high seas’ and the general conditions related to conservation and management of living resources of the high seas (*UNCLOS* Article 87 and Part VII, Section 2). The right to engage in high seas fishing is expressly made subject to (a) the requirement of respect for treaty obligations, (b) ‘the rights and duties as well as the interests of coastal States provided for, *inter alia*, in Article 63, paragraph 2, and Articles 64 to 67’ and by (c) Articles 117 - 120 (*UNCLOS*, Article 116). These cross references in Article 116, when examined together, make clear that high seas fishing is subject to conservation requirements and the ecosystem management approach (Vicuña 2001). High seas fishing is subject to conservation requirements for straddling stocks (Article 63), highly migratory species (Article 64), marine mammals (Article 65), anadromous species (Article 66) and catadromous species (Article 67). High seas fishing is also subject to the requirements that states (1) impose measures upon their nationals as necessary for conservation of the living resources of the high seas, and (2) cooperate with one another in the conservation and management of living resources in the areas of the high seas (*UNCLOS*, Articles 117 - 118). In addition, living resources in the high seas are subject to total allowable catch criteria (*UNCLOS*, Article 119). All of these latter conditions are enforced by flag states (states of nationality of the ships) upon their fishing vessels (*UNCLOS*, Articles 116 - 119). The importance of this flag state role is evident in light of the fact that the right of visit (inspection) of vessels on the high seas does not specifically include fisheries-related concerns (*UNCLOS*, Article 110; Vicuña 2001; Vukas and Vidas 2001). High seas fishing disputes can be brought under the *UNCLOS* compulsory dispute settlement regime. However questions arise as to whether straddling stocks are included (as high seas stocks) or excluded (as EEZ stocks) (Boyle 2001).

A final section of *UNCLOS* that must be mentioned is **Annex IX**, which is entitled ‘Participation by International Organizations’. This Annex specifically allows ‘an intergovernmental organization constituted by States to which its member States have transferred competence over matters governed by this Convention, including the competence to enter into treaties in respect of those matters’ to become a party to *UNCLOS* (Annex IX, Articles 1 - 3). Such organisational membership is open if a majority of the member states of the organisation are parties to *UNCLOS*. By becoming a party, the ‘organization shall exercise the rights and perform the obligations which its member States which are Parties would otherwise have under this Convention, on matters relating to which competence has been transferred to it by those member States’ and the ‘member States of that international organization shall not exercise competence which they have transferred to it’ (Annex IX, Article 4(3)). Thus, in relation to the competences which are entrusted to the organisation, for only those states which are parties to *UNCLOS* (Annex IX, Article 4(5)), the organisation effectively *replaces* the member states. As a consequence, the organisation itself assumes liability for those areas over which it has competence (Annex IX, Article 6(1)); if, however, it is unclear whether the organisation or its member states have competence over a particular area, liability is joint and several (Annex IX, Article 6(2)). Finally, the organisation can act in place of its members in relation to dispute settlement under *UNCLOS* (Annex IX, Article 7), with the proviso that disputes which would have gone to the International Court of Justice are to be settled by ‘arbitration in accordance with Annex VII, unless the parties to the dispute otherwise agree’ (Annex IX, Article 7(3)). The relevance of Annex IX to the Commonwealth Caribbean states studied in the present report, all of which are parties to *UNCLOS* in their own right, is that the provisions of Annex IX could be used to allow those states to delegate some of their competences to a regional organisation. As will be seen below, one of the suggestions of the report is that its subject states could delegate competences to a regional organisation such as CARICOM so as to gain the benefits of regional assistance and specialisation.

In sum, under *UNCLOS* coastal states are granted significant authority to manage fisheries in all areas except the high seas, with management in the latter area mainly being restricted to flag states. Therefore coastal states play a necessary, but not sufficient role in any governance or management regime for flyingfish fisheries.

Despite its limitations, the *UNCLOS* regime nevertheless represents a substantial improvement on the rules of the sea established by the four 1958 *Geneva Conventions*, the most relevant of which is the *Convention on Fishing and Conservation of the Living Resources of the High Seas* (1958 *Fishing Convention*). Under the latter *Convention*, parties have a duty to adopt measures for their ‘nationals as may be necessary for the conservation of the living resources of the high seas’ (Article 1). Conservation is defined in Article 2 as ‘the aggregate of the measures rendering possible the optimum sustainable yield from those resources so as to secure a maximum supply of food and other marine projects.’ Such a definition does not expressly embrace either the ecosystem based approach to fisheries or the precautionary principle. However, some writers have suggested that such principles are implicit in the term ‘conservation’ (Haughton 2011, p. 272). In addition the dispute settlement regime under the *Fishing Convention* is limited. Although under Articles 4 - 8 various disputes which might arise under the *Convention* are subject to the requirement for negotiations, and Articles 9 and 11 provide for the creation of a special dispute settlement commission whose decisions are binding, nevertheless the *Fishing Convention* itself – like any other treaty – remains binding only upon its states parties. Such factors lead Boyle (2001) to note at page 93 that ‘[t]he 1958 Fisheries Convention proved to be the least successful of the Geneva Conventions, and its dispute settlement provisions have also had no practical use.’

*UNCLOS* is supplemented by the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks*, which sets out principles for the conservation and management of such fish stocks, including those of the precautionary approach and use of the best available scientific information (Articles 5 - 6). Several subject states are parties to this *Agreement*: Barbados, Martinique (through France), St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago; however Dominica and Grenada are not parties. The *Agreement* provides a framework for cooperation in the conservation and management of straddling and highly migratory fish stocks by, *inter alia*,

- detailing minimum international standards for the conservation and management of straddling fish stocks and highly migratory fish stocks,
- ensuring that measures taken under national jurisdiction and in the adjacent high seas are compatible (Article 7),
- and ensuring effective compliance and enforcement mechanisms on the high seas and elsewhere (Articles 19 - 23).

The *Agreement* also requires compliance with three important principles / approaches, namely, the principle of preventative action (i.e., that action should be taken at an early stage, ideally before damage has occurred), the precautionary approach, and the principle of informed decision-making (Vicuña 2001). Importantly, parties to the *Agreement* are required to become members, or participate, in sub-regional or regional fisheries management organisations or arrangements that have the competence to establish conservation and management measures for particular straddling or highly migratory fish stocks (Article 8). Where none exists, Article 8(5) mandates the ‘relevant coastal States and States fishing on the high seas for such stock in the sub region or region [to] cooperate to establish such an organisation or enter into other appropriate arrangements to ensure conservation and management of such stock and shall participate in the work of the organisation or arrangement.’ Note, however, that the obligations in Article 8 are only imposed upon those states that are *parties* to the *Agreement*, not upon third states.

Articles 9 - 12 detail the nature, functions and obligations of such new sub regional or regional organisations. Article 13 also imposes an obligation to strengthen existing regional organisations and arrangements ‘in order to improve their effectiveness in establishing and implementing conservation and management measures for straddling fish stocks and highly migratory fish stocks.’ Article 17 obliges non-members or non-participants of organisations or arrangements (but which are parties to the

*Agreement*) ‘to cooperate, in accordance with the Convention and this Agreement, in the conservation and management of the relevant straddling fish stocks and highly migratory fish stocks’. It also authorizes member states to request cooperation of non-member fishing entities and to grant benefits commensurate with that cooperation. Further, Article 17(4) allows parties to ‘take measures consistent with this *Agreement* and international law to deter activities of such vessels which undermine the effectiveness of sub regional or regional conservation and management measures.’ This latter provision has led some to argue that the *Agreement* effectively forces non-parties to either join the sub regional or regional organisation, or to comply with the latter’s conservation measures (Vicuña 2001).

In terms of dispute settlement, the *Agreement* expressly imports the dispute settlement regime in Part XV of *UNCLOS* into its own text. Articles 30(1) and (2) of the *Agreement* stipulate that ‘the provisions relating to the settlement of disputes set out in Part XV of [*UNCLOS*] apply *mutatis mutandis* to any dispute between States Parties to this *Agreement* concerning the interpretation or application of’ (1) the *Agreement* or (2) ‘a sub regional, regional or global fisheries agreement relating to straddling fish stocks or highly migratory fish stocks to which they are parties,’ respectively. Both provisions apply regardless of whether the states concerned are also parties to *UNCLOS*. The *Agreement*’s importation of the *UNCLOS* dispute settlement regime has been subject to criticism, however, because it leaves unanswered questions about whether straddling stocks are covered by the *UNCLOS* compulsory binding dispute settlement provisions (Boyle 2001).

In sum, the *Agreement* sets up a robust regime for its states parties for the conservation and management of its subject stocks. But it should be remembered that as an international legal treaty, the *Agreement* only binds its states parties (see Article 33). Thus for a relevant obligation to attach to a state, it must either: (1) be specifically created by the *Agreement* for its states parties, (2) already exist as a result of other treaties (for those parties) or (3) arise from pre-existing rules of customary international law. As a matter of general international law, and the law of treaties, the *Agreement* cannot in and of itself impose binding obligations on non-parties without their express consent (*Vienna Convention*, Articles 34 - 37).

A treaty that will enhance fisheries management authority, particularly in relation to high seas fishing, is the FAO’s ***Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*** (*Port State Agreement*). The *Port State Agreement* is not yet in force and has attracted only a few signatures, the only ones relevant to this report being those of France and the European Union (FAO 2012d). Its objective is to prevent, deter and eliminate illegal, unreported and unregulated fishing (‘IUU fishing’) through the implementation of effective port state measures, and thereby to ensure the long-term conservation and sustainable use of living marine resources and marine ecosystems (Article 2). The *Port State Agreement* applies to most non-flag ships (Article 3) seeking to enter the designated ports of a state party (Article 7), and requires advance information from those ships prior to their entry into port (Article 8). The state party to the *Port State Agreement* can authorize or deny entry of non-flag ships into its ports if those ships are suspected of engaging, or have engaged, in IUU fishing (Article 9). A vessel authorized to enter a state party’s port can be inspected and sanctions can be taken against it if it is discovered to have been engaged in IUU fishing (Article 9(5)), and that vessel will not be allowed to use the port ‘for landing, transshipping, packaging, and processing of fish and for other port services including, *inter alia*, refueling and resupplying, maintenance and dry-docking’ (Article 9(6)). Such denial of use is subject to the requirements of assisting vessels in cases of *force majeure* or distress (Article 10). The *Port State Agreement* also has provisions on use of ports (Article 11), and inspections and follow-up actions, such as sharing of information about inspections to other states parties, regional fisheries management organisations, the FAO and other international organisations (Articles 12 - 16).

In terms of enforcement, states parties to the *Port State Agreement* are required to promptly notify the flag states of IUU fishing vessels and must deny such vessels use of their ports (with the exception of port

services essential for the safety or health of the crew or the safety of the vessel) (Article 18). Stronger enforcement measures against vessels are authorized under Article 18(3) if in conformity with international law ‘including such measures as the flag State of the vessel has expressly requested or to which it has consented’. Flag states are also obligated to take enforcement action against their vessels under the *Port State Agreement* (Article 20). In addition, Article 21 imposes requirements on states parties to assist developing states to comply with the *Port State Agreement* through, *inter alia*, technical assistance and funding. This provision is particularly important to the smaller states considered by this report and provides a strong incentive for them to consider ratifying the *Port State Agreement*. Dispute settlement is to be governed by consultations, negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice (Article 22(2)). However, in the event that a dispute proves intractable, then it is to be referred to the International Court of Justice, to the International Tribunal for the Law of the Sea or to arbitration (Article 22(3)). The latter obligation, however, is not compulsory and requires the consent of the parties. Finally, Article 28 allows regional organisations to participate on behalf of their members, at two levels: a regional organisation with full competence over such matters may join in place of its member states (Article 28(2)); a regional organisation without full competence may participate in the *Port State Agreement*, but does not thereby replace its member states (Article 28(1)).

**Recommendations:** the states studied in the report that are not parties to the *United Nations Convention on the Law of the Sea*, the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks* and the *Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* should become parties to all three treaties.

The *International Convention for the Conservation of Atlantic Tunas* (‘ICCAT Convention’) sets up the kind of regional fisheries organisation contemplated by the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks*. The ICCAT Convention is primarily concerned with managing large tunas and tuna-like fishes, including: Atlantic bluefin tuna (*Thunnus thynnus*), skipjack (*Katsuwonus pelamis*), yellowfin (*Thunnus albacares*), albacore (*Thunnus alalunga*) and bigeye tuna (*Thunnus obesus*); swordfish (*Xiphias gladius*); billfishes such as white marlin (*Tetrapturus albidus*), blue marlin (*Makaira nigricans*), sailfish (*Istiophorus albicans*) and spearfishes (*Tetrapturus pfluegeri*, *Tetrapturus georgii* and *Tetrapturus belone*); mackerels such as spotted Spanish mackerel (*Scomberomorus maculatus*), king mackerel (*Scomberomorus cavalla*) and Serra Spanish mackerel (*Scomberomorus brasiliensis*). ICCAT also now covers some shark species relevant to the Caribbean, including blue shark (*Prionace glauca*) and shortfin mako (*Isurus oxyrinchus*). In addition, the ICCAT Convention manages some small tunas like black skipjack (*Euthynnus alletteratus*), frigate tuna (*Auxis thazard*), and Atlantic bonito (*Sarda sarda*). However at present ICCAT does not actively manage other small tunas or tuna-like fishes of concern to the Caribbean, including Blackfin tuna (*Thunnus atlanticus*), Bullet tuna (*Auxis rochei*), Cero (*Scomberomorus regalis*), King mackerel (*Scomberomorus cavalla*), Wahoo (*Acanthocybium solandri*), and Dolphinfin (*Coryphaena hippurus*). These latter fisheries are studied by the Species Group on Small Tunas, but are not covered by any ICCAT regulations, and are not subject to any ICCAT management recommendations (ICCAT 2012).

Several of the present report’s subject states are parties to this *Convention*: Barbados, France (Martinique), St. Vincent and the Grenadines and Trinidad and Tobago. However Dominica, Grenada and St. Lucia are not parties. Although ICCAT does not expressly apply to flyingfish at present, given the interrelated nature of flyingfish and certain large pelagic stocks, it will be useful to provide an overview of its provisions. The ICCAT *Convention* creates a Commission (Article III), Council (Article V), Executive Secretary and Secretariat (Article VII), Panels for particular species, groups of species or geographic areas (Article VI), and various standing committees and other committees, including a Conservation and Management Measures Compliance Committee. The *Convention* stipulates that the Commission’s recommendations ‘shall become effective’ (presumably, become binding), but also

provides for exceptions to such ‘effectiveness’, such as in cases where there is an objection by more than one-fourth, but less than the majority of the parties. In such cases the recommendation shall be effective only for those not objecting (Article VIII). Parties to the *Convention* also agree to take all necessary action to ensure the enforcement of the *Convention*, including the adoption of measures to set up a system of international enforcement over its area (Article IX). Parties to the *Convention* include states and ‘any inter-governmental economic integration organisation constituted by States that 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 XIV (4)).

Regarding the latter, once such an inter-governmental organisation becomes a party, the *Convention* provides that the member states of that organisation must cease to be parties to the *Convention* in their own right (Article XIV (6)). In other words, the inter-governmental organisation *replaces* its members with respect to ICCAT membership. The European Union is the Contracting Party and has thus replaced those EU Member States which do not have overseas territories. In the Caribbean region, there are three possible organisations which could fall under Article XIV if they are delegated competence by their member states over such matters: the Association of Caribbean States (although it may be queried whether the ACS is an ‘inter-governmental *economic integration* organisation’), CARICOM, and the OECS. CARICOM, it should be noted, has had an observer status at ICCAT since 1991 and therefore has a long history of supporting the participation of its membership at ICCAT. However two consequences of ICCAT membership by an inter-governmental organisation should be highlighted. Firstly, the organisation is only entitled to the ‘same rights and obligations in respect of the provisions of the Convention as the other Contracting Parties’ (Article XIV (5)). This means that the organisation will only have the same voting rights as the other Contracting Parties (see Article III (3)), namely, one vote. As a result, if CARICOM joined ICCAT *in place of* its members, the fifteen potential votes of the individual CARICOM Member States would become one vote, that of CARICOM. Secondly, although Article XIV(4) could have different interpretations, on a plain textual reading it appears to require the transfer of competence over ICCAT matters by all CARICOM Member States prior to CARICOM being eligible to join ICCAT. Article XIV (4) reads:

4. *This Convention shall be open for signature or adherence by any inter-governmental economic integration organization constituted by States that have transferred to it competence over the matters governed by this Convention, including the competence to enter into treaties in respect of those matters. [Emphasis added.]*

Since the provision envisages transfer of competence by states to the organisation, it is assumed that such a transfer must be collective. Therefore it is likely that CARICOM would only be eligible to join ICCAT following the transfer of competence over ICCAT decisions by all CARICOM Member States.

ICCAT also embraces the status of cooperating non-contracting parties, which have included the regional territories of Guyana, Curaçao, Colombia and Suriname. As a result, the states of the Wider Caribbean Region can become parties to the ICCAT regime in their own right, or through a regional inter-governmental organisation; in the alternative, they can assume the lesser status of joining as a cooperating non-contracting party.

The ICCAT system has recently been subject to considerable scrutiny, including in a Report of the Independent Performance Review of ICCAT (ICCAT 2009). This Report recommended that ICCAT update its treaties to include reference to modern fisheries conservation and management approaches, including: the ecosystem approach, precautionary approach, fishing allocations and opportunities, flag State duties, port State duties, cooperative mechanism to detect and deter noncompliance, market-related measures, cooperating non-members and fishing entities, and relationship to non-cooperating non-

members (ICCAT 2009, p. 2). The Report also recommended strengthening both data collection and enforcement by parties, cooperating non-contracting parties, entities and fishing entities. In fact the Report's Panel expressed serious concerns about lack of compliance by members with ICCAT rules, and recommended the development of a strict and effective penalty regime to suspend or financially sanction parties and cooperating non-contracting parties for breaches (ICCAT 2009, pp. 4 and 75). It is hoped that these recommendations will be acted upon by ICCAT in the near future.

**Recommendations:** to the extent that ICCAT-regulated fish stocks affect their flyingfish ecosystems, CARICOM Member States not yet party to the *International Convention for the Conservation of Atlantic Tunas* should either become parties individually, or mandate CARICOM itself to become a party. The latter possibility would allow collective, or pooled, representation, which would be more cost effective and also would allow collective access to regional expertise. If CARICOM Member States wish to replace their individual membership with regional (CARICOM) membership, they should seek to negotiate a greater voting weight for CARICOM than that provided for in Article III. The OECS might likewise become a party to ICCAT, replacing its membership, and the same considerations would apply. In the alternative, as suggested below, CARICOM and OECS Member States could seek assistance from the relevant regional organisation to better enable them to participate in, and to better fulfil the obligations of, ICCAT. Non CARICOM Member States should become parties to the *Convention* in their own right. All parties should comply with their ICCAT obligations in full.

The *Western Central Atlantic Fishery Commission (WECAFC)*<sup>1</sup> has competence over 'all living marine resources' in its geographic area of focus (an area extending roughly from the north-east coast of the United States to the furthest south-east of the coast of Brazil, and embracing the entire Caribbean Sea) (FAO 2006a, Revised Statutes Article 4).<sup>2</sup> This area, and the membership of WECAFC, includes all of the states subject to the present report, and its species coverage necessarily includes flyingfish. As a result, WECAFC is a prime regional organisation for the purposes of promoting effective conservation, management and development of living marine resources. The central organ of WECAFC, as described in the Revised Statutes, is the Commission, which is to meet at least once every two years (Articles 5 - 7). The Commission is assisted by *ad hoc* bodies, such as the Scientific Advisory Group and the several WECAFC Working Groups (FAO 2012a). One working group relevant to the present study is the CRFM / WECAFC Flying fish in the Eastern Caribbean Working Group (see e.g., FAO 2012c, Appendix K). The earlier version of this Working Group prepared a Sub-regional Fisheries Management Plan for Flyingfish in the Eastern Caribbean (FAO 2010). The Commission's membership includes all FAO Members and Associate Members that are coastal states within the area of competence, or states whose vessels engage in fishing within the area of competence, and who notify the Director General in writing of their desire to be members (Article 5). Observers, including international organisations, may attend the meetings of the Commission and its subsidiary bodies (Article 9).

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<sup>1</sup> WECAFC is a regional organisation established by resolution of the Council of the Food and Agricultural Organization of the United Nations (FAO) in 1973: Resolution 4/61 of the FAO Council under Article VI (1) of the FAO Constitution, as amended.

<sup>2</sup> The Area of Competence of WECAFC is set out in Art 3 of its 2006 Revised Statutes (FAO 2006) as follows:  
'The Commission's area of competence shall be all marine waters of the Western Central Atlantic bounded by a line drawn as follows:  
'From a point on the coast of South America at 10° 00'S latitude in a northerly direction along this coast past the Atlantic entry to the Panama Canal; thence continue along the coasts of Central and North America to a point on this coast at 35° 00'N latitude; thence due east along this parallel to 42° 00' W longitude; thence due north along this meridian to 36° 00'N latitude; thence due east parallel to 40° 00'W longitude; thence due south along this meridian to 5° 00'N latitude; thence due east along this parallel to 30° 00'W longitude; thence due south along this meridian to the equator; thence due east along the equator to 20° 00'W longitude; thence due south along this meridian to 10° 00'S latitude; thence due west along this parallel to the original point at 10° 00'S latitude on the coast of South America.'

The Commission's objective is, without prejudice to the sovereign rights of coastal states, to promote the effective conservation, management and development of the living marine resources of the area of competence of the Commission in accordance with the FAO Code of Conduct for Responsible Fisheries, and to address common problems of fisheries management and development faced by Members of the Commission (Article 1). Article 2, in setting out the principles guiding the Commission, re-emphasises the importance of the FAO Code of Conduct and its related instruments, the precautionary approach, the ecosystem approach to fisheries and the importance of small-scale, artisanal and subsistence fisheries. Article 2 also requires the Commission to coordinate and cooperate closely with 'other relevant international organizations' on matters of common interest (Article 2(c) and 11).

The functions of the Commission, as set out in Article 6, are primarily facilitative. There is no express binding decision-making competence of the Commission. Rather, its role is to assist its members with their fisheries-related activities in its area of competence. The functions of the Commission include:

- contributing to improved governance through institutional arrangements;
- assisting members in implementing relevant international fisheries instruments;
- helping fishery managers in the development and implementation of fishery management systems;
- keeping under ongoing review the state of the fishery resources in the area;
- promoting, coordinating and, as appropriate, organizing or undertaking research and the collection, exchange and dissemination of statistical, biological, environmental and socio-economic data and other marine fishery information;
- providing the necessary support and advice to members on the best available scientific evidence;
- providing advice on management measures and MCS;
- promoting and facilitating the harmonization of relevant national laws and regulations, and the compatibility of conservation and management measures;
- assisting members in and facilitating, as appropriate and upon their request, the conservation, management and development of transboundary and straddling stocks under their respective national jurisdictions;
- assisting, as appropriate, members in preventing and, upon request of the interested parties, resolving fisheries disputes; and
- serving as a conduit of independent funding to its members for initiatives related to conservation, management and development of the living resources in the area of competence of the Commission (Art 6).

The Commission is required to submit reports to the Director General of the FAO regarding its activities and recommendations (Article 8). In sum, WECAFC serves a valuable role in helping to create and coordinate fisheries policies and management plans for the report's subject fish species, especially because all of the states subject to study in this report are also members of WECAFC. But since



WECAFC does not have binding decision-making or enforcement powers, it will be less useful in actual management and enforcement of fisheries obligations.

**Recommendations:** the states covered in the present study should more actively utilise the structures, resources and expertise of the *Western Central Atlantic Fishery Commission*. Although the WECAFC Commission cannot at present serve the role of a regional fisheries management organisation (RFMO), it can serve as a mechanism for information sharing and consensus building.

The *FAO Compliance Agreement* regulates fishing vessels (generally above 24 metres in length) of states parties that are used or intended for fishing on the high seas (Article II). Less than half of the report's subject states are parties to this *Agreement*: Barbados, Martinique (through France) and St. Lucia. The *Agreement* requires each party to expressly authorize fishing vessels flying its flag to fish on the high seas, and mandates that each party 'take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag do not engage in any activity that undermines the effectiveness of international conservation and management measures' (Article III). Such measures include sanctions, such as the refusal to grant, suspension or withdrawal of, authorisation (Article III). Parties are required to maintain a record of the fishing vessels they authorise to fish on the high seas (Article IV), and to cooperate with other parties (Article V), including through flag state notification and exchange of information with the FAO (Article VI). State parties are also required to cooperate to provide assistance, including technical assistance, to developing countries in order to assist them with their obligations under the *Agreement* (Article VII), and are mandated to encourage non-parties to act consistently with the *Agreement* and other rules of international law (Article VIII). However, as noted earlier, a provision such as the latter cannot bind third states to the *Agreement* without their express consent. Rather, it encourages the states parties to the *Agreement* to use legal means to bring pressure upon third states to act in conformity with its rules and principles.

**Recommendations:** the states whose flag ships engage in high seas fisheries, and which are not parties to the *FAO Compliance Agreement*, should become parties and seek to utilise the technical assistance provisions of the *Agreement* to their benefit.

The *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)* establishes obligations upon its states parties to 'endeavour to conclude bilateral or multilateral agreements including regional or sub regional agreements, for the protection of the marine environment of the Convention area' (Article 3). The 'Convention area' is defined as the 'marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30 deg north latitude and within 200 nautical miles of the Atlantic coasts of the States referred to in article 25 of the Convention' with the exception of internal waters (Articles 1 - 2). All of the report's subject states are parties to the *Cartagena Convention*: Barbados, Dominica, Grenada, Martinique (through France), St Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.

The *Cartagena Convention* establishes general obligations to prevent, reduce and control pollution both within and outside of the area and to ensure sound environmental management ('using for this purpose the best practicable means at their disposal and in accordance with their capabilities') (Article 4). It imposes obligations upon parties to cooperate in the formulation and adoption of protocols, and to cooperate with one another and 'with the competent international, regional and sub regional organisations for the effective implementation of this Convention and its protocols' (Article 4). Other provisions create obligations in relation to pollution from ships, dumping, land-based sources, sea-bed activities and airborne sources (Articles 5 - 9). Parties are also required to 'take all appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, in the Convention area' through protected areas (Article 10), as well as to undertake environmental impact

assessments (Article 12). The *Convention* also requires parties to cooperate in the areas of scientific research, monitoring and the exchange of data and other scientific information, both directly and through competent regional organisations (Article 13). In terms of institutional structure, the *Cartagena Convention* relies upon the United Nations Environment Programme to carry out Secretariat functions, and requires parties to meet in ordinary meetings once every two years (with provision for extraordinary meetings, if necessary) (Articles 15 - 16). The *Convention* also provides for *voluntary* dispute settlement, by negotiation or other peaceful means or, upon common agreement, through arbitration as stipulated in its Annex (Article 23 and Annex).

Overall the *Cartagena Convention* would be useful for the purposes of regulating environmental concerns, particularly pollution, related to flyingfish, especially since all of the states subject to study in this report are parties to the *Convention*. Nevertheless a careful reading of the *Convention* reveals that its provisions allow considerable flexibility in terms of the obligations assumed by states. Many articles impose an obligation to ‘endeavour’ to do something or to take ‘all *appropriate*’ measures. Such provisions would be difficult to legally enforce. In addition, the dispute settlement mechanism is voluntary and thus easily may be rendered ineffective by an uncooperative state.

The *Cartagena Convention’s Protocol Concerning Specially Protected Areas and Wildlife (SPAW Protocol)* specifically recognizes the ecosystem-based approach to environmental management and covers a slightly wider area than the *Convention* (including internal waters and terrestrial areas) (Preamble and Article 1). Most of the report’s subject states are parties to the *Protocol*: Barbados, Martinique (through France), St Lucia, St. Vincent and the Grenadines and Trinidad and Tobago. Dominica and Grenada are not parties. The *SPAW Protocol* creates a general obligation upon parties to ‘protect, preserve and to manage in a sustainable way ... threatened or endangered species of flora and fauna’, within their competences under international law and national law (Article 3). It also has provisions allowing parties to establish protected areas and protection measures, the latter including ‘the regulation or prohibition of fishing, hunting, taking or harvesting of endangered or threatened species of fauna and flora and their parts or products’ and ‘any other measure aimed at conserving, protecting or restoring natural processes, ecosystems or populations for which the protected areas were established’ (Articles 4 - 5). Parties may also establish buffer zones within areas under their legal control (Article 8). Over protected areas parties are required to adopt and implement planning, management and enforcement measures within their sovereign competences, including management guidelines and plans, the conduct of scientific research, and the development of public awareness and education campaigns (Articles 6 and 17). In addition, parties are generally required to cooperate and to establish cooperation programmes within their sovereign competences (Articles 7 and 11). Nevertheless management and protection measures may be subject to limited exemptions ‘to meet traditional subsistence and cultural needs of its local populations’ (Article 14). Parties are to report periodically to the Organisation (the UNEP) and the *SPAW Protocol* establishes a Scientific and Technical Advisory Committee, which is tasked with providing advice to parties (Articles 19 and 20). The UNEP serves as the Secretariat for the *Protocol* and meetings are to be held in conjunction with the ordinary meetings under the *Cartagena Convention* (Articles 22 - 23).

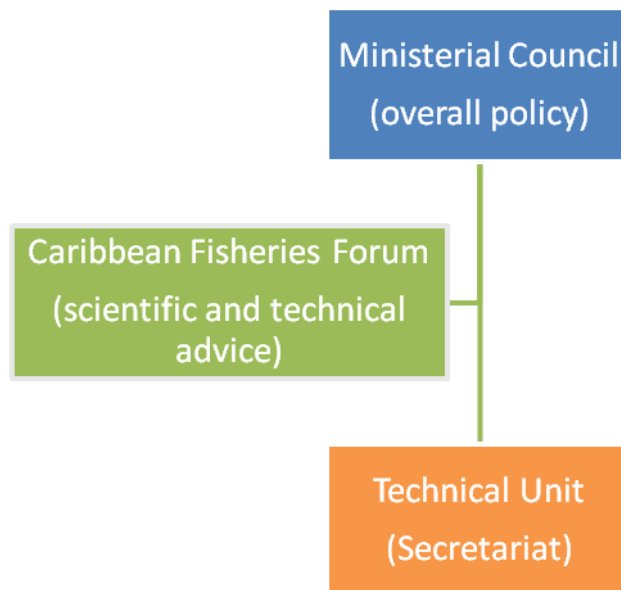
The *SPAW Protocol* would be useful for the purposes of protecting, preserving and to managing in a sustainable way threatened or endangered species. However, in order for it to apply to flyingfish they would need to be classified as such. Another challenge is that the *Protocol*, like the *Convention*, allows considerable flexibility in terms of the obligations assumed by states. Flexible and discretionary terms, as well as the overriding focus on individual state sovereignty and individual state action, may make the *SPAW Protocol* challenging to enforce at law.

**Recommendations:** if flyingfish become threatened or endangered then parties to the *Cartagena Convention* should utilise its mechanisms to cooperate to prevent pollution and the states not party to the *SPAW Protocol* should ratify it and use its framework to protect, preserve and to manage flyingfish.

The *Agreement Establishing the Caribbean Regional Fisheries Mechanism (CRFM Agreement)* establishes a regional fisheries organisation headquartered in Belize, the membership of which is open to CARICOM Member and Associate Member States, and ‘any State or Territory of the Caribbean Region which in [the Ministerial Council’s] opinion is able and willing to discharge its obligations under this Agreement’ (Articles 2 - 3). Non-CARICOM states can join the CRFM as Associate Members, via an association agreement. Of the states studied in this report the following are members of the CRFM: Barbados, Dominica, Grenada, St. Lucia, St. Vincent and the Grenadines and Trinidad and Tobago. Martinique is not a Member or Associate Member. However, scientists from these countries have participated in the CRFM Scientific Meetings (e.g., CRFM 2010b, Appendix 2).

The objectives of CRFM are: (a) to efficiently manage and sustainably develop marine and other aquatic resources within the jurisdictions of Member States, (b) to promote and establish co-operative arrangements among ‘interested States’ – including both Member States and non-Member States – for the efficient management of shared, straddling or highly migratory marine and other aquatic resources, and (c) to provide technical advisory and consultative services to fisheries divisions of Member States in the development, management and conservation of their marine and other aquatic resources (Article 4). The CRFM is guided by overarching principles, including use of the best available scientific evidence, facilitating resource sustainability, promoting awareness of responsible fisheries, and encouraging the use of the precautionary approaches to sustainable use and management of fisheries resources (Article 5).

*Diagram 1.0: Structure of Caribbean Regional Fisheries Mechanism*



The CRFM is composed of three organs: the Ministerial Council (made up of Ministers of Fisheries), the Caribbean Fisheries Forum (‘the Forum’), and the Technical Unit (Article 6). The Ministerial Council is tasked with determining the policy of the CRFM, promoting the efficient management, conservation and development of marine resources, and in general reviewing and approving the work of the Forum and the Technical Unit (Article 7). The Ministerial Council reports annually to two CARICOM organs: the

Council for Trade and Economic Development (COTED) and the Council for Foreign and Community Relations (COFCOR) (Article 7(3) (p)).

The Forum is made up of representatives of Members and Associate Members, and representatives of the following groups as Observers: fisher organisations, fishing companies, regional bodies and organisations, and NGOs (Article 8). The Forum is generally tasked with determining the scientific and technical work of the CRFM (Article 9). The Forum can establish sub-Committees and is assisted by an Executive Committee which functions between Forum meetings (Articles 10 - 11). The Forum's relevant functions include promoting the protection and rehabilitation of fisheries habitats and the environment generally, encouraging the establishment of effective mechanisms for monitoring, control and surveillance (MCS) of fisheries exploitation, recommending for approval arrangements for sustainable fisheries management and development in Member States based upon the best available technical or scientific data and information, and recommending for approval co-operative and other arrangements relating to fisheries (Article 9). Both the Ministerial Council and Forum are to meet in regular sessions once a year.

The CRFM's Technical Unit is composed of the Secretariat of the CRFM and is generally tasked with providing technical, consultative and advisory services to Member States in the development, assessment, management and conservation of marine and other aquatic resources and, on request, in the discharge of any obligations arising from bilateral and other international instruments (Articles 12 - 13). Important functions of the Technical Unit include (1) encouraging, supporting and, as appropriate, providing *effective regional representation* at relevant international *fora*, and (2) establishing a network of relationships comprising non-CARICOM states as well as CARICOM and non-CARICOM organisations, bodies and institutions whose work and interest coincide with that of the Mechanism (Article 13(c) and (l)).

The Annual Scientific Meetings of the CRFM will consider, amongst other things, the work of the CRFM / WECAFC Flying fish in the Eastern Caribbean Working Group (FAO 2012c, Appendix K). In addition the CRFM recently established a steering committee as part of the Caribbean Large Marine Ecosystem Project (CLME), the CRFM / CLME Eastern Caribbean Flyingfish Fishery Consultancy Steering Committee (CRFM 2011c), and created a Ministerial Sub-Committee on Flyingfish (CRFM 2011f, CRFM 2012b). The objective of the latter Sub-Committee, which was established by the Ministerial Council on 13 October 2011, is described as being 'to contribute through cooperation and consultation to the long-term conservation, management and sustainable use of the shared flyingfish resources, and protect and safeguard the ecosystems in which they are found in the Eastern Caribbean' (CRFM 2011f). The Sub-Committee's membership is to be comprised of both CRFM Member States and any 'other Caribbean States or Territories' having a real interest in the flyingfish fishery, with the proviso that membership of non-CRFM Member States is subject to the agreement of the Council (CRFM 2011f; see also CRFM 2012b). The terms of reference of the Sub-Committee have been approved by the Forum (CRFM 2012b), but are subject to formal adoption by the Ministerial Council at its next meeting. In sum, the CRFM thus possesses considerable expertise regarding the fisheries concerned and, as seen with its Ministerial Sub-Committee, allows the participation of non-CRFM Member States.

Decisions are made in the CRFM deliberative organs by consensus, or if not possible, by a qualified majority of three quarters of the Member States (Article 14). Associate Members are given the right to vote, but only on matters for which they are 'eligible' (Article 14(1)). Such matters include 'where decisions are being taken on management regimes to which they are parties or concerning fisheries which they share with other Member States' (Article 14(4)). Interestingly, Article 14(6) provides that if a Member State or Associate Member is absent from a meeting of any organ or body of the CRFM and is prejudiced by a decision taken at that meeting, it shall have the right to request a review of the decision. Disputes regarding the interpretation or application of the CRFM *Agreement* are to be resolved by the

Ministerial Council, and if that is not successful, are referred to arbitration in accordance with Article 30. Arbitration is compulsory, final and binding and can be referred by any Member State (Article 30 and 31(7)). Article 30 does not make provision for *Associate* Members to refer disputes to arbitration, and likewise Article 32, which allows for third party intervention in proceedings, appears to be confined to Member States. These provisions would prove problematic for potential Associate Members such as France (for Martinique).

**Recommendations:** non-Members should join the CRFM as Associate Members and fully participate in its activities. The CRFM's Technical Unit should be mandated to represent the membership on specific international bodies so as to allow the pooling of the expertise and resources of Members and Associate Members. The *CRFM Agreement* should be amended to allow Associate Members equal access to dispute resolution procedures.

The *Agreement Establishing the Caribbean Community Common Fisheries Policy (CFP Agreement)* is still in draft form and has not yet entered into force. However, it has significant potential for managing fisheries and thus merits discussion. The draft *Agreement* has been approved by the CRFM Ministerial Council (CRFM 2011a). However, before it will enter into force, the *Agreement* requires consideration by the CARICOM Council for Trade and Economic Development and the CARICOM Legal Affairs Committee, approval by the CARICOM Conference of Heads of Government (CARICOM 2011), and then signature by eight Member States of the Caribbean Community (Articles 25 and 27).<sup>3</sup>

The *CFP Agreement* establishes a framework for the Caribbean Common Fisheries Policy, one embracing the ecosystem approach to fisheries management and the precautionary principle (Article 1). It is open to the Member States of CARICOM as well as 'any other Caribbean State or Territory that is, in the opinion of the Participating Parties, able and willing to exercise the rights and assume the obligations under this Agreement' (Article 3). In terms of scope, the *CFP Agreement* applies to 'the development and management of fisheries and aquaculture; the conservation, sustainable development and management of fisheries resources and related ecosystems; the production, processing, marketing and trading of fishery and aquaculture products; and to the welfare of fishers' (Article 6.1). In terms of physical application, the *Agreement* covers areas under the jurisdiction of its parties, including on board fishing vessels flying their flags and, 'subject to the primary jurisdiction of the flag State when fishing takes place on the high seas or the coastal State when fishing takes place in the waters of a Third State,' to their nationals (Article 6.2). Thus the *CFP Agreement* applies to most fisheries-related activities, to the areas of ocean under national jurisdiction, to the flag ships of parties, and even in some cases to the nationals (citizens) of parties.

In its early provisions the *CFP Agreement* sets out a vision, a goal and objectives for its parties. The vision is one of 'effective cooperation and collaboration among Participating Parties in the conservation, management and sustainable utilisation of the fisheries resources and related ecosystems in the Caribbean region in order to secure the maximum benefits from those resources for the Caribbean peoples and for the Caribbean region as a whole' (Article 4.1). The goal is to 'establish, within the context of the Revised Treaty, appropriate measures for: the conservation, management, sustainable utilisation and development of fisheries resources and related ecosystems; the building of capacity amongst fishers and the optimisation of the social and economic returns from their fisheries; and the promotion of competitive trade and stable market conditions, so as to realise the vision' (Article 4.2). The objectives of the *CFP Agreement* include:

- promoting the sustainable development of fishing and aquaculture industries;

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<sup>3</sup> The draft copy of the *Agreement* relied upon by the author is that provided by the CRFM Secretariat.

- developing harmonised measures and operating procedures for sustainable fisheries management, post-harvest practices, fisheries research and fisheries trade and administration;
- preventing deterring and eliminating IUU fishing and establishing and maintaining monitoring, control and surveillance (MCS) systems;
- integrating environmental, coastal and marine management considerations into fisheries policy so as to safeguard fisheries and associated ecosystems from anthropogenic threats and to mitigate the impacts of climate change and natural disasters; and
- strengthening, upgrading and modernising fisheries legislation (Article 4.3).

The *CFP Agreement* also is expressly guided by several fundamental principles, including using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach, principles of good governance and the principle of subsidiarity (Article 5). The latter principle, which is also found in the law of the European Union, is described in Article 5(f) of the *CFP Agreement* as: ‘the principle of subsidiarity, in particular that the Competent Agency will only perform those tasks which cannot be more effectively achieved by individual Participating Parties.’ Since Article 1(d) defines ‘Competent Agency’ as meaning ‘an organisation designated by Participating Parties to support them in achieving the objectives of this Agreement’, the consequence of these provisions is that the legal goals of the *CFP Agreement* are to be achieved by relevant regional or international organisations only to the extent that member states cannot effectively do so.

In terms of commitments embodied in the *CFP Agreement*, Article 7 sets out a general undertaking, which mandates that parties ‘shall take all appropriate measures to secure the fulfilment of obligations arising under this Agreement and shall abstain from any measures which could jeopardise the attainment of its objectives’ (Article 7.1). The mechanisms for fleshing out these commitments are specified in Articles 7.2. and 7.3 which, respectively, require parties to adopt detailed rules for the implementation of the *CFP Agreement* by means of additional treaties (‘Protocols’), and to establish or designate a regional organisation as the ‘Competent Agency’ for implementing the *Agreement* and its Protocols. Article 7.3 also empowers parties to establish a new organisation for such purposes, if necessary. Article 20 sets out a lengthy list of topics for which parties are to prepare Protocols, namely, on: ‘(a) the Competent Agency; (b) research on fisheries and associated ecosystems; (c) harmonisation of fisheries legislation; (d) cooperation in monitoring, control and surveillance to combat illegal, unregulated and unreported fishing; (e) establishment of a common fisheries zone; (f) aquaculture; (g) establishment of a regional fisheries management organisation or arrangement; (h) sanitary and phytosanitary measures; (i) data and information sharing; (j) enforcement; (k) settlement of disputes; and (l) any other matter for which protocols are necessary for the implementation of this Agreement’ (Article 20.1). In the interim, prior to the creation of the Protocols, Article 20.2 authorizes parties to cooperate on arrangements of a provisional nature in the fields set out in Article 20.1. This is a very limited obligation since it merely *permits*, and does not mandate, provisional or interim cooperation. However, once the Protocols have been created, Article 20.4 specifies that the Protocols ‘shall form an integral part of this Agreement and, unless expressly provided otherwise, a reference to this Agreement includes a reference to the Protocols’. As a result, as a practical matter, each new Protocol will expand and further elaborate the scope of the *CFP Agreement* (for the parties to the *Agreement* and that Protocol).

Article 8 then specifies the role to be played by the Competent Agency, namely, to generally cooperate with and assist parties, including through: the provision of technical assistance and advice, making recommendations, coordinating or undertaking data collection, research and development activities,

identifying and mobilizing technical and financial resources, and supporting parties in their relations with third states and organisations (including in a collective representational role) (Article 8.1 and 8.2). In undertaking this role the Competent Agency must give effect and be guided, so far as possible, by the vision, goal, objectives and principles set out in Articles 4 and 5 of the *CFP Agreement*, as well as be guided 'by applicable principles set out in the [Caribbean] Community Agricultural Policy and the Fisheries Management and Development provisions of the Revised Treaty and by principles provided for in any other applicable international agreements concerning fisheries' (Article 8.3(b)). This latter provision is beneficial since it requires reference to international fisheries agreements and standards, but may be seen as limiting by non-CARICOM states because of its express linkage to the *Revised Treaty* and CARICOM policies. Such linkages are further solidified by the requirement that the Competent Agency report annually to CARICOM's Council for Trade and Economic Development (COTED) and the Council for Foreign and Community Relations (COFCOR) (Article 21.1). The Competent Agency, under Article 19, is also mandated to establish 'strategic alliances and partnerships with relevant agencies created by multilateral environmental agreements as well as regional fisheries management organisations and arrangements and other relevant national, regional and international agencies and organisations, whether governmental or non-governmental.'

Article 9 of the *CFP Agreement* recognises the discretion of parties under *UNCLOS* and 'other instruments' to enter into arrangements, including access agreements, with other parties and third states or international organisations, for the purposes of accessing fisheries in their respective waters. These arrangements and agreements are to take into account 'the objective of optimum utilisation and the provision of access to surplus fisheries resources' (Article 9.1). Moreover Article 9.2 also encourages parties, in collaboration with the Competent Agency, to develop opportunities and promote the equal participation of parties in high seas fisheries and fisheries within the national jurisdictions of third states. Article 10 sets out provisions to enable fisheries sector development, by improving the welfare and socio-economic conditions of fishers and fishing communities. Article 11 sets out requirements for parties, individually, together, or in collaboration with the Competent Agency or relevant regional and international organisations, to collect and compile fisheries catch and effort data, to conduct fisheries-related research, to develop and maintain national and regional databases, to develop standards for data and information sharing, and to analyse that data and disseminate the results of the analysis, subject to 'any confidentiality requirements'. Article 12 sets out obligations for parties to 'formulate, adopt, implement and revise conservation and management measures and, where appropriate, fisheries management and development plans on the basis of the best available information, including traditional knowledge' and in doing so the parties 'shall, where appropriate, seek to adopt harmonised measures, legislation, plans or strategies' (Article 12.1 and 12.3). Importantly, Article 12.4 requires parties to 'cooperate with regional fisheries management organisations and, as appropriate, other international organisations in the management of shared, straddling and highly migratory fish stocks'. This provision mandates close cooperation with regional organisations such as ICCAT, but imposes the obligation upon the *parties*, rather than, say, the Competent Agency. It also does not specify the exact nature of the cooperation contemplated.

Article 13 requires parties to take into account available fisheries resources and fishing capacity when registering and licensing fisheries-related activities, and sets out requirements in relation to national registers of fishing vessels and national licensing systems, with the goal of cooperating with the Competent Agency to establish a regional fishing fleet register and developing harmonized procedures and common standards for licensing systems. Article 14 sets out obligations imposed upon parties in relation to enforcement measures. Parties are to develop 'either directly or through cooperation with other Participating Parties or the Competent Agency' the inspection and enforcement measures that are necessary to ensure compliance with the rules of the *CFP Agreement*, national regulations relating to fisheries, and the rules of international law, binding on the party concerned (Article 14.1). Article 14.3 further describes the necessary MCS mechanisms that must be developed and utilized by parties,

including vessel monitoring, at port and at sea inspections, and the implementation of appropriate and effective sanctions against violators.

Article 15 sets out the terms for confidentiality, ownership, and intellectual property of nationally-produced data and data produced by the Competent Agency, and Article 16 sets out the obligations of parties and the Competent Agency in relation to the dissemination of data, and regarding notifications of localized threats to fisheries and marine ecosystems. Article 17 attempts to satisfy the goals of transparency and greater public awareness by setting out obligations for parties in relation to informing stakeholders of the status of the *CFP Agreement*, and increasing *Agreement*-related knowledge and awareness, including through educational programmes and institutions. Article 18 sets out obligations for parties, potentially in collaboration with other parties, third states, the Competent Agency or relevant international organisations, in relation to the marketing and trade of fisheries resources. These obligations include the development of harmonised food quality assurance legislation, harmonised intra-regional SPS measures, common marketing standards for fisheries and aquaculture products, and national or common policies related to fisheries marketing. These Article 18 obligations, however, are expressly subject to the obligations of parties under the *Revised Treaty* and World Trade Organisation agreements and other relevant international standards (Article 18.2). The latter limitation creates a potential for friction between CARICOM and non-CARICOM states, since the *Revised Treaty* regime establishes rights exclusively for its membership.

The final provisions of the *CFP Agreement* create a process for review of the *Agreement*, in light of its vision, goal and objectives, 5 years after its entry into force (Article 21.2 - 21.3), establish the CARICOM Secretary General as the *Agreement's* depository (Art 24), and specify the eligibility requirements for becoming a party to the *Agreement*. The latter specify that any CARICOM Member State and, upon consent of a majority of the parties 'any other Caribbean State or Territory', may become a party (Articles 25 - 26). In addition, Article 23 stipulates that dispute settlement regime established by CARICOM's *Revised Treaty* is to apply to disputes regarding the interpretation or application of the *CFP Agreement*, even to disputes between those states that are not parties to the *Revised Treaty*. This provision is interesting because it essentially imports a dispute settlement regime contained in a separate treaty, into the *CFP Agreement*, and applies it to all parties to the *Agreement* even if they are in no way connected with the treaty which constitutes the dispute settlement regime. As seen above, such an approach is also adopted in the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks*.

However, the dispute resolution provision in the *CFP Agreement* could face objections from non-CARICOM states, such as France (for Martinique), and even non-parties to the *Revised Treaty*, such as The Bahamas, since the *Revised Treaty* dispute settlement regime was created specifically for CARICOM and contains its own idiosyncrasies (such as the elaborate rules for consultations and the possibility of pre-existing lists of mediators, conciliators and arbitrators) (*Revised Treaty*, Chapter IX). In addition, since Article 23 of the *CFP Agreement* specifies that the rules of the *Revised Treaty* are to be applied *mutatis mutandis* (in the same manner, but with any necessary modifications), it may be possible to invoke the original jurisdiction of the Caribbean Court of Justice to resolve a dispute under the *CFP Agreement*. Such possibilities may create concern for non-parties to the *Revised Treaty*, since they will impose an unfamiliar regime over their disputes; they may even create concerns for parties to the *Revised Treaty*, since the disputes under the *Agreement* are likely to require very specialized knowledge of the law of the sea, the international legal rules related to fisheries, and specialized areas of knowledge related to fisheries management and conservation. The *CFP Agreement* regime also may be resisted if parties to a dispute feel limited in their choice of appropriate members for a dispute settlement panel by the provisions of the *Revised Treaty*. In this regard it is interesting to note that Article 28 of the *CFP Agreement* allows parties to withdraw from the *Agreement*.



In sum, the *CFP Agreement* establishes what could become a very strong and comprehensive framework for an ecosystem-based approach to fisheries management. By adopting the model of a framework treaty, which is then to be supplemented by future Protocols, it allows a kind of *a la carte*, incremental approach to development of rules related to fisheries management, conservation, sustainable utilisation and development. This could prove vital since smaller Protocols will be easier to negotiate than a single, comprehensive treaty.

**Recommendations:** states should ratify the *CFP Agreement* and use its vision, goals, objectives and principles to guide their fisheries management and conservation policies and practices. As a first step, following the entry into force of the *Agreement*, the parties should prepare a Protocol establishing the Competent Agency. The Competent Agency could be created for the *CFP Agreement*. But a more efficient strategy would be to re-tool an existing agency, such as the CRFM Technical Unit, to enable it to take on the added responsibilities of the Competent Agency under the *CFP Agreement*. If the CRFM Technical Unit is selected to play this role, additional competences and resources will need to be provided to it so as to enable it to fulfil its new functions.

The *Agreement Establishing Common Fisheries Surveillance Zone of Participating Member States of the Organisation of Eastern Caribbean States* establishes Common Fisheries Surveillance Zones for states parties within their fishery waters, fishery limits and EEZs (Article 1), but only for the purposes of surveillance and enforcement of the fisheries laws of member states (Article 2). It designates authorized officers (Article 3), who can act in the Common Fisheries Surveillance Zones (Article 4), and who are empowered under Article 5 to:

- stop, board and search fishing vessels;
- require to be produced, and inspect, licences and fishing gear;
- take samples of fish;
- seize any vessel (including gear, cargo and stores) believed to have been used in the commission of an offence;
- seize fish, explosives or poison, and arrest the crew.

In the exercise of the latter power, the *Agreement* requires the delivery of the vessel and crew to the police at the nearest and most convenient port of a participating state (Article 6). The *Agreement* allows hot pursuit beyond the limits of the Zone (Article 8). In its final provisions the *Agreement* also requires Member States to introduce legislation and regulations to give it effect within their national laws (Article 13).

In what appears to be an Annex to the *Agreement* (it is not labelled) the Zones are designated as falling into four areas: (1) the Northern Zone – which includes British Virgin Islands (BVI) fishery waters, (2) the North Central Zone – which includes the fishery waters of Antigua and Barbuda, St. Kitts and Nevis and Montserrat, (3) the South Central Zone – which includes Dominica’s fishery waters, and (4) the Southern Zone – which includes the fisheries waters of Grenada, St. Lucia and St. Vincent and the Grenadines. It also specifies that ‘[i]n the absence of negotiated boundaries the equidistant [*sic*] principle will be the method used in delimiting the boundaries of these zones in accordance with international law’ and, further, that ‘Zones may be delimited by geographical coordinates as and when OECS Member States complete boundary delimitation with neighbouring States.’ This penultimate statement is of interest because it suggests the application of the equidistance principle to the delimitation of the

maritime boundaries of OECS states. But technically it only applies to the delimitation of boundaries for the *Zones*, not to the EEZs or other maritime boundaries of Member States *per se*. In sum, this *Agreement* provides a useful example of coordinated monitoring, control and surveillance by member states of a Caribbean regional organisation. But comments from the staff of the OECS indicate that the *Agreement* regime has fallen into desuetude, primarily as a result of the lack of resources (including vessels and funding) available to implement its provisions (e.g., Murray 2011).

**General Recommendation:** the states of the Wider Caribbean Region should be encouraged to ratify all of the multilateral fisheries and environmental treaties surveyed in this report, either as individual states or through a representative regional organisation. Such a move would ensure both the consistency of their treaty obligations and their participation in, and awareness of, related fisheries and environmental developments. The concern expressed about the already onerous obligations assumed by some member states in relation to treaties (in terms of legislative requirements and reporting obligations), could be addressed by representative membership through a regional organisation, or by means of technical assistance by a regional organisation.

#### 2.4.2 Substantive Bilateral Fisheries Treaties

Three bilateral treaties related to fisheries have been, or currently are, in place between the states subject to the present report: an expired *Fishing Agreement* between Barbados and Trinidad, an *EEZ Cooperation Treaty* between Guyana and Barbados, and a *Fisheries Agreement* between the EEC (now EU) and Dominica.

The *Fishing Agreement between the Government of the Republic of Trinidad and Tobago and the Government of Barbados* entered into force on 23 November 1990 but was specified as having a duration of one year, from 1 January to 31 December 1991. The *Agreement* allowed access of not more than forty Barbadian fishing vessels into the Exclusive Economic Zone of Trinidad and Tobago for the purposes of harvesting flyingfish and associated pelagic species, in exchange for access by fish vendors from Trinidad and Tobago in the Barbados market (Articles II and IV). The term ‘associated pelagic species’ was defined to include ‘dolphinfish, sailfish, kingfish, wahoo, tuna and shark’ (Article II). The terms of the *Agreement* were quite specific and, when paired with its limited duration, it may not provide a useful general model for more regional fisheries management. In fact, it engendered significant controversy in the subsequent *Barbados-Trinidad Maritime Boundary Arbitration* in relation to its precise meaning, and consequences, for the maritime boundary claims of the two states.

The *Agreement* specified maximum size limits, engine power and storage capacity for these vessels, and prohibited fishing within closed areas (Article III). Additionally, fishing under the *Agreement* was regulated in terms of gear: it only allowed the use of surface gill nets, hand dip nets and not more than 6 drifting surface hand-lines each containing not more than one hook (Article III(2)(ii)). The *Agreement* specified an authorised fishing period of January 1 to April 30, 1991, and stipulated that each vessel could only have a maximum of four crew members, including the master (Article III). Barbadian vessels fishing under the *Agreement* in Trinidad and Tobago waters were required to comply with the latter’s laws (Article IX). Furthermore, fishing licences under the *Agreement* could not be directly transferred, nor was the use of mother ships permitted. Masters of vessels had to report to the Trinidad Coast Guard and maintain logs of their catches (Article III). Under Article IV the *Agreement* also provided access for approved Trinidad and Tobago fish vendors to the Barbados market, which access was restricted in terms of tonnage of fish (300 metric tons total), timing of landing and tonnage per fish stock. The *Agreement* also established a Trinidad and Tobago / Barbados Fisheries Commission to supervise and coordinate its implementation and to assist in the resolution of disputes (Articles V and X). The parties also agreed to exchange fisheries data and to engage in technical cooperation activities (Article VII). Further provisions

contemplated the access of Trinidad and Tobago vessels into Barbadian waters, but only following negotiations (Article VIII). The *Agreement* also expressly preserved each party's rights over its ocean areas, which were not to be affected by the *Agreement* (Article XI).

***The Exclusive Economic Zone Co-Operation Treaty between the Republic of Guyana and the State of Barbados concerning the Exercise of Jurisdiction in their Exclusive Economic Zones in the Area of Bilateral Overlap within Each of their Outer Limits and beyond the Outer Limits of the Exclusive Economic Zones of Other States*** was concluded on 2 December 2003, and entered into force 30 days after the two parties notified each other that their respective requirements had been met (Article 12). The *Treaty* establishes and regulates a Co-operation Zone 'for the exercise of joint jurisdiction, control, management, development, and exploration and exploitation of living and non-living natural resources, as well as all other rights and duties established in the Convention [UNCLOS], within the area over which a bilateral overlap occurs between their exclusive economic zones and beyond the outer limits of the exclusive economic zones of other States' (Article 1(1)). This Zone is specified to be without prejudice to the eventual delimitation of the Parties' respective maritime zones (Article 1(2)), and in fact, the *Treaty* contemplates the delimitation, by agreement, of an international maritime boundary between the parties at a later date (Article 2(3)). As a result, the *Treaty* can be characterized as an interim agreement, created to manage an area of overlap in potential maritime territory. Although it sets out some joint management mechanisms, many of the provisions require further agreement and thus it may not serve as a particularly useful model for the rest of the Caribbean.

The *Treaty* provides for the exercise of joint civil and administrative jurisdiction by the parties in the zone, as evidenced by agreement in writing (Article 3), subject to a requirement for due regard to the rights and duties of other states in the Zone, in particular those set out in Article 58 of UNCLOS. It provides for the exercise of joint jurisdiction by the parties over the living resources of the Zone, and requires them to coordinate the management of the living resources therein (Article 5). Article 5(1) further requires the parties, in the exercise of this joint jurisdiction, to 'act at all times in accordance with generally accepted principles of international law', UNCLOS and the *UN Straddling and Highly Migratory Stocks Agreement*. Under Article 5 of the *Treaty* the parties agree to enter into a Joint Fisheries Licensing Agreement, which is to be enforceable through application of national law (Article 5). Under Article 6 of the *Treaty* the parties agree to exercise joint jurisdiction over non-living resources, which shall be managed by a Joint Non-Living Resources Commission, which is to be established. An enforcement mechanism is provided in Article 7, under which the parties agree to establish procedures to police the Zone. However, prior to the establishment of such a security agreement, the *Treaty* also allows each party to unilaterally exercise defence and criminal jurisdiction in the Zone to the same extent it does in its EEZ outside of the Zone. Finally, Article 8 establishes obligations for the parties in relation to the preservation and protection of the marine environment, as well as with respect to informing one another about potential threats to the marine environment in the Co-operation Zone.

***The Agreement on Fisheries between the European Economic Community and the Government of the Commonwealth of Dominica***, regulates the fishing of EU vessels registered in Guadeloupe and Martinique in Dominica waters (the fishing zone of Dominica) and the fishing of Dominica vessels in the EU fishery zone off the coast of the French Departments of Guadeloupe and Martinique (the fishing zone of the Community) (Article 1). It requires each party to grant access to the other party's vessels in accordance with its terms (Article 2). It also requires them to 'cooperate to ensure the conservation and rational management of the fishery resources of the sea and to facilitate the necessary scientific research' regarding stocks occurring within the fishing zones of both parties and in adjacent areas (Article 3(1)). These measures are to 'take into account the best scientific advice available to them, the interdependence of stocks, the work of appropriate international organisations such as the Western Central Atlantic Fishery Commission and other relevant factors' (Article 3(4)). The parties also agree to consult and to try to reach agreement with third parties on conservation and rational utilisation measures (Article 3(2) - (3)), as well

as to consult on the number and size of vessels of either party to be granted access (Art 4). In the event of an imbalance in access, the *Agreement* requires the EU to grant financial compensation to Dominica (Article 5). The number and size of vessels, as well as amounts of licence fees, is set out in the *Protocol between the European Economic Community and the Government of the Commonwealth of Dominica on conditions relating to reciprocal access for fishing vessels of both Parties*. This *Protocol* also stipulates the compensation amounts provided for in Article 5, as well as grants awards to Dominica nationals for study and practical training in relation to fisheries.

In addition, each party is required to ensure that its vessels observe the provisions of the *Agreement* and the rules and regulations governing fishing in the other's fishing zone (Article 6). Measures taken by each Party to regulate fisheries for the purpose of conservation must be based on objective and scientific criteria and shall not discriminate in fact or in law against the other Party (Article 6(5)). The *Agreement* also requires consultations (Article 8), specifically for the introduction of new measures which will have a considerable effect upon fishing activities (Article 7). A Joint Committee is also established under the *Agreement* to ensure its correct application (Article 9). The *Agreement* is specified to be in force for an initial 3-year period, but automatically extends unless a notice of termination is provided (Article 13).

In sum, the *Agreement* represents a kind of fisheries access and management framework for the two parties. It provides a mechanism to allow territories governed by very different legal regimes – Martinique being part of France and therefore governed by EU fisheries law, and Dominica being a Commonwealth Caribbean country governed by regional and international treaties – to maintain traditional fishing possibilities within a conservation and rational management framework.

**Recommendations:** arrangements similar to the *Agreement on Fisheries between the European Economic Community and the Government of the Commonwealth of Dominica* should be pursued, either (1) between states adjacent to the French territories in the Eastern Caribbean and the EU, or (2) between the EU and a Caribbean regional organisation such as the OECS, CRFM, CARICOM or the ACS. Such new treaty arrangements should explicitly adopt principles such as: using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach, and principles of good governance. The *CFP Agreement* may serve as a model from which to draw relevant principles, goals and objectives.

### 2.4.3 Non-Binding Instruments Related to Flyingfish

A number of non-binding instruments, including declarations, codes, plans of action and guides, set out principles and voluntary norms that will assist in the management of flyingfish in the Wider Caribbean Region. They are complemented by the literature on ecosystem-based fisheries management which describes a range of guiding principles for ocean governance (Mahon *et al.* 2011c). They supplement the treaties discussed above and provide guidance for both states that are parties, and not parties, to these treaty regimes.

Nevertheless a note of caution must be sounded in the context of such instruments. Non-binding international legal instruments are simply that: not binding. States do not have to comply with them. At most, at a formal level, they have a persuasive or guiding role. This is not to say that they are ineffective. In many areas of international activity states value guidance regarding best practices and will seek to comply with such norms. For example, the UN's Universal Declaration of Human Rights is an instrument that has played a profound role in modifying the behaviour of states even though it remains non-binding. In addition, over time some non-binding instruments can give rise to binding obligations through the generation of customary international law. This is said to have occurred in relation to the Universal Declaration of Human Rights. If a non-binding instrument gives rise to a binding customary

international legal rule, compliance with the customary rule (not the non-binding instrument, which remains such) becomes mandatory for all states.<sup>4</sup>

Important non-binding instruments that are relevant to flyingfish include Chapter 17 of the United Nation's Agenda 21 (UNGA 1992), the FAO Code of Conduct (FAO 1995), the FAO International Plan of Action for the Management of Fishing Capacity (FAO 1999), the FAO International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (FAO 2001), various FAO Technical Guidelines for Responsible Fisheries, FAO International Plans of Action related to sharks, seabirds and illegal, unreported and unregulated fishing, the UN General Assembly Resolution on the Caribbean Sea (UNGA 2005), and various UN General Assembly resolutions on sustainable fisheries (e.g., UNGA 2009, UNGA 2010a, UNGA 2011; see also Haughton 2011).

In the Caribbean sub-region one non-binding instrument deserves special mention, namely the **Castries Declaration on Illegal, Unreported and Unregulated Fishing**. The Castries Declaration was promulgated by the CRFM at the Second Special Meeting of the Ministerial Council in St. Lucia in 2010. It notes that Caribbean states are particularly vulnerable to illegal, unreported and unregulated (IUU) fishing and that such fishing is practiced by both local and foreign vessels (Preamble). It also declares that the Member States of the CRFM are 'determined to work together and with other stakeholders, including regional and multilateral partners to identify, prevent, deter and eliminate IUU fishing within the Caribbean and globally' (para 1). To do so the Member States resolve to implement the international legal principles and rules noted in the Preamble – in a comprehensive and integrated approach to prevent, deter and eliminate IUU fishing – including by emphasising the primary responsibility of the flag state in accordance with international law, port state, coastal state, and market-related measures, and measures to ensure that nationals do not support or engage in IUU fishing (para 4(i)). CRFM Member States also resolve to adopt, review and revise relevant national legislation and regulations and to provide sanctions of sufficient gravity, so as to deprive offenders of the benefits accruing from their illegal activities and to deter further IUU fishing (para 4(iv)). They resolve to develop a comprehensive database of fishing vessels in good standing and vessels involved in IUU related activities (para 4(viii)), to seek technical assistance (para 4(ix)), and to ensure the participation and coordination of all Member States and stakeholders (para 4(x)). Member States also agree on the need to engage in various actions, including those of effectively monitoring and regulating by the flag, port, and coastal state (and where appropriate, the CRFM) of transshipment of fish and fish products, exchanging of information, implementing vessel marking requirements (paras 6(ii),(iii),(vii) and (ix)). Importantly, CRFM Member States agree in the Declaration to 'strengthen the CRFM as a regional fisheries body in order to more effectively coordinate the actions of its Member States and disseminate information on preventing, deterring and eliminating IUU fishing' (para 6(vi)). Member States are urged to 'become parties to the 1982 UN Convention, the FAO Compliance Agreement, the UN Fish Stocks Agreement, and other relevant international agreements that will provide support in the fight against IUU fishing' and for those that already are parties to the *Compliance Agreement*, to fulfil their obligations thereunder (paras 7(iii) and (iv)).

**Recommendations:** the states subject to study in the present report should both publicise and utilise the principles and approaches set out in the non-binding instruments in the area, particularly those set out in the FAO Code of Conduct, its related Plans of Action and Technical Guidelines, and the Castries Declaration on Illegal, Unreported and Unregulated Fishing. They should also formally incorporate the relevant principles and best practices from these non-binding instruments into their national legislation. Although several of the fisheries officials interviewed during the study indicated that principles such as the

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<sup>4</sup> A possible exception would be those states which had persistently objected to the rule (*Anglo-Norwegian Fisheries Case*). However such a status of persistent objection is very difficult to maintain and is unlikely to perpetually exempt a state from complying with the rule (*cf* Higgins 1994, p. 34).

precautionary principle or ecosystem-based approach were observed in practice, this is not sufficient. These principles must be formally set out in the national legislation in order to be legally effective.

#### 2.4.4 Treaties Establishing Regional Organisations Relevant to the Management of Fisheries

The above treaties and non-binding instruments elaborate many of the important rules and policies required for ecosystem-based fisheries management. In thinking about institutional architecture for a regional fisheries management organisation (RFMO) that could implement these rules and policies, three Caribbean regional organisations may serve as candidates: the Association of Caribbean States, the Caribbean Community (including CRFM), and the Organisation of Eastern Caribbean States.

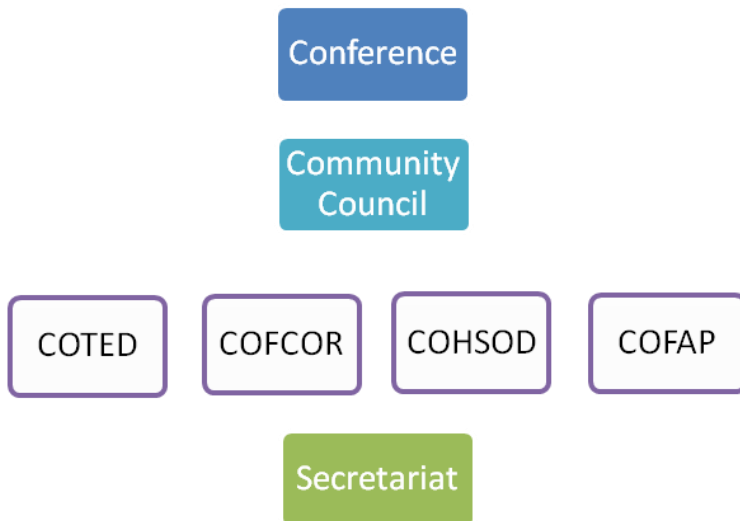
The **Association of Caribbean States (ACS)** is the broadest potentially relevant general intergovernmental organisation in the Caribbean region and was created by the *Convention Establishing the Association of Caribbean States* (Article II). The *Convention* creates an organisation for the ‘consultation, cooperation and concerted action’ of its parties in the areas of cultural, economic, social, scientific and technological advancement, trade and investment, developing the potential of the Caribbean Sea, and establishing, consolidating and augmenting institutional structures and cooperative arrangements ‘responsive to the various cultural identities, developmental needs and normative systems within the region’ (Article III(1)(d)). The ACS is tasked with: promoting economic integration, coordinated participation in multilateral *fora*, the formulation and implementation of policies and programmes for functional cooperation, the strengthening of friendly relations and, importantly, ‘the preservation of the environment and conservation of the natural resources of the region and especially of the Caribbean Sea’ (Article III(2)). The Membership of the ACS includes Barbados, Dominica, Grenada, St Lucia, St. Vincent and the Grenadines and Trinidad and Tobago; France is an Associate Member on behalf of, *inter alia*, Martinique. CARICOM is a Founding Observer (ACS 2012).

The ACS functions through three main organs – (1) the Meeting of Heads of State or Government (Article VI), (2) the Ministerial Council and (3) the Secretariat (Articles VII - VIII and XIV) – and several secondary Committees, including the Committee on Natural Resources (Article VIII). The Ministerial Council is the principal organ for policy-making and direction of the ACS (Articles VIII(1) and IX), and meets annually for regular meetings and, as required, at other times for special meetings (Article XI). Decisions of the Ministerial Council on substantive issues, unless specified otherwise in the Convention, are made by consensus (Article XI(4)). Disputes are also to be settled by the Ministerial Council (Article XXIX).

The ACS conducts ongoing activities in relation to the Caribbean Sea Initiative (Insanally 2012), and assisted Caribbean states – through its Caribbean Sea Commission – in pushing for a resolution from the United Nations General Assembly on the topic (see UNGA 2010b). Paragraph 1 of this resolution ‘[r]ecognizes that the Caribbean Sea is an area of unique biodiversity and a highly fragile ecosystem that requires relevant regional and international development partners to work together to develop and implement regional initiatives to promote the sustainable conservation and management of coastal and marine resources, including the consideration of the concept of the Caribbean Sea as a special area in the context of sustainable development, including its designation as such without prejudice to relevant international law’. The Caribbean Sea Commission of the ACS is itself comprised of a Bureau, a Secretariat, a Legal Sub-Commission, a Scientific and Technical Sub-Commission, a Governance, Public Information and Outreach Sub-Commission, and a Budget Committee (Andrade 2010, CERMES 2010). Its purpose is to provide a network for effective and transparent communication of information related to the Caribbean Sea (*cf.* ACS 2010).

The **Caribbean Community**, including the CARICOM Single Market and Economy, was (re)created by the *Revised Treaty of Chaguaramas* (see Art 2). Several states subject to scrutiny in the present report are Members of CARICOM and parties to the *Revised Treaty*: Barbados, Dominica, Grenada, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. France (Martinique) is not a party to the *Revised Treaty*, nor is it a Member of CARICOM. However, France and the European Union, have been accredited to send observers to CARICOM (CARICOM 2012). But such participation is limited and observers do not generally have voting rights.

Diagram 2.0: Structure of CARICOM



The *Revised Treaty* establishes a regional organisation, composed of seven main organs. The Conference of Heads of Government (Conference), the principal CARICOM organ, is supported by the Community Council of Ministers (Community Council), the second highest organ, and they in turn are assisted by the Council for Finance and Planning (COFAP), the Council for Trade and Economic Development (COTED), the Council for Foreign and Community Relations (COFCOR), and Council for Human and Social Development (COHSOD), and the Secretariat (Articles 10 - 17 and 23 - 25). The Conference provides general policy direction for the Community and has a dispute settlement function (Article 12); the Community Council has ‘primary responsibility for the development of Community strategic planning and co-ordination in the areas of economic integration, functional co-operation and external relations’ and also has a dispute settlement function (Article 13). Of the other organs, COTED is the one most closely concerned with fisheries, since it has responsibilities for trade, natural resources and preservation of the environment. COTED is ‘responsible for the promotion of trade and economic development of the Community’ and as part of that responsibility is mandated to ‘evaluate, promote and establish measures to enhance production, quality control and marketing of industrial and agricultural commodities so as to ensure their international competitiveness’, to ‘promote measures for the development of energy and natural resources on a sustainable basis’, and to ‘promote and develop policies for the protection of and preservation of the environment and for sustainable development’ (Article 15(1), (2)(c), (f) and (h)). But other organs, such as COFCOR, could play a role in coordinating the positions of Member States in intergovernmental organisations, in promoting and developing coordinated policies for the enhancement of external economic and trade relations, and in coordinating, in close consultation with the Member States, Community policy on international issues with the policies of states in the wider Caribbean Region in order to arrive at common positions in relation to third states, groups of states and relevant inter-governmental organisations (Article 16(3)(c) - (e)). All four of these organs can take binding

decisions (Articles 28 - 29), although the voting procedure of the Conference requires a kind of qualified unanimity, and thus may be subject to veto by a single state (Article 28(1)). Voting rules for the Community Council, COTED and COFAP allow decisions to be taken by a qualified majority, meaning no less than three quarters of the membership voting in favour of the decision, so long as the matter is not classified as one of 'critical importance' to a Member State (Article 29). In the latter case an affirmative vote by three quarters of the membership is required and the decision remains subject to veto (Article 29(3) - (5)). Once achieved, a decision of a CARICOM organ is binding as a matter of international law (Article 9), and can be enforced through the dispute settlement processes of the Conference and Community Council, or through the mechanisms established under Chapter Nine of the *Revised Treaty*, including the Caribbean Court of Justice. Nevertheless, all decisions by CARICOM organs, as international acts, must be transformed into domestic law through the relevant national, constitutional procedures (i.e., through legislation) before they create rights and obligations for individuals under national law (Article 240).

Article 56 establishes as a goal of the Community's agricultural policy 'the efficient management and sustainable exploitation of the Region's natural resources, including its forests and the living resources of the exclusive economic zone'. However, the primary substantive provision of the *Revised Treaty* dealing with fisheries is Article 60 (see also Articles 57, 63, 68 and 135). Article 60, entitled 'Fisheries Management and Development', requires the Community, in collaboration with competent national, regional and international agencies and organisations, to promote the development, management and conservation of the fisheries resources in and among the Member States on a sustainable basis. 'Fisheries resources' is defined in Article 60(5) as including 'all the fishable resources, natural and cultured, in the inland and internal waters, territorial seas and the exclusive economic zones of the Member States'. Article 60(2) requires the Community to do so by means of enhancing the institutional capabilities of the Member States in areas such as policy formulation, registration and management systems, resource monitoring and assessment, and harvesting and post-harvesting technologies, and establishing mechanisms to provide assistance in the development, management and conservation of the fisheries resources and the discharge of obligations relating to fisheries resources arising under Articles 62, 63 and 64 of *UNCLOS*. CARICOM is also mandated to: provide effective regional representation at international *fora*; establish development programmes for aquaculture; encourage the establishment of protected aquatic habitats and associated terrestrial areas and fish populations for the sustainable development of fisheries resources of the Member States; and establish, facilitate and strengthen research and human resource development at the professional, technical and vocational levels. Additionally, the Community is mandated to collaborate with the Member States in the management of straddling and highly migratory fish stocks, the ongoing surveillance of their exclusive economic zones, the delimitation of maritime boundaries, and the safeguarding of their marine environment from pollutants and hazardous wastes. Article 60(4) also includes a specific role for COFCOR, which is required to promote the establishment of a regime for the effective management, conservation and utilisation of the living resources of the exclusive economic zones of the Member States. Another provision, Article 141, provides that '[t]he Member States shall co-operate in achieving international recognition for the Caribbean Sea as a Special Area requiring protection from the potentially harmful effects of the transit of nuclear and other hazardous wastes, dumping, pollution by oil or by any other substance carried by sea or wastes generated through the conduct of ship operations'.

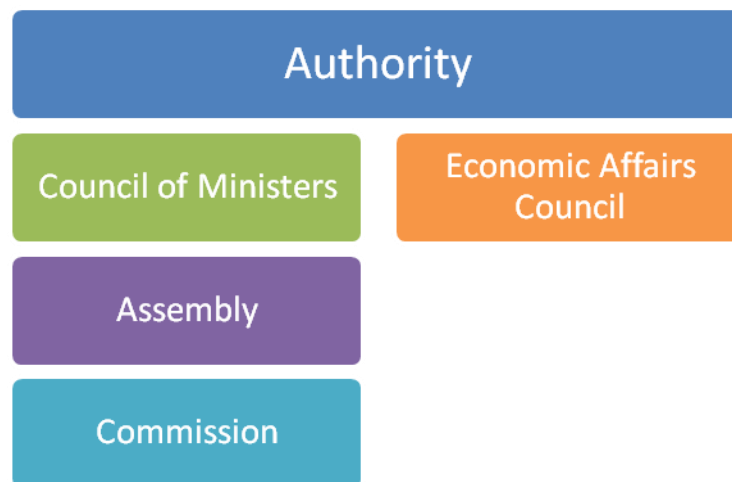
These articles of the *Revised Treaty* reveal that CARICOM has the potential to be a regional fisheries management organisation (RFMO). Its organs have subject area competence over fisheries, including flyingfish, and they can make binding decisions which are subject to enforcement mechanisms. However, its appeal may be limited for non-CARICOM states, including France, because without membership these states have no influence over the central organs or decision-making procedures of the Caribbean Community. In addition, CARICOM's dispute settlement procedures are specific to the organisation, either involving dispute settlement by individual organs (such as the Conference or Community Council),



or through the dispute settlement mechanisms established in Chapter Nine. The latter Chapter contains elaborate rules for consultations and entails the possibility of states being required to pick dispute-settlement facilitators from pre-existing lists of mediators, conciliators and arbitrators. Such lists may be deemed inadequate or otherwise problematic for non-CARICOM, non-Commonwealth States. Also, the will of CARICOM, *per se*, to act as a RFMO may be undercut by the fact that it has established a separate organisation – the CRFM – which appears to have been given lead responsibility in the area of fisheries.

The **Organisation of Eastern Caribbean States** and its Economic Union, are continued and created, respectively, by the *Revised Treaty of Basseterre*. Several states, which are subjects of the present report, are parties to the *Revised Treaty of Basseterre*: Dominica, Grenada, St. Lucia and St. Vincent and the Grenadines. Barbados and Trinidad and Tobago are neither parties to the *Revised Treaty of Basseterre* nor members of the OECS; provision is made for observers in Article 20.2 of the *Revised Treaty of Basseterre*, but no state is specified on the OECS website as having obtained that status.

Diagram 3.0: Structure of the OECS



The OECS has five main organs: the Authority of Heads of Government of the Member States (Authority), the Council of Ministers, the OECS Assembly, the Economic Affairs Council, and the OECS Commission (Article 7). The Authority is the supreme policy-making organ of the Organisation, and it takes binding decisions by a kind of qualified unanimity voting process; it also enacts binding Acts of the Organisation (Articles 8 and 14). The Council of Ministers is responsible to, and can make recommendations to, the Authority and is mandated to liaise with the Commission on the making of Acts of the Organisation. The Council of Ministers can also itself enact into OECS law regulations and other implementing instruments to give effect to Acts of the Organisation (Article 9). Similar to the Authority, the Council of Ministers takes binding decisions by means of a kind of qualified unanimity voting procedure (Article 9). The Economic Affairs Council is provided with responsibility over the *Economic Union Protocol* (Article 11). The Commission acts as a kind of hybrid secretariat, legislative drafting facility and research body (see Article 12).

The OECS itself has been given legislative competence over certain areas, including ‘maritime jurisdiction and maritime boundaries’ (Article 14.1(d)), and pre-emptive legislative competence over, *inter alia*, environmental policy (Article 14.2(c)). The latter competence is ‘pre-emptive’ in the sense that competence remains with Member States so long as the OECS has not yet acted in the area. However, once the Organisation enacts an Act in the relevant area, the competence of Member States is pre-empted. Nevertheless it must be noted that the OECS is limited in its exercise of this pre-emptive legislative

competence by Article 14.3, which provides that: ‘the Organisation shall enact Acts of the Organisation only if and in so far as the objectives of the proposed action cannot, in the opinion of the OECS Authority, be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by enacting an Act of the Organisation’. This limitation is akin to the principle of subsidiarity in EU law.

In terms of the fisheries-related purposes of the OECS, Article 4.2 mandates that ‘the Member States shall implement decisions of the Organisation under this Treaty and otherwise endeavour to co-ordinate, harmonise and undertake joint actions and pursue joint policies particularly in the fields of ... matters relating to the sea and its resources’ (Article 4.2(o)). Member States are also required to coordinate and harmonise their foreign policy, including ‘joint overseas diplomatic or other representation, including, where appropriate, the accreditation of one representative to one or more States, international organisations or conferences’ (Article 15.1). Moreover, Articles 19 and 20 specifically allow Member States to participate in other arrangements so long as such participation does not derogate from the treaty, and encourages the Organisation to establish ‘such relations with other international organizations and other countries as may facilitate the attainment of its purposes’ including by means of formal agreements.

The OECS *Economic Union Protocol* does not have any provisions expressly dealing with fisheries, but under Article 13, in the context of development policies, *Protocol* Member States agree to co-ordinate policies towards the harmonious and optimal development of the agricultural sector (Article 13.4(a)(i); see also Article 20). In addition Article 24 establishes commitments in relation to environmental sustainability, including the requirement that ‘each Member State ... work individually and jointly to implement shared goals for environmental management ... [to *inter alia*] achieve the long-term protection and sustained productivity of the region’s natural resource base and of the ecosystem services it provides’ (Article 24.1(c)). In the past the OECS Secretariat has been helpful in drafting model laws for Member States, and the Fisheries Acts of the sub-region are based upon such OECS model laws.

Disputes regarding the interpretation and application of the *Revised Treaty of Basseterre* are resolved under the procedures set out in Article 18 and in the Dispute Settlement Annex (which includes the Eastern Caribbean Court of Appeal). Disputes regarding the *Economic Union Protocol* are resolved through a complaints procedure with an examining committee, or under the Dispute Settlement Annex (Protocol Articles 30 - 31).

In sum, the OECS under its *Revised Treaty of Basseterre* has the potential to be a regional fisheries management organisation. It has the potential for subject-area competence, can take decisions binding upon its members and has enforcement / dispute settlement mechanisms. However, its appeal may be limited to non-OECS states – including Barbados, Trinidad and Tobago and France – because without membership these states cannot influence its central organs or decision-making procedures. In addition, like CARICOM, the OECS’ dispute settlement procedures are specific to that organisation and may not be deemed suitable by non-Member States.

**Recommendations:** regional organisations should be actively used to help their Member States harmonise their fisheries policies, practices and laws. They should be used to help coordinate data collection and analysis, including by devising standardised data forms, standardised data units, etc. Regional organisations should also be tasked with helping to mobilise technical and financial resources. They should also be called upon to assist Member States with their reporting obligations under regional and international treaties. This latter role is tremendously important, and could go a long way towards satisfying the concerns expressed by small states when they are asked to accede to new treaties.

More specifically, the ACS Ministerial Council and Caribbean Sea Commission both should be used to help promote cooperation on fisheries and environmental issues. The breadth of membership of the ACS also potentially allows the sharing of knowledge and experiences with Latin American states.

CARICOM Member States should consider the possibility of authorising CARICOM to perform the functions of a regional fisheries management organisation (RFMO). It has both the necessary subject area competence and the ability to make binding and enforceable decisions. However in order for CARICOM to be an effective RFMO, it must create mechanisms to allow non-Member states – such as France, the US and Venezuela – to share fully in the rights and responsibilities related to fisheries management. In addition, rather than create a new organ, CARICOM should use the CRFM to manage the practical, operational decisions and tasks required of an RFMO.

The fisheries and environmental competences of the organs of the OECS should be prioritised and utilised, particularly their law-making competences, which can be used to create binding legal obligations and uniform practices throughout the sub-region. Member States should work through the organs of the OECS, in particular the Commission, to prioritise and reenergise fisheries and environmental activities, such as the Common Fisheries Surveillance Zone.

## **2.5 National Legal Frameworks**

All of the states which are subject to study in the present report have relevant legislation which provides jurisdiction over different areas of the sea and regulates fisheries. However, it is beyond the scope of this report to offer comprehensive legal analysis of *all* of the potential laws of the subject states that could impact upon the flyingfish fisheries. Such legislation would include the laws and regulations related to fisheries, the environment (including pollution and land use) and territorial (maritime) limits, and also could extend to legislation related to policing and naval enforcement, seafarers' rights, customs and immigration. Barbados, for example, has at least six statutes which could affect different aspects of fisheries management of flyingfish, from fisheries legislation, to environmental legislation (including pollution), to maritime jurisdiction legislation: the Fisheries Act, Chapter 391, Law 6 of 1993, the Marine Boundaries and Jurisdiction Act, Chapter 387, Law 3 of 1978, the Coastal Zone Management Act, Chapter 394, Law 39 of 1998, the Barbados Territorial Waters Act, Chapter 386, Law 26 of 1977, the Marine Pollution Control Act, Chapter 392A, Act 40 of 1998, and the Marine Areas (Preservation and Enhancement) Act, Chapter 392, Law 6 of 1976. These statutes are supported by a number of regulations. In terms of scope, the report focuses on statutes expressly and directly relevant to fisheries, such as Fisheries Acts, and even then only examines particularly relevant pieces of legislation.

### **2.5.1 National Competences Over Sea Zones**

In relation to the extension of competence over fisheries areas, all of the subject states have asserted jurisdiction over their territorial seas and exclusive economic zones. All subject states have claimed, *inter alia*, a 12 nautical mile (n.m.) territorial sea, a 200 n.m. exclusive economic zone and a continental shelf. This information is set out in Table 1.0, below (source: UN 2011a).

Table 1.0: Limits of Territorial Sea, Contiguous Zone, Exclusive Economic Zone and Continental Shelf

State	Limits of territorial sea (TS), contiguous zone (CZ), exclusive economic zone (EEZ) and continental shelf (CS), in nautical miles
Barbados	TS (12), EEZ (200), CS (to outer limit of continental margin or 200)
Dominica	TS (12) , CZ (24), EEZ (200)
Grenada	TS (12) , EEZ (200)
Martinique*	TS (12) , CZ (24), EEZ (200), CS (to outer limit of continental margin or 200)
St Lucia	TS (12) , CZ (24), EEZ (200), CS (to outer limit of continental margin or 200)
St. Vincent and the Grenadines	TS (12) , CZ (24), EEZ (200)
Trinidad and Tobago	TS (12) , CZ (24), EEZ (200), CS (to outer limit of continental margin or 200)

Each state is therefore capable of asserting jurisdiction over fisheries, as permitted by international law and national laws, within these areas of maritime jurisdiction.

One challenge that remains, however, is the lack of clearly delimited maritime boundaries between neighbouring states. Almost all subject states have unresolved or disputed maritime boundaries. France, on behalf of Martinique, appears to have resolved most of its boundaries in the region, but has filed a submission with the Commission on the Limits of the Continental Shelf in relation to the French Antilles. This submission may be subject to challenge and no recommendations have yet been adopted in relation to it (UN 2011b).

Although some of the national fisheries officials interviewed were sanguine about such matters, suggesting that since neighbouring states tend to cooperate together and use median lines as provisional boundaries, jurisdictional issues are unlikely to arise. However, such attitudes are simply not justified. Unresolved boundaries between states less than 400 n.m. from one another's baselines have the potential to create overlapping claims to sovereignty, and jurisdiction, with respect to their overlapping exclusive economic zones. Contrary to popular belief, in such situations the median line need not be accepted as a provisional boundary; each state is potentially entitled to claim the full 200 n.m. from its baselines and thus significant overlapping and competing claims may arise. Such a situation was illustrated in the submissions of Barbados in the *Barbados - Trinidad Maritime Boundary Arbitration*. In that case Barbados claimed an exclusive economic zone and continental shelf extending from its baselines to close to the northern limits of Tobago's territorial sea, since those areas fell within its potential 200 n.m. limit and were subject to a claim of historical fishing rights. As a result, technically speaking, many of the areas of the sea that exist beyond 12 n.m. from each state's baseline (between each state and its neighbours where the distance is less than 200 n.m.), could be subject to the sovereign powers of two or more states. In such cases, the assertion of one state's enforcement jurisdiction, even on its side of the median line, could be challenged by another state as violating that the latter's EEZ rights.

Unresolved maritime boundaries can therefore pose considerable challenges in a number of areas of fisheries management. Enforcement jurisdiction may be contested and geographically based quotas (such as quotas for each state's EEZ), will be very difficult to implement. There are two solutions to these challenges. The first is simply for states to delimit all of their maritime boundaries. The second is for states to exercise joint jurisdiction over areas of the ocean. Two examples of the latter kind of

arrangement have been discussed above: the OECS Common Fisheries Surveillance Zone and the Guyana-Barbados Exclusive Economic Zone Co-Operation regime. The latter, however, does not appear to have been fully activated, and is dependent upon a number of secondary agreements and arrangements. The former OECS Common Fisheries Surveillance Zone currently faces funding challenges and is not operational. But even if it were, it would be inadequate as an effective MCS regime because it does not embrace all of the territories in the Eastern Caribbean region, such as the French territories of Guadeloupe and Martinique. A third possible future example is envisioned in Article 20 of the *Agreement Establishing the Caribbean Community Common Fisheries Policy*, which provides for the establishment of a common fisheries zone in a future Protocol to the Agreement. A common fisheries zone embracing the Wider Caribbean Sea, if it allowed joint or collective enforcement competence throughout the region, could overcome the difficulties of unresolved boundaries. But given the potential impact of such a regime on the sovereign powers of Caribbean states, and the number of countries that would need to be involved, such a development would not appear possible in the immediate future.

### 2.5.2 Fisheries Specific Legislation

In terms of fisheries legislation, all of the Commonwealth Caribbean countries subject to study have Fisheries Acts, and those of the Eastern Caribbean countries (Dominica, Grenada, St. Lucia and St. Vincent and the Grenadines), are nearly identical because they were based in large part upon OECS model laws. The legislation of Barbados and Trinidad and Tobago is similar, although not identical, and that of the EU (France on behalf of Martinique) differs. The following analysis highlights positive and negative aspects of fisheries legislation, through use of examples, in order to provide guidance for reform. It should be noted that one of the goals of the EU's Programme for Strengthening Fisheries Management in ACP Countries (ACP Fish II) is to provide improved fisheries policies and management plans at the regional and national levels, and the work done as part of this project also may assist with fisheries legislative reform (CRFM 2012a).

The Commonwealth Caribbean fisheries statutes examined for the report are generic in nature in the sense that they do not tend to have provisions specific to particular fisheries, such as those for flyingfish, but rather contain provisions applicable to all forms of fishing. Section 2 of the Fisheries Act of Barbados, for example, provides the following definitions for 'fish' and 'fishery':

*"fish" means aquatic animal, whether piscine or not, and includes any shell fish, turtle, mollusc, crustacean, coral, sponge, echinoderm, its young and its eggs;*

*"fishery" means one or more stocks of fish or aquatic flora, or fishing operations based on such stocks, which may be treated as a unit for purposes of conservation and management and which is identified as such on the basis of geographical, scientific, technical, recreational and economic characteristics;*

These terms are defined in a nearly identical manner in the Fisheries Acts of Dominica, Grenada, St. Lucia and St. Vincent and the Grenadines. The definitions in the draft legislation for Trinidad and Tobago, the Draft Fisheries Management Bill 2011 (which is to replace the 1916 Fisheries Act), are also similar, although the term 'fish' additionally includes 'any ... plant ... marine mammal or seaweed' (s. 3).

These Fisheries Acts also share a number of other similar provisions, such as a section specifying the goal of the act ('optimum utilization of fisheries resources' for the benefit of the people of the country) (e.g., Barbados, s. 3, Grenada s. 3, St Lucia, s. 3), a section requiring the Chief Fisheries Officer to prepare and keep under review a fisheries management plan, in consultation with stakeholders (e.g., Barbados s. 4, Grenada s. 4, St. Lucia, s. 4), and a section *authorizing* the appointment of a Fisheries Advisory

Committee and providing considerable discretion regarding its membership (e.g., Grenada s. 5, St. Lucia, s. 5). Some statutes go further, however, and *require* the Minister to appoint a Fisheries Advisory Committee and set out in some detail its required membership (e.g., Barbados, s. 5 and Schedule). This kind of express and mandatory provision is preferable, since the ecosystem based approach to fisheries management requires widespread consultation and policy formulation, including with key stakeholders, which can best be facilitated with such a Committee. Even though states may go on to establish Fisheries Advisory Committees under discretionary provisions (see e.g., the Fisheries Regulations of Grenada (1987), St. Lucia (1994), and St. Vincent and the Grenadines (1987)), clear and express mandatory provisions would ensure the constitution of such Committees.

Other common provisions include the authorization of the Minister to enter into cooperation arrangements with other countries or competent regional organisations for the purposes of harmonization of data, licensing procedures (including issuance of licences or regional licences) and enforcement measures, as well as for the purpose of establishing RFMOs and a regional register of fishing vessels (e.g., Grenada s. 6, St. Lucia, s.6; see also Barbados s. 6 for more limited authority in this area). The St. Vincent and the Grenadines High Seas Fishing Act (2001), which seeks to regulate, monitor and provide data in relation to high seas fishing, specifically allows cooperation with relevant international organisations, such as ICCAT (ss. 10 - 11). The latter Act also requires a license for a Vincentian fishing vessel to fish on the high seas (s. 4). The statutes also provide for licensing of foreign fishing vessels and regulating their gear (e.g., Barbados, ss. 8 - 9, Grenada ss. 8 - 9, St. Lucia ss. 8 - 9), as well as for licensing local fishing vessels (e.g., Barbados s. 11, Grenada s. 11, St. Lucia s. 11), including sport fishing vessels (e.g., Barbados s. 10), and commercial fishing vessels (e.g., Barbados s. 12), and in some cases prescribe time limits for the validity of such licenses (e.g., Barbados s. 13, Grenada s. 12, St. Lucia s.12), the relevant fees (e.g., Barbados s. 15, Grenada s. 14, St. Lucia s. 14), and other conditions (e.g., Barbados s. 14, Grenada s. 13, St. Lucia s. 13). Grenada's Fisheries Regulations 1987, for example, imposes the requirement that masters of foreign vessels licensed under the Act must 'cause a logbook to be maintained on a daily basis ... for the purpose of recording the fishing operations of the vessel within the fishery waters' (s. 6(2)(b); see also St. Lucia Fisheries Regulations 1994, s. 14(d)). Provision is also made in the Fisheries Acts for suspension or cancellation of licenses (e.g., Barbados s. 16, Grenada s. 15, St. Lucia s.15). Under the legislation the Minister is also authorized to enter into fisheries access agreements (Barbados s. 7, St. Lucia s. 7). In some Acts the Minister is authorized to grant licenses in relation to fish processing establishments (e.g., Grenada s. 18, St. Lucia s. 17), or is empowered to require information from fish processors, marketers or distributors (e.g., Barbados s. 25). In Barbados, in addition to licensing requirements there is a registration requirement for commercial fishing vessels (s. 18, 22). The Chief Fisheries Officer is required to keep a register of such vessels (s. 19), and is empowered to cancel certificates of registration (s. 20). The Barbados Act also allows monitoring and supervision of construction and alteration of fishing vessels, for reasons of safety and to ensure seaworthiness (e.g., Barbados s. 24), establishes requirements for reporting of fishing vessel accidents and for the rendering of assistance (e.g., Barbados ss. 32 - 33), and establishes and mandates inspection regimes, including those providing certificates of inspection (e.g., Barbados s. 31).

The Fisheries Acts also provide for the establishment of local fisheries management areas and the related Local Fisheries Management Authorities (e.g., Grenada ss. 19 - 20, St. Lucia ss. 18 - 19), the establishment of marine reserves and other conservation measures (e.g., Grenada ss. 21 - 23, St. Lucia ss. 20 - 22), and for the authorization of fisheries research (e.g., Barbados s. 26-28, Grenada s. 24, St. Lucia s. 23). The Fisheries Acts also set out prohibited fishing methods (e.g., Barbados s. 29, Grenada s. 25, St. Lucia s. 24, Trinidad and Tobago Fisheries Regulations ss. 7 - 8), prohibited species (Trinidad and Tobago Fisheries Regulations ss. 3 - 6), and prohibited fishing gear (e.g., Barbados s. 30, Grenada s. 26, St. Lucia s. 25, Trinidad and Tobago Fisheries Regulations s. 2). They also establish or specify fisheries enforcement authorities, and set out their enforcement powers and the consequent sanctions and liabilities for breaches of the Acts (e.g., Barbados ss. 34 - 44, Grenada ss. 27-39, St. Lucia ss. 26 - 38, Trinidad and

Tobago ss.6 - 9). These include the powers to stop, board and search vessels; to seize vessels, gear and fish; to arrest or detain persons; and to sell fish or other perishables. Upon conviction, sanctions can include fines, the forfeiture of vessels, fish, and gear, and the cancellation or suspension of licences. The St. Vincent and the Grenadines High Seas Fishing Act allows enforcement powers in the high seas and in the fishery waters of St. Vincent and the Grenadines (s. 12). The St. Lucian legislation also extends the effect of the Act to cover offenses in St. Lucian waters, and offences committed anywhere if they are committed on board St. Lucian flag ships or by St. Lucian nationals or persons ordinarily resident in St. Lucia (St. Lucia, s. 37; see also Grenada s. 38). This kind of provision asserts three types of state criminal jurisdiction under international law: jurisdiction under the territorial principle (over maritime territory), under the flag state principle and under the nationality principle. Such enforcement scope should be emulated by other states.

All of the Fisheries Acts also make provision for Regulations, and some set out in significant detail the forms and categories of Regulations that are permitted (e.g., Barbados s. 46, Grenada s. 40, St Lucia s. 39). The Fisheries Act of Trinidad and Tobago contains a short section on Regulations (s. 4). It is unfortunate that most states have not enacted necessary and sufficient regulations to ensure the effective enforcement of their statutes. Such regulations are valuable because they can be quite specific and focus on particular fish stocks or fish management problems. For example, the Barbados Fisheries (Management) Regulations 1998 allows the Minister, amongst other things, to designate prohibited fishing methods, closed seasons and closed areas for species of fish. In addition s. 5(1)(b) of the Barbados Regulations prohibits pelagic drift nets of a size greater than 2.5 km in length, and s. 12 prohibits the landing of a yellowfin tuna or bigeye tuna less than 3.2 kg in live weight. The Fisheries Regulations of Grenada (1987), St. Lucia (1994) and St. Vincent (1987) are both detailed and extensive. In addition, the St. Vincent and the Grenadines High Seas Fishing Act prohibits ‘any activity on the high seas which undermines the effectiveness of international conservation and management measures’, and allows for wide-ranging regulations to enforce this prohibition (ss. 16 and 23).

Fisheries management for Trinidad and Tobago also is governed by the Archipelagic Waters and Exclusive Economic Zone Act, and may soon be governed by the 2011 Draft Fisheries Management Act. The former Archipelagic Waters and Exclusive Economic Zone Act, is designed mainly to extend Trinidadian maritime zones as a result of its archipelagic baselines, and to prescribe the consequences for that extension, including the application of the rules regarding non-innocent passage (which prohibit fishing by foreign vessels without the consent of the Minister) in archipelagic waters (s. 12(2)(i)). It provides for an EEZ, as calculated from archipelagic baselines, and asserts sovereign rights and competences over that EEZ as allowed under *UNCLOS* (ss. 14 - 29). The Act prohibits fishing by foreign vessels in the EEZ without a license (s. 26) and contains some fisheries management and environmental provisions. For example, the Act defines ‘allowable catch’ in terms of ‘relevant environmental and economic factors’ and more extensively defines ‘conservation and management’ in Section 2. These provisions are further elaborated in relation to the Trinidad and Tobago EEZ, in line with *UNCLOS* (s. 21). In terms of fisheries licenses over the EEZ, the Minister is required to ensure that the total catch of all foreign fishing craft does not exceed the prescribed total allowable catch, as well as to ensure that the total catch by flag vessels does not exceed that allowed to their state of nationality (s. 27). Enforcement competences and powers, including sanctions, are prescribed in the Act (ss. 28, 30 - 31). The Act also permits regulations to be made over a wide variety of topics (s. 32).

Trinidad and Tobago’s 2011 Draft Fisheries Management Act, which is not yet in force and is subject to further revision, seeks to completely revise and update the country’s fisheries laws. It seeks to establish a comprehensive fisheries management regime, and will amend the Archipelagic Waters and Exclusive Economic Zone Act and repeal the Fisheries Act. It is a large, detailed and comprehensive statute that merits further examination and consideration once it has been finalized and has entered into force. For the purposes of the present report, however, a brief summary is sufficient.

The Draft Act sets out detailed rules related to a wide range of areas of fisheries management, and appears to have benefitted from consideration of the Fisheries Acts of the OECS and Barbados, amongst others. It contains rules on:

- the responsibilities for fisheries management (Part II);
- the establishment, functions and powers of the Trinidad and Tobago Fisheries Advisory Board (similar in composition and function to the Fisheries Advisory Committees established in the previously examined Fisheries Acts) and its potential committees (Part III);
- the establishment and management of a special Fisheries Management Fund to be used to further the purposes of the Act (Part IV);
- fisheries management plans, including their required scope, content, objectives and the applicable principles (Part V);
- fisheries management measures, including fishing effort controls, catch controls, and additional measures (Part VI);
- prohibited fishing methods (Part VII);
- subsidies and economic incentives (Part VIII);
- registration of local fishers (Part IX);
- record of local fishing vessels (Part X);
- licensing of local fishing vessels (Part XI);
- licensing of local fishing vessels for fishing on the high seas (Part XIII);
- licensing of non-vessel fishing (Part XII);
- foreign access to the EEZ (by access agreements with foreign states or international organisations, and subject to foreign fishing licenses) (Part XIV);
- licensing of foreign vessels (Part XV);
- fishery monitoring and scientific research (Part XVI);
- designated landing sites (Part XVII);
- transshipment (Part XVIII);
- surveillance, enforcement and prosecution (including the establishment of a Monitoring and Surveillance Unit) (Part XIX);
- security and protection of fishers and their gear (Part XX); and



- other matters, including regarding the making of regulations (‘General Provisions’: Part XXI).

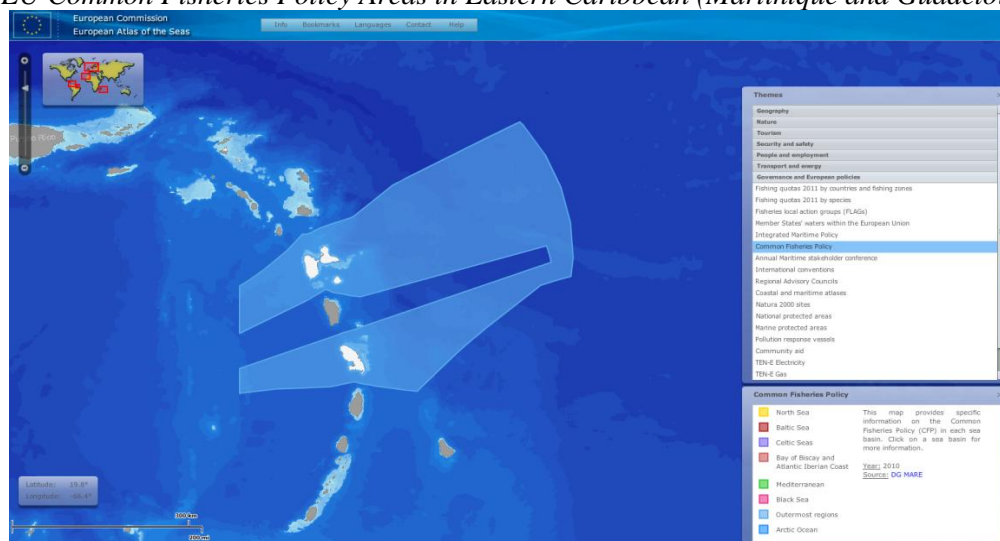
In sum, when reflecting upon the legislation examined above, it must be noted that none of the Fishing Acts currently in force expressly requires fisheries authorities to follow the ecosystem based approach and fisheries-related principles such as the precautionary principle. The lack of express reference to these and related concepts is undesirable. Related concepts include those such as the needs for: data collection and sharing, improvement of data quality, the provision of scientific advice, stakeholder participation, transparency and accountability, effective monitoring, control, surveillance and enforcement, cooperation at the sub-regional and regional levels, including cooperation with international organisations and other regional fisheries bodies, adoption of conservation and management measures, and continuous monitoring and evaluation. Nevertheless, in most of the current Acts there are references to key concepts such as conservation, management, sustainability, and use of scientific information. Given the potentially broad meanings of these terms, it may be possible to read the ecosystem based approach and the precautionary principle into these statutes. Whether judicial tribunals would accept such a reading, however, is uncertain. Therefore express provisions are always preferable.

The Draft Fisheries Management Act of Trinidad and Tobago (2011) is an exception. It specifically provides for the application of ecosystem criteria in fisheries management planning (ss. 3, 39(2), 41(2)(c), 124(2)), the precautionary approach (ss. 3, 42, 48(2)(a)), the criteria of long-term sustainability and sustainable use (ss. 40(2), 41(1), 49(1) and (3)), stakeholder consultation (s 43), and the use of the ‘best available scientific evidence and local knowledge of resource users’ (s. 40(2), 42(2)(a)).

The national legislation on fisheries of the non-Commonwealth Caribbean country studied in this report – namely, France (Martinique) – cannot be analysed in any detail. Nor would such analysis be particularly fruitful in the present context, given the very different legal and regulatory regimes and cultures of this state. Instead, it is more important to achieve a basic understanding of its overall legal context.

In this regard, **Martinique** is an overseas department of France and as such is subject to the international legal obligations assumed by France. Importantly, this means that Martinique falls within the **European Union’s Common Fisheries Policy** (European Commission 2011b). See Map 1.0, below, for a visual representation of the French EEZ areas around Martinique and Guadeloupe that are covered by the EU’s Common Fisheries Policy.

*Map 1.0: EU Common Fisheries Policy Areas in Eastern Caribbean (Martinique and Guadeloupe)*



Source: European Commission 2011a

The EU's fisheries regime is incredibly complex, with close to 7000 fisheries laws existing in the area. The Common Fisheries Policy (CFP) was formally created in 1983, although fisheries matters were dealt with earlier through the Common Agricultural Policy (Commission 2009, p. 6; Frost 2010). It was given impetus by the emergence of the Exclusive Economic Zone in international law (European Commission 2009, p. 6). Because many EU fishing fleets fished outside of national waters, the CFP brokered a compromise to deal with potential EEZ conflicts: 'Member States agreed to grant free mutual access to each other waters, so that each nation's traditional fishing grounds and practices could be preserved' (European Commission 2009, p. 6). The CFP aims at sustainable fisheries through the mechanism of Total Allowable Catches (TACs), which not only divide up the resources, but also allow for their management, protection and preservation (European Commission 2009, p. 6). TACs are set according to the 'principle of relative stability' under which 'Total Allowable Catches (TACs) for each fish stock are shared out between the Member States of the EU according to a fixed allocation key based on their historic catches' (European Commission 2009, p. 6). The Member States then manage and distribute these TACs according to national laws, which mean that TAC decisions are made at the lowest possible level – as required by the subsidiarity principle in other areas of EU law (Frost 2010, p. 475).

During the period 2002 - 2004 the EU experimented with a system of 'multicriterion' TACs (MTACs). These took the single-species TACs as a starting point, and then used fleet information on catch combinations to propose alternative TACs – still for single species, but also taking into account the multispecies nature of the fishery. These MTACs produced different results than individually generated TACs, but by taking into consideration overexploitation for particular stocks, they could ensure MTACs equal to or below single-species TACs for threatened species. MTACs have not been formally used after 2005, but the CFP still tries to employ a multispecies, multifleet approach (Frost 2010, pp. 476 - 477).

The CFP also seeks to rely upon and apply the precautionary principle and to employ an ecosystem-based approach to fisheries management (Commission 2009, p. 34; Frost 2010, p. 475). Stakeholders are involved in the CFP through Regional Advisory Councils, which bring together representatives of the fisheries sector and other interest groups, including environmental organisations, consumers, sport fishers and aquaculture producers (Commission 2009, p. 9). Many stocks in EU waters are now subject to multi-annual management plans based on long term targets (Commission 2009, p. 15). In combating overexploitation, the EU has been consistently working to decrease fleet capacity and has implemented a number of rules and incentives to achieve this goal (Commission 2009), including an entry/exit ratio of 1:1 (Frost 2010, p. 477). The result has been hopeful: figures for the last couple of decades show a steady annual decrease of a little under 2% in terms of both tonnage and engine power (European Commission 2010).

As part of the CFP the EU adopts 'technical measures' aimed at encouraging and discouraging particular fishing practices. These include: minimum mesh sizes for nets, closed areas and seasons, minimum landing sizes, limits on by-catches as a percentage of total catch, and incentives to adopt specific kinds of fishing gear which have been shown to reduce by-catch of unwanted organisms (Commission 2009, p. 17). In managing EU fleets in their fishing activities outside of EU waters, the EU relies upon Fisheries Partnership Agreements (FPAs). These have two main components: (1) provisions allowing access for the EU fleet to resources in the partner country's EEZ, and (2) provisions ensuring a financial contribution from the EU of which a large proportion is earmarked to help the partner's national fisheries policy, to fight pirate fishing operations, and to reinforce sustainable fishing practices within its EEZ (Commission 2009, p. 25). The *Dominica-EEC Agreement* discussed earlier would fall under this category.

The CFP is currently in a process of substantial reform. Changes that are being contemplated include banning fish discards (all commercial species must be landed), creating a system of transferrable fishing concessions, which are to be distributed by Member States, restricting coastal fishing (within 12 n.m.) so

as to support small scale fisheries, and implementing sustainable fisheries information for consumers (European Commission 2011c).

### **Recommendations:**

- All of the states subject to study in the present report should make active efforts to delimit all of their maritime boundaries. Fisheries and environmental regulation will be very difficult, if not impossible, in a context where ocean boundaries are not clearly defined. In the interim, if boundary delimitation is not possible at present, neighbouring states should enter into bilateral or multilateral agreements allowing joint monitoring, control and surveillance (MCS). The OECS Common Fisheries Surveillance Zone could be used as a model, but ideally the scope should embrace the Wider Caribbean Sea.
- National fisheries laws of all of the states studied in the present report should be reviewed to ensure that they conform to modern fisheries management standards. In this regard it will be important to mobilize political will so as to accord priority to national fisheries management laws and institutions. Where fisheries laws do not formally require the provision of data to national authorities by fishers, this should be mandated.
- This review should evaluate whether national laws have fully implemented the treaty obligations assumed by each state. Formally incorporating international treaty obligations will not only strengthen national fisheries and environmental legislation, it will also greatly assist the state concerned to comply with its treaty obligations.
- Where Regulations related to fisheries statutes are not already in place, they should be enacted and implemented (as permitted by the relevant Fisheries Act). Where Regulations are out of date, they should be updated. Regulations can be used to implement detailed rules, practices and procedures, and have the advantage of being easier than statutes to replace or modify when newer, more effective standards become necessary.
- Fisheries management plans should be reviewed and updated. Where no such management plan is in force, Governments should create one and bring it into force as a matter of urgency.
- States that do not have an active Fisheries Advisory Committee should create and/or activate one. Fisheries advisory committees can serve as an excellent mechanism to involve *all major stakeholders* in decisions related to, *inter alia*, fisheries management. Through these committees stakeholders can assist with data provision and also benefit from involvement in discussions and decisions related to fisheries management. In order for these advisory committees to be successful, however, efforts must be made to ensure that their members are selected in a neutral and a-political manner, based upon criteria of effectiveness and competence. To the extent that existing legislation does not guarantee impartial, effective and independent membership, it should be revised so as to achieve this goal. Similarly, the establishment and operation of fisheries advisory committees should be made mandatory in all national legislation; such matters should not fall under the discretion of the relevant Minister.
- Stakeholder participation should be actively sought at all levels. Human resource constraints faced by fisheries departments may be alleviated by greater involvement by fishers and other stakeholders. In Dominica, for example, the National Association of Fisherfolk Cooperatives plays an active role in placing and managing fish aggregating devices (FADs).

- In revising existing legislation, attention should also be paid to formally setting out the principles and best practices from non-binding instruments – including the FAO Code of Conduct and Castries Declaration – in national legislation. Such principles include: using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach and principles of good governance. Even if these principles are already observed in practice (as reported by some fisheries officials during interviews), this is not sufficient. Equally, although the informal application of such principles through the discretionary authority of a Chief Fisheries Officer is necessary in the absence of formal legislative requirements, it cannot be sufficient. Principles and best practices must be formally set out in legislation in order to ensure their consistent and continuous application, as well as to guarantee their legal effectiveness.

### 2.5.3 Other Obligations at the National Level

During the course of the research mission accompanying this report, the consultants interviewed fisheries staff in several jurisdictions. Three potential developments arising from these interviews which could affect, or support, national laws, require brief discussion. These are the potential of: (1) harmonized legislation, (2) a regional code of conduct, and (3) updated and formally adopted management plans.

#### *2.5.3.1 Harmonised Legislation*

The fisheries staff interviewed substantially agreed about the value of harmonized legislation, particularly because of the transboundary and shared nature of the resources in question. The subject OECS states – Dominica, Grenada, St. Lucia and St. Vincent – all benefited from and to a large extent based their laws upon OECS draft fisheries legislation. Barbados benefited from FAO drafts. Unsurprisingly, the OECS officers themselves were in favour of such harmonized laws. It also was suggested by at least one national delegation that CARICOM could provide a suitable drafting facility.

However, even in the OECS further harmonization is necessary for proper enforcement of fisheries rules, since practical challenges had arisen from the OECS drafts, which had been modified to suit local preferences. Closed seasons for fish stocks, for example, require harmonization in order to prevent the sale of illegally caught fish in the markets of another state not subject to a closed season.

**Recommendations:** greater effort should be made to harmonise fisheries and environmental legislation within the region.

#### *2.5.3.2 Regional Code of Conduct*

Views differed about whether a regional code of conduct in relation to the subject fisheries would be helpful. Several fisheries officers felt that such a non-binding code of conduct could help national policy. Nevertheless, when queried about the most appropriate body to draft such a code, further differences emerged. One national department argued that the OECS would be best placed to draft a regional code of conduct; three departments believed that the CRFM was best placed to draft such a code. WECAFC was also mentioned as a potential source for such a code.

However, clear reservations were expressed by three delegations, which questioned whether a regional code was necessary in light of the comprehensive nature of the FAO Code of Conduct. In addition, it was suggested that the Common Fisheries Policy or CRFM management plans could serve a similar role.

**Recommendations:** at present there does not seem to be a consensus on the desirability of a regional code of conduct. In such circumstances the FAO Code of Conduct should be publicised and utilised.

### 2.5.3.3 Fisheries Management Plans

In terms of fisheries management plans, all interviewed fisheries staff members conceded that the existing plans required revision and updating. Moreover, only Barbados, Dominica and Trinidad and Tobago reported having formal, approved fisheries management plans in place. Barbados noted that its plan could be improved with the addition of greater detail and the express adoption of an ecosystem based approach. Dominica indicated that a draft revised management plan was ready and was being circulated for consideration. Trinidad and Tobago indicated that its plan was dated, but noted that WECAFC was formulating a regional plan for flyingfish.

Grenada, St. Lucia and St. Vincent only had draft management plans in place, and even these drafts were dated. St. Lucia also has a draft fisheries strategic plan, but it was noted that this merely provides an overall framework and does not specifically deal with flyingfish.

Nevertheless, several states indicated that the ongoing Programme for Strengthening Fisheries Management in ACP Countries (ACP Fish II) is tasked with providing improved fisheries policies and management plans at the regional and national levels (CRFM 2012a). Thus the OECS countries, in particular, anticipated receiving substantial assistance from the ACP Fish II programme in revising and updating their fisheries management plans.

**Recommendations:** all states in the region should review, update and implement fisheries management plans.

## 1.6 Summary of Recommendations on the Legal and Policy Framework

The following are the main recommendations set out in this Chapter:

1. The states studied in the present report should seek to ratify all of the multilateral fisheries and environmental treaties surveyed in this report, either as individual states or through a representative regional organisation. Such a move would ensure both the consistency of their treaty obligations and their participation in, and awareness of, related fisheries and environmental developments. The concern expressed about the already onerous obligations assumed by some member states in relation to treaties (in terms of legislative requirements and reporting obligations), could be addressed by representative membership through a regional organisation, or by means of technical assistance by a regional organisation. Ratification of the following treaties is recommended (in order of priority):
  - 1.1. the *United Nations Convention on the Law of the Sea*,
  - 1.2. the *Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks*,
  - 1.3. the *International Convention for the Conservation of Atlantic Tunas*,
  - 1.4. the *Agreement Establishing the Caribbean Regional Fisheries Mechanism*,
  - 1.5. the *Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement)*,
  - 1.6. the *Common Fisheries Policy Agreement*,

- 1.7. the *Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*,
  - 1.8. the *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)* and
  - 1.9. the *Protocol concerning specially protected areas and wildlife to the Convention for the protection and development of the marine environment of the wider Caribbean region (the SPAW Protocol)*.
2. Likewise, the states covered in the present study should more actively utilise the structures, resources and expertise of existing treaty frameworks and regional organisations, including:
- 2.1. the Western Central Atlantic Fishery Commission, particularly as a mechanism for information sharing and consensus building, and
  - 2.2. the *Agreement Establishing Common Fisheries Surveillance Zone of Participating Member States of the Organisation of Eastern Caribbean States*.
3. States adjacent to the French territories of the Eastern Caribbean, or Caribbean regional organisations may also wish to establish arrangements similar to the *Agreement on Fisheries between the European Economic Community and the Government of the Commonwealth of Dominica*. Such treaty arrangements should explicitly adopt principles such as: using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach, and principles of good governance.
4. In relation to non-binding international legal instruments, states should both publicise and utilise their relevant principles and approaches, particularly those set out in the FAO Code of Conduct for Responsible Fisheries, its related Plans of Action and Technical Guidelines, and the Castries Declaration on Illegal, Unreported and Unregulated Fishing. These principles and best practices also should be formally incorporated into national legislation.
5. Regional organisations should be actively used to help their Member States harmonise their fisheries policies, practices and laws. They should be used to help coordinate data collection and analysis, including by devising standardised data forms, standardised data units, etc. Regional organisations should be tasked with helping to mobilise technical and financial resources. They should also be called upon to assist Member States with their reporting obligations under regional and international treaties.
- 5.1. For example, the Ministerial Council and Caribbean Sea Commission of the Association of Caribbean States both should be used to help promote cooperation on fisheries and environmental issues.
  - 5.2. Likewise Caribbean Community (CARICOM) Member States and non-Members (through association agreements) should consider the possibility of authorising CARICOM to perform the functions of a regional fisheries management organisation (RFMO).
  - 5.3. The fisheries and environmental competences of the organs of the Organisation of Eastern Caribbean States (OECS) should be prioritised and utilised, particularly their

law-making competences, which can be used to create binding legal obligations and uniform practices throughout the sub-region. Member States should work through the organs of the OECS, in particular the Commission, to prioritise and reenergise fisheries and environmental activities, such as the Common Fisheries Surveillance Zone.

6. With respect to national legislation and policies a number of recommendations may be made:
  - 6.1. All of the states subject to study in the present report should make active efforts to delimit all of their maritime boundaries. In the interim, if boundary delimitation is not possible at present, neighbouring states should enter into bilateral or multilateral agreements allowing joint monitoring, control and surveillance (MCS). The OECS Common Fisheries Surveillance Zone could be used as a model, but ideally the scope should embrace the Wider Caribbean Sea.
  - 6.2. National fisheries laws of all of the states studied in the present report should be reviewed to ensure that they conform to modern fisheries management standards. Where fisheries laws do not formally require the provision of data to national authorities by fishers, this should be mandated.
  - 6.3. National laws should fully implement the treaty obligations assumed by each state.
  - 6.4. National Regulations related to fisheries statutes should be enacted and implemented (as permitted by the relevant Fisheries Act), and updated where necessary.
  - 6.5. Fisheries management plans should be reviewed and updated, and where no such management plan exists, one should be created and brought into force as a matter of urgency.
  - 6.6. Fisheries Advisory Committees should be created and/or activated.
  - 6.7. Stakeholder participation should be actively sought at all levels.
  - 6.8. The principles and best practices from non-binding instruments – including the FAO Code of Conduct for Responsible Fisheries and the Castries Declaration on Illegal, Unreported and Unregulated Fishing – should be formally set out in national legislation. Such principles include: using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach and principles of good governance.
  - 6.9. Greater effort should be made to harmonise fisheries and environmental legislation within the region.

### **3. Fisheries Management Approaches, Measures, Practices, Data Collection and Sharing**

#### **3.1 General Considerations and Concepts for Fisheries Management**

Fisheries management and conservation is a complex process, which involves a variety of scientific disciplines, skills, institutions and stakeholders. A core concern of fisheries management is to regulate the impact of human harvesting activities on fish stocks with the aim of ensuring that the stocks are maintained at levels that will permit sustained harvesting for the long term without compromising the

inherent structure and functioning of the marine ecosystem while generating economic and social benefits for present and future generations of harvesters and consumers of fish and other aquatic products.

### 3.1.1 Fisheries Management

According to the FAO Technical Guidelines for Responsible Fisheries on fisheries management (FAO. 1997, p. 82), fisheries management is defined as “the integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and accomplishment of other fisheries objectives.”

An important component of the case study on flyingfish fishery is an evaluation of the existing policy cycles and linkages among the countries and institutions involved with the flyingfish fishery. In accordance with above definition of fisheries management, a policy cycle is a process that is considered essential for good governance to take place. Five stages can be distinguished, which are derived from above definition of fisheries management: (1) generation of data and information, (2) analysis of data and information and generation of advice, (3) decision-making, (4) implementation and (5) review and evaluation. These stages form an iterative process that is a key part of the governance assessment methodology developed for the CLME Project (Mahon *et al.* 2011d).

### 3.1.2 Ecosystem approach to fisheries management

The ecosystem approach to fisheries (EAF) recognizes the need for fisheries management to consider the impact of the ecosystem and other users of the ecosystem on fisheries as well as the broader impact of fisheries on the ecosystem as a whole (FAO. 2003). The EAF strives to balance various societal objectives by taking into account both existing knowledge as well as uncertainties about biotic, abiotic and human components of ecosystems. The EAF also strives to take into consideration the interactions between these components by applying an integrated approach to fisheries within a meaningful ecological context. From this approach it is clear that flyingfish fisheries cannot be managed in isolation from other factors that have an impact on the fishery resources harvested by flyingfish fisheries and the aquatic environment where the fisheries take place.

Some of these impacts are caused by fisheries related factors such as small-scale and industrial fishing activities. However, there are also a number of other impacts, both land and sea based, which also need to be addressed by fisheries management. The FAO Technical Guidelines for Responsible Fisheries on Integration of Fisheries in Coastal Area Management (FAO. 1996) identify key impacts on fisheries as pollution from land based sources, e.g. industrial or agricultural waste, dumped into rivers and carried to the coastal area, pesticide and fertilizer run-off into rivers, sewage as well as sea-based impacts such oil spills, ocean dumping of toxic waste, discharge of ballast water etc.

The guidelines highlight further that while the fishery sector may also contribute to coastal pollution, generally the sector suffers more from rather than causes pollution. Direct habitat degradation occurs as a result of mangrove clearance, coral mining or indirectly by sedimentation of eelgrass beds and reefs due to soil run offs associated with poor land use practices.

The FAO Technical Guidelines for Responsible Fisheries on fisheries management (FAO. 1997, p. 59) state further that the utilization of living aquatic resources and the management of this utilization should be seen as partnerships between the management authority and the interest groups. The objectives should reflect the reasonable desires of the interest groups, within the constraints imposed by the biological and ecological limitations of the resources and the overriding objectives of national planning.



### 3.1.3 Poverty, vulnerability and fisheries management

As far as the overriding objectives of national planning are concerned, and this is particularly true for developing countries, the fight for eradication of poverty and hunger and the achievement of the Millennium Development Goals (MDGs) figure prominently among the objectives of national planning and should have a central place among management objectives of fisheries administrations. Poverty and vulnerability is a complex concept and process characterized by low incomes, poor health, low literacy levels, under nutrition and inadequate housing and living conditions. Governments have committed themselves to eradicate poverty. At the United Nations' Millennium Summit held in September 2000, all the 189 member states of the UN General Assembly adopted the Millennium Declaration directed at reducing extreme poverty and related problems that affect human well-being and are sources of global instability.<sup>5</sup> This commitment was reiterated at the World Summit on Food Security (FAO. 2009).

The Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries (CCRF) in the Caribbean: Achieving Improved Fisheries Management and Utilization in the wider Caribbean Region, held at the University of the West Indies, Cave Hill Campus, Barbados, from 6-9 December 2011, and attended by the consultants as part of their field mission, recommended that efforts be increased by fisheries authorities and other stakeholders to mainstream fisheries into national poverty reduction and development plans, strategies and programmes.

Case studies carried out in Caribbean countries with support of CRFM and FAO on the use of socio-economic indicators in integrated coastal zone and community-based fisheries management (FAO. 2006b) show some fishing communities in Dominica and elsewhere as being among the rural poor and vulnerable groups of society. In the case of Latin America and the Caribbean, the issues of poverty alleviation and food security together with the issue of good governance was also highlighted by the recent Latin America and Caribbean Regional Consultative Meeting on Securing Sustainable Small-scale Fisheries: Bringing Together Responsible Fisheries and Social Development (FAO. 2011b). The Latin America and Caribbean Regional Consultative Meeting was one of three regional consultative workshops carried out as a follow-up to the 2009 inception workshop of the FAO Extra budgetary Programme on Fisheries and Aquaculture for Poverty Alleviation and Food Security.

The workshops built on the outcomes of the Global Conference on Small-scale Fisheries held in Bangkok in October 2008 and referred to the recommendations made by the 26th Session of the FAO Committee on Fisheries (COFI) in March 2009 with regard to the potential development of an international instrument and programme for small-scale fisheries. The purpose of the workshops was to provide guidance on the scope and contents of such an international small-scale fisheries instrument and on the possible priorities and implementation modalities for a global assistance programme

The consultation agreed that an international instrument on small-scale fisheries and a related programme would be important tools for securing small-scale fisheries. The consultation recommended that the instrument and programme should 1) be informed by human rights principles and existing instruments relevant to good governance and existing instruments, 2) comprise the ecosystem approach to Fisheries (EAF) as guiding principle to resource management and development and 3) incorporate Disaster Risk Management (DRM) and Climate Change Adaptation (CCA) as an integral part. In his concluding statement at the consultation, the representative of CRFM highlighted that in addition to drafting and adopting new global instruments, there was a need for strengthening the existing network of Caribbean fishers' organisations, particularly for capacity building.

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<sup>5</sup> See <http://www.un.org/millennium/summit.htm>

A recently completed diagnostic study to determine poverty and vulnerability levels in CARICOM fishing communities (CRFM. 2011b) covered four of the countries included in this report i.e. Barbados, Grenada, Saint Vincent and the Grenadines and Trinidad and Tobago. The study included capture fisheries, aquaculture and fish processing. Poverty and vulnerability were identified with reference to unsatisfied basic needs (UBN). Households with more than one UBN were classified as poor households. Households with one UBN were classified as vulnerable.

In the case of Grenada and Saint Vincent and the Grenadines, more than 5 percent of the households in the fisheries / aquaculture sectors were classified as being poor; 6.61 and 5.41 percent, respectively (CRFM. 2011b, p. xvi). In both countries, these households were involved in capture fisheries. The same is true for Trinidad and Tobago, where the percentage of fisheries households living in poverty was 1.32 percent. Poverty in fisheries households was not an issue in Barbados.

Compared to poverty, vulnerability was found to be a much more important issue in all four countries covered by the study. Grenada topped the list with 25.62 percent of fisheries households being vulnerable, followed by Trinidad and Tobago with 15.23 percent, Saint Vincent and the Grenadines with 10.81 percent and Barbados with 7.37 percent. The main components of poverty and vulnerability were lack of access to services, poor quality of dwellings, semi-illiteracy and low levels of education as well as low economic capacity and productivity. Large household and family sizes as well as high illiteracy and semi-illiteracy levels figured prominently among the demographic characteristics of poor and vulnerable households. Another characteristic, poor and vulnerable fisheries households had in common, was that they depended more strongly on fisheries for their income as compared to other households.

As far as the management of flyingfish fisheries are concerned, in which vulnerable communities are involved, considering the above commitments, governments are obliged to avoid inflicting poverty through imposing management measures and changes in fishing practices that reduce the income generating capacity of already poor people. However, if such management measures are chosen, accompanying mitigation measures need to be taken which ensure that poverty at least does not increase or spread as a result of the implementation of new regulations.

Any approach to the management of flyingfish fisheries must ensure that other users also do their share to restore and conserve fishery resources. This includes efforts to efficiently regulate industrial fishing fleets, efforts to end IUU fishing, the reduction and prevention of water pollution and coastal erosion caused by housing, quarries, removal of sand and industrial development, and the proper management of other factors, which have an impact of fisheries resources and aquatic habitat.

## **3.2 Ecosystem Considerations Pertaining to Flyingfish Fisheries**

### **3.2.1 Ecosystem services of the pelagic ecosystem**

Flyingfish fisheries in the eastern Caribbean are part of the pelagic ecosystem. The pelagic ecosystem provides a range of ecosystem services, which can be divided into provisioning, regulating, cultural and supporting services (CLME. 2011, p. 69). The provisioning services include the provision of fish for food and for commercial, recreational and subsistence fishing; the generation of wave energy and the provision of a medium for transportation, i.e. shipping and pharmaceutical products. The prominent regulatory service of the pelagic ecosystem is climate regulation. Cultural ecosystem services include recreational and tourism services and values, knowledge systems and educational values as well as spiritual and inspirational values. Supporting ecosystem services of the pelagic ecosystem include habitat for fish, including critical habitat for eggs and larval stages of fish and shellfish, transport of eggs and larvae to feeding and recruitment grounds as well as biodiversity functions related to sea turtles, sea birds and marine mammals.

### 3.2.2 Flyingfish Fisheries in the Eastern Caribbean<sup>6</sup>

In the central western Atlantic, the four-wing flyingfish supports commercially important fisheries in three geographically separate areas: the eastern Caribbean islands, the southern Netherlands Antilles and northeast Brazil. Tagging and genetic studies suggest that there is a single stock of four-wing flyingfish (*Hirundichthys affinis*) within the southeastern Caribbean area expanding from Dominica to Trinidad and Tobago (Gomes, Oxenford and Dales. 1999).

Previous tagging studies of the four-wing flyingfish in the central western Atlantic indicated little about the movements of flyingfish off north-eastern Brazil, but did show that flyingfish move freely between the eastern Caribbean islands, although they do not appear to travel as far as the southern Netherlands Antilles. The authors highlight that tagging studies only address geographical movement of fish and cannot discriminate among genetically discrete stocks. However, genetic studies carried out by the authors observed extensive genetic diversity with distinct composite mitotypes being detected for each of the three geographical areas, indicating a lack of gene flow between these areas and the existence of at least three unit stocks of *H. affinis* in the central western Atlantic. The implications for management of the flyingfish resource in the central western Atlantic are that three independent stock assessments and management strategies would be appropriate and that management of the eastern Caribbean stock will need to be at a regional level since the stock is shared between the different island states, while management of the southern Netherlands Antilles stock and the northeast Brazil stock could be at a national level (Gomes, Oxenford & Dales.1999).

Ecosystem issues pertaining to the flyingfish fisheries of the Eastern Caribbean are examined by Fanning and Oxenford (2011). The four-wing flyingfish is essentially an annual species. The strong seasonal pattern in catches is probably due to a combination of the inter-cohort gap in adults and emigration from other fishing areas. Flyingfishes are an important prey group for a number of large pelagic predators such as bigeye tuna, dolphinfishes, billfishes, blackfin tuna as well as squids.

The four-wing flyingfish supports important small-scale fisheries in the region in terms of employment generation, food security and supply of bait for large pelagics fisheries. Like other small-scale fishers in the Caribbean, fishers involved in flyingfish fisheries often belong to the lower socio-economic strata of society and some live below the poverty lines of their respective countries.

Flyingfish fisheries are concentrated in the southern end of the Lesser Antilles chain (Oxenford, Mahon and Hunte. 2007). Barbados, Grenada, Martinique, Saint Lucia and Tobago have all important flyingfish fisheries and to a lesser extent Dominica. According to Mohammed et al (2008a), Barbados accounts for about two thirds of the regional catch. Compared to other countries in the region, Barbados also adds more value to flyingfish catches through processing and sale to the tourism sector. Altogether 1700 boats of small to medium size are engaged in flyingfish fisheries. The annual value of the flyingfish catch in Barbados alone is estimated at USD 15 million (CRFM. 2011c).

The total annual catch of flyingfish in Barbados was 2292 tonnes in 2009. The average annual catch of flyingfish between 1997 and 2009 was 1736 tonnes, fluctuating from a low of 922 tonnes in 2006 to a high of 2680 tonnes in 1998 (The United Nations University. Fisheries Training Programme. 2010). In the case of Barbados, flyingfish accounted for approximately 62 percent of fish landings over the period

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<sup>6</sup> An overview of social and economic indicators of the importance of flyingfish in the Eastern Caribbean including number of boats, estimated catch, investment in flyingfish fishery sector and other information is provided by FAO (2010, p. 71)

1998 - 2007. More than 90 percent of the catch is landed by the ice-boat and day boat fleets. In 2007, there were 167 ice boats and 242 registered day boats (FAO. 2010). The flyingfish fishery is the most important fishery in Barbados employing 2000 fishers, 500 vendors as well as 325 persons employed as de-boners or workers in fish processing plants.<sup>7</sup>

Other countries in the area also have important flyingfish fisheries. In Trinidad and Tobago, the flyingfish fishery is located on the Caribbean Sea coast of the island of Tobago. The main fishing craft used is the fiberglass pirogue, ranging from 22 – 32 feet. The number of boats involved in the fishery between 1988 and 2008 averaged 50 boats per season (FAO. 2010). In Saint Lucia, 331 vessels were engaged in the flyingfish fishery in 2007 (FAO. 2010). According to figures provided by the department of fisheries, the total flyingfish catch of Saint Lucia was 109.35 tonnes in 2010.

As reported at the Sixth Annual CRFM Scientific Meeting, the total annual catch of flyingfish in Martinique was 57.2 tonnes in 2009 (CRFM 2010b, p. 26). There are no targeted flyingfish fisheries in Saint Vincent and the Grenadines. The representative of the country stated at the Sixth Annual CRFM Scientific Meeting, held in 2010, that annual landings of flyingfish are usually reported as less than 500 kg (CRFM. 2010c). At the same meeting, the representative of Dominica stated that there has been a shift from the flyingfish fishery to the large pelagic fishery within the last eight years due to the increased use of FADs. The annual flyingfish landings in Dominica were reported to be less than 900 kg.

The flyingfish fishery targets the four-wing flyingfish (*Hirundichthys affinis*) although small catches of other species are also reported. Flyingfishes are caught as they form large schools and aggregate to spawn around floating objects on which they deposit their sticky eggs to maintain buoyancy. The fishing gears employed consist primarily of floating surface gillnets (or driftnets) attached to the boat and to so called ‘screelers’ made of floating palm fronds or sugarcane leaves, which serve as FADs, and handheld dip nets. While the flyingfish fishery is a directed fishery, it is at the same time part of a multi-species, multi-gear fishery, which also targets regional large pelagic species. When traveling to the fishing ground and while gillnets are soaking, stationary or trolled, hooks and lines are used for regional large pelagic species such as dolphinfish, wahoo and other species. Flyingfish is also used as bait to catch these species.

In the case of Barbados, McConney (2001) observed that 65 percent of the catch of a typical multi-species fishing trip consists of flyingfish while the remaining 35 percent of the catch consist of large pelagics of considerable economic importance. Oxenford, Mahon and Hunte (2007) assume that the two types of fishing carried out by the flyingfish fishery are inseparable as neither is economically viable alone. Another important ecosystem linkage of flyingfishes highlighted by Oxenford, Mahon and Hunte (2007) concerns the growing longline fisheries for large pelagics in the region. These fisheries depend to a much higher degree than previously considered on flyingfish fisheries for bait. Beach seine fisheries also provide bait for longlining. This seems to be particularly important in Grenada with its growing longline fisheries.

Over the last two decades, regional governments and the fishing industry spent considerable effort to develop the Caribbean region’s capacity to harvest large pelagics through the developing of longlining. Mohammed et al (2008b) observe that such efforts were quite successful with a number of countries now operating medium and large longliners (7 – 15 m and >15 m), including Grenada with over 200 longliners, Barbados with 37 registered longliners, Trinidad with 17 longliners and Dominica, Saint Lucia, Saint Vincent and Guadeloupe with a smaller number of longline vessels not taking into account the sizeable foreign owned fleet of longline vessels operating out of Saint Vincent.

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<sup>7</sup> See [www.fao.org/fishery/countrysector/FI-CP\\_BB/en](http://www.fao.org/fishery/countrysector/FI-CP_BB/en)

Since the overview provided by Mohammed et al (2008b), the number of locally owned longline vessels seems to have grown further at least in Grenada as the Report of Seventh CRFM Annual Scientific Meeting (CRFM. 2011e) suggests. The total number of locally owned and operated longline vessels amounted in 2010 to 405 vessels. Out of these vessels, 210 vessels were open pirogues of 5.4 to 6.6 m length, powered with outboard engines. 120 vessels were decked pirogues with front cabins of 8.4 to 10.8 m length, powered by outboard engines. 75 vessels were decked launches with cabins, galleys and crew berths of 10 to 18 m length, powered by inboard diesel engines.

The high demand for flying fish and catches of beach seines to be used as bait for longlining has a negative impact on the food security of local populations. Grant (2008) points out that flyingfish and beach seine catches have traditionally been a source of low cost food and protein in rural areas. The increased demand for these species as bait in the longline fisheries has resulted in increased prices and in some cases removed flyingfish and small coastal pelagics altogether from local food supplies.

### 3.2.3 Trophic Interactions, Food Web and Habitat

The four-wing flyingfish is one eleven species of flyingfishes (*exocoetids*) that have been reported in the Eastern Caribbean. As far as their role in the ecosystem is concerned, flyingfishes are an important component of the pelagic food web. Fanning and Oxenford (2011) highlight findings of a recently completed study of the Lesser Antilles Pelagic Ecosystem Project of the Food and Agriculture Organization of the United Nations regarding the four-wing flyingfish.

The findings of the study confirm the previously known trophic dependence of dophinfishes (*coryphaenids*) on flyingfishes in the eastern Caribbean. The findings highlight the vulnerability of dolphinfishes to any substantial decrease in the abundance of flyingfish, even without any change in fishing pressure on dolphinfish. The trophic dependence of dolphinfish on flyingfish was investigated using an Ecopath with Ecosim model of the Lesser Antilles Pelagic Ecosystem (LAPE). The results of the investigation suggest that increasing fishing effort in the multi-species, multi-gear flyingfish fishery targeting flyingfish, dolphinfish, wahoo and other pelagics will most likely lead to a decreased biomass of dolphinfish. The impact on the biomass of flyingfishes, however, could be neutral or positive because of decreased predation of dolphinfish on flyingfish (Mohammed et al, 2008 b).

According to Mohammed et al. (2008b), there are a number of other predators and predator groups that feed on flyingfish. In terms of total consumption of flyingfish, dolphinfish are the largest consumer followed by large mesopelagic fishes such as snake mackerel (*Gempylus serpens*), longnose lancetfish (*Alepisaurus ferox*), oilfish (*Ruvettus pretiosus*) and Atlantic pomfret (*Brama brama*) and large squids. However, none of these fishes and squids is as heavily dependent on flyingfish as part of their diet as dolphinfish.

A bioeconomic study carried out by Maren Headley of the Caribbean Regional Fisheries Mechanism Secretariat (The United Nations University. Fisheries Training Programme. 2009) examined the question of whether direct harvest of flyingfish or indirect harvest through converted predator biomass in the eastern Caribbean is more profitable. The study found that benefits obtained from direct harvest of flyingfish are \$1.7 million US. Harvest of the increased predator biomass associated with reduced flyingfish harvest results in benefits of \$474 thousand US. The net benefits represent a loss of \$1.3 million US (76%) of what is obtained by direct harvest of flyingfish. The study concluded that direct harvest of flyingfish is the better strategy.

Four-wing flyingfish are relatively low in the food web. Their diet comprises largely of zooplankton (particularly pteropods /copepods) and nekton (larval fish). While critical habitat for adult four-wing flyingfish is the open ocean with availability of floating objects to use as substrate, spawning areas can be

in coastal waters such as the shelf area off the northwest coast of Tobago, which are impacted by land based activities.

#### 3.2.4 Impacts of Land and Sea Based Human Activities

In the context of small islands, Sweeney and Corbin (2011) characterize EBM as an integrated watershed and coastal area management (IWCAM) approach. Small islands such as the Eastern Caribbean islands are considered to be one big watershed, since human activities on land can have direct negative impacts on the marine environment by polluting coastal waters, altering marine food webs, damaging habitat, eroding coastlines and contributing to climate change.

The authors further point out that human activities on land as well as in the ocean have changed coastal and marine ecosystems and threaten their ability to provide benefits to society. The main point sources of pollution in the Caribbean Sea are identified as domestic sewage, oil refineries, sugar factories and distilleries, food processing, beverage manufacturing, pulp and paper manufacturing and chemical industries. Furthermore, the increasing use of fertilizers in the Caribbean results in the accumulation of nutrients, which can then lead to eutrophication. Finally pesticides, herbicides, insecticides and other chemical substances which enter marine ecosystems by runoff, precipitation and other means are also toxic to both aquatic life and humans.

Gil-Agudelo and Wells (2011) highlight that land-based marine pollution (LMP) is complex, population dependent, expensive to remedy and a threat to both human and ecosystem health. While probably few if any specific studies have been carried out in the Caribbean on the negative impact of land based human activities on the health of marine resources and fishery resources therein, it is assumed that flyingfish, which spent a part of their life cycle in coastal waters, might be negatively affected. Dead zones and fish kills in the Gulf of Paria due to land based pollution are a regular occurrence in the Gulf of Paria, Trinidad.

As far as maritime human impacts are concerned, flyingfish fishers in Tobago have observed that seismic surveys as well as oil drilling operations, had negative effects on the abundance of flyingfish.

### **3.3 National Institutional Frameworks for Management and Conservation of Flyingfish Fisheries**

In Barbados, the overall responsibility for fisheries management and conservation including flyingfish fisheries lies with the Fisheries Division within the Ministry of Agriculture and Rural Development. In Dominica, the Fisheries Development Division of the Ministry of Agriculture Fisheries and the Environment has the overall responsibility for the management and conservation of flyingfish. The lead agency responsible for the management and conservation of flyingfish in Grenada is the Fisheries Division of the Ministry of Agriculture, Forestry and Fisheries. In Saint Lucia, the Department of Fisheries, Ministry of Agriculture, Lands, Forestry and Fisheries is tasked with the management conservation of fisheries resources. In Saint Vincent and the Grenadines and Trinidad and Tobago, the responsible agencies are the Fisheries Division of the Ministry of Agriculture, Rural Transformation, Forestry and Fisheries, and the Fisheries Division of the Ministry of Food Production, Land and Marine Affairs, respectively.

In Martinique, the overall responsibility for the management of fisheries including those catching flyingfish is vested with the Comité Régional des Pêches Maritimes et des Elevages Marins, which, in 1998, replaced the local Committee, set up in 1991. Fisher associations/unions also play a role in the political sphere. The following unions stood in the 2003 elections: Syndicat Indépendant des Marins Pêcheurs (SIMP), Fédération Professionnelle des Armateurs à la Pêche (FPAP), Syndicat des Artisans

Pêcheurs et Eleveurs Marins (SAPEM); CFDT, SYMPA and Congrès pour l'Organisation Syndicale des Artisans Pêcheurs (COSAP) (European Parliament. 2007).

Regarding past and present specific initiatives to conserve and manage flyingfish, the national report of Grenada presented at the recent 7<sup>th</sup> Annual Scientific Meeting of CRFM (CRFM. 2011e) does not mention any particular actions aimed at the management and conservation of flyingfish. The Plan for Managing the Marine Fisheries of Grenada revised in 2008 but not yet finalized or implemented does not mention flyingfish. However, small oceanic pelagics are mentioned and the management objective is stated as to maintain and improve the net incomes of the fishers in the fishery at a level above the national minimum desired income.

The report of Saint Lucia, presented at the same scientific meeting (CRFM. 2011e) does not mention any past or present initiative to conserve or management flyingfish either. The reports on Martinique, presented at the same meeting states that there are no special legislation and management regulations for commercial fishing of dolphinfish, blackfin tuna and flyingfish in Martinique.

The Third Meeting of the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean reviewed national arrangements for management and conservation of flyingfish fisheries (FAO. 2010). Except for a mesh size regulation in Saint Lucia, no regulations or management or conservations actions are reported which affect flyingfish fisheries. These findings are confirmed by the findings of the consultants during the field mission in response to the question whether present management plans and actions contain any specific provisions for the management and conservation of flying fish.

As far as existing fisheries management plans and regulations are concerned, national fisheries management plans and policies are of a more generic and general nature, some still in draft form and in the process and need of being revised and updated. Many existing national fisheries management plans and regulations were prepared in the early 1990s with assistance of the CARICOM Fisheries Resources Assessment and Management Programme (CFRAMP). They do not contain any specific provisions for the management and conservation of flyingfish with the exception of, in some cases, meshsize regulations for gillnets. The Fisheries (Amendment) Regulations of Trinidad and Tobago of 2002 and the Plan for Managing the Fisheries of Saint Lucia specify restrictions of meshsizes for monofilament and multifilament gillnets (FAO. 2006b). However, all flyingfish fisheries in the region remain open access fisheries with the potential danger that this might eventually lead to overfishing.

In general terms, most fisheries management and strategic plans, policies and regulations<sup>8</sup> make mention or incorporate some of the principles and approaches such as the EAF, references to data collection and sharing, data quality and scientific advice, shareholder participation, transparency and accountability, Monitoring, Control and Surveillance (MCS) and enforcement, decision-making, monitoring and evaluation as well as adoption of conservation and management measures. The precautionary principle, adaptive management and dispute resolution, however, are rarely included. Examples are provided below.

The Draft Strategic Plan 2008-2013 for fisheries in Saint Lucia (Department of Fisheries, Saint Lucia. 2008) is titled “Sustainability of our Fisheries”. Among other things, the plan, which was developed in collaboration with key stakeholders, promotes a collaborative approach to management of the fishery resources and outlines mandate, values and principles, vision and mission of the department of fisheries. It also highlights the domestic, regional and global issues confronting the fisheries sector.

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<sup>8</sup> See also chapter 2 of this report

Conservation and sustainable utilization of the country's fishery resources are critical components of the Strategic Plan. The department of fisheries identified three programme goals, which form the foundation of the Strategic Plan, i.e. enhancement of the management of marine and aquaculture related resources to ensure sustainable development of the fisheries sector, promotion of the use of appropriate methods and technologies within the fisheries sector and increasing stakeholder participation by promoting a collaborative approach to fisheries resource management and development.

While the Draft Fisheries Management Plan for Saint Lucia of 2006 (Department of Fisheries, Saint Lucia. 2006) contains a special management plan for flyingfish fisheries, this plan does not contain any specific management measures except for specifying minimum mesh sizes for gillnets to be used for catching flyingfish. Under regulations, in addition to the mesh size limitation, the plan only mentions "to ensure the sustainable use of the resource". Under issues to be addressed by the plan, inadequate monitoring system, inadequate information on the current status of the flying fish stocks, insufficient data / information on the incomes/ revenues being earned and costs in the fishery, inadequate regional approach to the management of the fishery are mentioned, all of which make the management of the fishery very difficult (Department of Fisheries, Saint Lucia. 2006, pp. 53 - 55).

The goals outlined in the draft strategic plan of Trinidad and Tobago 2002/2005 (Fisheries Division, Trinidad and Tobago. 2002) as well as the management objectives and policy directions incorporate the principles of co-management, involving various stakeholders, accountability of fisheries management to the fishing community and the community at large, ecological sustainability and conservation of fisheries resources. Since open-access fisheries can eventually lead to overcapitalization and ultimately to overexploitation of fisheries resources, a need to implement fisheries resource management approaches aimed at long-term sustainability and food security was recognized.

With this in mind, Trinidad and Tobago updated its marine fisheries policy in 2007 and drafted supporting legislation (FAO. 2010, p. 41). The policy adopted the concept of EAF in a comprehensive manner by addressing issues such as open access, MCS, transparent decision-making through stakeholder involvement and consultation, protection of critical fish habitat, integrated coastal zone management, fisher compensation for loss or disruption of livelihoods, consideration of the social impacts of fisheries management and impacts of multi-sectoral use of the coastal zone on fisheries. Furthermore, the Draft Fisheries Management Regulations of Trinidad and Tobago (Fisheries Division, Trinidad and Tobago. 2011) include specific provisions for the recording and licensing of fishing vessels, licensing of foreign fishing vessels, registration of local fishers, fishery monitoring and scientific research, surveillance enforcement and prosecution.

None of the fisheries management plans, draft plans or associated regulations presently used, however, contains management measures, which can be used to limit or regulate fishing effort in flyingfish fisheries such as limitations of entry into the fisheries through actively managed licensing systems, closed season, catch quotas, meaningful gear regulations and similar management measures. Furthermore, some existing management plans have not been actively implemented. A major reason behind a lack of implementation and other management functions might be the rather limited financial and human resources of the fisheries authorities in the countries visited. In some cases, fisheries authorities lack even the resources to fill positions that become vacant when staff retires.

The country report on Saint Lucia, which was presented at the Third Meeting of the WECAFC Ad Hoc Flyingfish Working Group of the Eastern Caribbean, states that the "Plan for Managing the Fisheries of Saint Lucia" highlights the sustainability of the fishery as the primary management objective for the flyingfish fishery. It also notes that the selection of specific management options should be largely dependent on the development of a sub-regional approach to management of the shared stock (FAO. 2010).



The consultants learned during their field visits that this view is generally shared by the other countries covered by this report. Likewise, McConney (2001, pp. 97 - 99), in his review of the flyingfish fisheries of Barbados, highlights the need for regional policies and plans for adjustment or management of fleet capacities to ensure the sustainability of flyingfish resources. The author also makes reference to the conclusions of the Eastern Caribbean Flyingfish Project (ECFFP) in that controlling fishing effort may be more appropriate than controlling catch through quotas and other means. The author further proposes that the following key elements need to be undertaken in order to improve future management approaches for the flyingfish fisheries: a) a regional decision-making mechanism, b) cooperation of Caribbean States in flyingfish resource assessment and management, c) cooperation between Government and fishing industry in the management of the flyingfish resource and d) control of increases in fishing effort through adoption of a precautionary approach to the licensing of new flyingfish fishing vessels.

As far as the fishery management cycle is concerned, most national fisheries management plans in CARICOM countries are not the result of a well organized iterative process of generation of data and information, analysis of data and information and generation of advice, decision-making, implementation and review and evaluation including systematic linkages with other sectors which impact the marine ecosystem and fisheries resources.

### 3.3.1 Stakeholder Participation in Fisheries Management and Conservation<sup>9</sup>

As far as ecosystem considerations and the involvement of fishery industry and other stakeholders in the formulation, implementation, evaluation and revision/updating of fisheries management plans through Fishery Advisory Committees and other means are concerned; it was observed that this has been done in the past on an ad hoc basis and not in a consistent manner.

In most countries visited, fishers' associations have been affiliated with the management and operation of fish landing sites and markets, many of which were constructed with the help of development aid. In particular, Dominica and Saint Lucia have officially formed National Fisherfolk Organizations (NFO) while Grenada and Saint Vincent and the Grenadines have established steering committees to legalize NFOs in the near future (CRFM. 2010a). In Dominica, fishers' organisations play a small role in the management, development and conservation of coastal resources. They also place and manage fish aggregating devices (FADs), which are widely used by fishers to catch migratory pelagics. There are eight registered service oriented fishers' organisations in the country, of which five are active.

While in the past, management measures have been imposed on these organisations with the hope to promote compliance, there is a need for greater participation of these organisations in actual planning, development and management of fisheries and coastal resources. In Saint Lucia, co-management has been practiced in the case of the Soufriere Marine Management Area, which was established as a local fisheries management area in accordance with the Fisheries Act of 1984. The administering body for the SMMA, the Soufriere Marine Management Area Association operates as a not-for-profit organisation overseen by a multi-stakeholder board of directors. There is also a co-management arrangement for sea urchins (FAO. 2006b, p. 75, 76).

In Trinidad and Tobago, there are two types of fishers' organisations, i.e. fishing associations and fishing cooperatives. These organisations consist of fishers, who operate from a particular landing site and comprise various types of fishers including those, who catch flyingfish. The organisations were originally formed to give fishers a collective voice and lobbying power. Cooperatives are formally organized with a board of directors and registered at the Ministry of Labour while associations are informal groups with no

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<sup>9</sup> A detailed stakeholder analysis has been undertaken and reported separately.

legally binding commitments. Both types function under one umbrella organisation i.e. the National Organization of Fishermen and Allied Cooperative Societies Ltd., which was plagued in the past by a general lack of organisation at all levels in the industry as well as by poor representation in the fishing communities. Fishers' associations in Tobago function under the All Tobago Fisherfolk Association. An umbrella organisation, the National Organization of Fishers of Trinidad and Tobago was also formed (FAO. 2006b). All above mentioned Trinidad and Tobago fishers' organisations, however, do not presently play an active role in any of the stages of the fisheries management cycle.

In Barbados, the Barbados Union of Fisherfolk Organizations (BARNUFO) has participated in the design and use of trip logbooks used by iceboats and longliners and assisted the fisheries division in the collection of catch data (FAO. 2004a). While there are examples of stakeholder participation, in the countries covered by the case study, fishers' organisations and other stakeholders, particularly those involved in flyingfish fisheries, have generally not been involved in most of the five stages of the management cycle i.e. (1) generation of data and information, (2) analysis of data and information and generation of advice, (3) decision-making, (4) implementation and (5) review and evaluation, except for being involved in stage (1) of the management cycle by cooperating with fish catch data collectors and providing information on fish processing and trade.

In the case of Barbados where a Fisheries Advisory Committee exists, the consultants learnt that the Committee did not function well and did not have substantial inputs in any of the five stages of the management cycle as far as the management or conservation of flyingfish is concerned. One of the reasons might be related to the fact that flyingfish fishers are not properly represented on the Committee.

In many countries, the functioning of Fisheries Advisory Committees has probably been hampered by three main factors. The first factor concerns the lack of continuity of their functioning as FACs have sometimes been dissolved by the responsible Minister when the advice provided by them was not convenient for one or another reason. Secondly, the fact that many FACs were chaired by the Permanent Secretary has not helped the committees either since the Permanent Secretary had too many other tasks and obligations to fulfil and not enough time to look after the FAC. Thirdly, the membership and representation was in many cases not really representative of the various stakeholders concerned. Moreover, the process of appointing members of the FACs was not fully transparent in many cases and appointments were seen to be of a "political" rather than of a technical nature.

The Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries in the Caribbean, held at the University of the West Indies, Cave Hill Campus, Barbados, from 6-9 December 2011, and attended by the consultants as part of their field mission recommended that fisherfolk organisations, in particular those of small-scale fishers, at local, national and regional level be strengthened in order to become true partners in the implementation of the CCRF and responsible fisheries management in general. This recommendation is fully supported in the light of the above observations from countries covered by the case study on flyingfish.

### 3.3.2 Integration of Fisheries in Coastal Zone Management

In some countries like Saint Lucia, the fisheries department cooperates with the physical planning department of the Ministry of Planning and Development in working together for the conservation of the coastal ecosystem by promoting wise practices for coping with beach erosion. Most presently used fisheries management plans and regulations, however, do not address the important issue of cooperation and linkages with other Government agencies, authorities and stakeholders to deal with the degradation of coastal and aquatic ecosystems that might negatively affect the reproduction and health of flyingfish and other fishes flyingfish depends on for food and other purposes.

As already described above, in the Caribbean and elsewhere, degradation of coastal and aquatic ecosystems resulting in the pollution of coastal waters, damage of coral reefs and seagrass beds and loss of biodiversity are caused by human activities such as a) municipal, commercial, agricultural or residential discharge of wastewater and stormwater runoffs; b) cutting and clearing of coastal vegetation; c) construction of buildings and walls / bulkheads too close to the sea for residential and commercial property development and other purposes; and d) mining stones and sand from beaches and dunes and other destructive land use activities. It is important to note, that such degradation of the coastal environment does not only have a negative impact on fishery resources but also destroys the natural heritage of the coast and has negative impacts on tourism and the quality of life of local residents.

The Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries (CCRF) in the Caribbean: Achieving Improved Fisheries Management and Utilization in the wider Caribbean Region, held at the University of the West Indies, Cave Hill Campus, Barbados, from 6 - 9 December 2011 also recommended that linkages and collaboration be improved between the fisheries sector and other sectors in terms of implementation of certain aspects of the CCRF, such as the integration of fisheries into coastal zone management.

Case studies carried out by CRFM in cooperation with FAO in Saint Lucia, Dominica, Trinidad and Tobago and other Caribbean countries not covered by this case study on the use of socio-economic indicators in integrated coastal zone and community-based fisheries management in the Caribbean (FAO, 2006b) came to the following conclusions regarding the institutional arrangements for the management, development and conservation of fisheries, aquatic and other coastal resources<sup>10</sup> for the respective countries.

#### *Dominica*

In the case of Dominica, a number of Government institutions are involved in the management of fisheries and coastal resources. Many areas of overlapping jurisdiction and conflicts were reported among government institutions and between these institutions and the fisheries sector. Examples included:

- the uncoordinated setting of standards for fish and fish products by three different Government agencies i.e. Bureau of Standards, the Environmental Health Department and the Fisheries Division;
- overlapping jurisdictions between the Forestry and Wildlife Division and the Fisheries Division regarding the protection of sea turtles;
- conflicts between the Ministry of Communication and Works, which grants permits to the public for removal of sand and stones from beaches, and the Fisheries Division, which is tasked with protecting fisheries and aquatic resources; and
- conflicts between the Physical Planning Division, which is the permit agency for erection and establishment of physical structures within the coastal zone, and the Fisheries Division.

While linkages have been established between the various agencies involved, the study found that these linkages were not used to foster organized development and management of fisheries and coastal resources.

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<sup>10</sup> The time available for the consultants during their field visits was too limited to verify whether the conditions described in the case studies still prevailed. An update of the case studies would be useful.

### *Saint Lucia*

In the case of Saint Lucia, the newly adopted coastal zone management (CZM) policy recognizes that previous arrangements have been inadequate and coastal resources have remained vulnerable to overexploitation and the impact of natural disaster. A newly established interagency coastal zone management advisory committee and its secretariat is expected to act as a decision-making body and provide advice, information dissemination and public education while serving as coordination mechanism, integrate coastal issues into the national development and planning framework, minimizes duplication of management functions, provide a forum for conflict resolution and conduct special activities not covered under the mandates of existing institutions.

### *Trinidad and Tobago*

The case study on Trinidad and Tobago concludes that the institutional arrangements for coastal resource management are still fragmented even though the Institute of Marine Affairs and later the Environmental Management Authority were established as multidisciplinary agencies to deal with coastal zone management in the area. Government policies still seem to favour the lucrative energy and related sectors and little has been done to upgrade government and administrative capabilities for conserving coastal and aquatic resources.

## **3.4 Regional Institutional Frameworks for Management and Conservation of Flyingfish Fisheries**

As mentioned in the introductory chapter, the CLME project assists Caribbean countries to improve the management of their shared living marine resources. The States participating in the CLME project agreed that strengthening governance and management arrangements for flyingfish should be undertaken as one of the case studies under the project. The CRFM is the responsible agency for carrying out case studies to test governance models at the local, national, sub-regional and regional levels for the flying fish fisheries.

CRFM has established a Small Coastal Pelagic Working Group (SCPWG), which regularly reviews flyingfish fisheries trends and also cooperates with the CLME project for flyingfish and is involved in the implementation of project components. CRFM and the CLME project have also established a joint Eastern Caribbean Flyingfish Fishery Steering Committee (CRFM. 2011c). SCPWG recently updated the flyingfish assessment carried out by the Third Meeting of the WECAFC ad hoc Flyingfish Working Group.

In 2011, the CRFM Ministerial Council established a Ministerial Sub-committee on Flyingfish. The Sub-committee was established because of concerns that with expanding fleet capacity and limited cooperation among States exploiting flyingfish resources, the resource may become overfished. The objective of the sub-committee is to contribute through cooperation and consultation to the long-term conservation, management and sustainable use of the shared flyingfish resources and to protect and safeguard the ecosystems, in which they are found in the Eastern Caribbean. The membership of the Sub-committee shall consist of CRFM members with a real interest in the flyingfish fishery and any other Caribbean States or Territories having a real interest in the flyingfish fishery subject to the agreement of the Ministerial Council. CRFM Member States with a real interest in flyingfish fishery are identified as Barbados, Trinidad and Tobago, Grenada, Saint Lucia, Saint Vincent and the Grenadines and Dominica. In addition to these countries, Martinique is also deemed to have a real interest in the fishery. The intention is to provide an opportunity for Martinique to participate in the deliberations of the Sub-Committee subject to the negotiation of a cooperation agreement between the French Islands and CRFM.

Among other things, the functions of the Sub-committee include:

- to regularly review the status of the flyingfish stocks and identify actions required for their conservation and management;
- to adopt proposals for joint action of Member States and Cooperating States and Territories in the Caribbean designed to achieve sustainable use of the flyingfish resources;
- to provide a forum for Member States and Cooperating States and Territories to discuss and develop joint conservation and management measures and a harmonized monitoring, control and inspection scheme to ensure compliance with management and conservation measures;
- to review compliance with adopted conservation and management measures and implementation of adopted monitoring, control, surveillance and enforcement measures;
- to refer to the CRFM Secretariat, Forum or Scientific Meeting (including the Coastal Pelagic Working Group) questions pertaining to the scientific basis for decision-making.

The recent adoption of a Caribbean Community Common Fisheries Policy should greatly facilitate regional management and conservation efforts of marine resources and ecology. The establishment of a regional fisheries organisation or arrangement as well as the establishment of a common fisheries zone is mentioned in the agreement under Article 20 (g) and (e) and left to Protocols, which Participating Parties undertake to prepare.

As far as regional cooperation is concerned, the Agreement establishing the Caribbean Community Common Fisheries Policy is not only open to members of the Caribbean Community but to any other Caribbean State or Territory that is able and willing to exercise the rights and assume the obligations under the agreement. Among other things, the agreement's vision is the effective cooperation and collaboration among the participating parties in the conservation, management and utilization of the fisheries resources and related ecosystems in the Caribbean region in order to secure the maximum benefits from those resources for the Caribbean peoples and for the Caribbean region as a whole. Among the fundamental principles highlighted in the agreement are the ecosystem and precautionary approach to fisheries management, the participatory approach and consideration of special needs of traditional, subsistence, artisanal and small-scale fishers as well as good governance, accountability and transparency.

WECAFC has established an ad hoc Flyingfish Working Group of the Eastern Caribbean, which has met three times and conducted assessments of the flyingfish stock of the Eastern Caribbean and provided management advice (FAO. 2002, FAO . 2010). Other important sub-regional and regional organisations, which have a potential impact on the governance of the pelagic ecosystem and on conservation and management of flyingfish resources and the protection of their ecosystem, are the Association of Caribbean States (ACS), the Caribbean Sea Commission (CSC), CARICOM and OECS. The ACS has been pursuing the Caribbean Sea Initiative since 1998 through the promotion of the UN Resolution "*Towards the Sustainable Development of the Caribbean Sea for Present and Future Generations*" at the UN General Assembly. As a result of this initiative, the Caribbean Sea Commission was established in 2008 to promote and oversee the sustainable use of the Caribbean Sea (Fanning, Mahon, McConney, p. 375).

These organisations need to be linked and associated with various stages of the policy cycle i.e. (1) generation of data and information, (2) analysis of data and information and generation of advice, (3)

decision-making, (4) implementation and (5) review and evaluation in any future governance scenario at various sub-regional and regional levels.

### **3.5 Overall Assessment of the Status of Flyingfish Resources and Needs for Management and Conservation**

As far as the institutional framework for the management and conservation of flyingfish is concerned and regarding stage one of the policy cycle i.e. generation of data and information, Fanning & Oxenford (2011) observe that weaknesses in the regional fisheries data collection system are of particular concern for flyingfish under an ecosystem management regime. The authors highlight that flyingfish landings remain poorly monitored or not monitored at all including flyingfish that is caught for bait fisheries.

In Tobago alone, the Acting Director of Fisheries estimated that as much as 60 percent of the current flyingfish catch is sold as bait and not recorded. In many cases in Tobago and elsewhere, bait sales are made from boat to boat and the catch is not landed at landing sites included in the present data collection system. Catch statistics in the region for flyingfish are also incomplete. Landings statistics for Martinique have previously not been available, nor have they been considered in regional stock assessments even though there is an active flyingfish fishery in the country.<sup>11</sup> Fanning & Oxenford (2011) conclude that as a result, there is no clear picture of flyingfish catches in the region. They also highlight that recompiled estimates of regional pelagic catches still did not reflect a number of known flyingfish fisheries such as in Grenada, Martinique or Tobago and that there is also a known issue of under-recording of flyingfish catches in other countries.

Other weaknesses of the present data collection system included the fact that flyingfish catches are often landed during hours outside of the working hours of data collectors. During the field visits, the consultants also learned that flyingfish catches were sometimes sold to buyers in Martinique rather than landed in the countries from where fishing boats operate. Further aspects of data collection and sharing and the adequacy of the present data collection system are discussed in the following chapter.

However, despite these weaknesses when considering flyingfish in the broader ecosystem, Fanning and Oxenford (2011) point out that the four-winged flyingfish, when considered in a single-species context, appears to be a productive and lightly fished resource perhaps not warranting strong management measures.

Their observation is in accordance with the findings of the Third Meeting of the Western Central Atlantic Fishery Commission (WECAFC) Ad Hoc Flyingfish Working Group of the Eastern Caribbean held in Mount Irvine, Tobago, 21 – 25 July 2008 (FAO. 2010). The WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean was established in accordance with the recommendations of the Ninth Session of WECAFC and the Sixth Session of the Committee for the Development and Management of Fisheries in the Lesser Antilles, held in Saint Lucia from 27 - 30 September 1999 with the intention to achieve effective regional or sub-regional management of their shared fisheries resources through the establishment of ongoing working groups following the pattern of ICCAT and ICES.

The Third Meeting of the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean reviewed and assessed national fisheries management plans, conducted an assessment of Eastern Caribbean flyingfish resources and agreed on a Draft Sub-regional Fisheries Management Plan for Flyingfish in the Eastern Caribbean. The assessment and recommendations of the WECAFC ad hoc Flyingfish Working Group directly relate to the terms of reference of this case study i.e. to make recommendations to improve

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<sup>11</sup> This observation is not any longer valid since an IFREMER representative, based in Martinique started participating in the Annual CRFM Scientific Meetings (CRFM. 2010b)

policy, legal and institutional arrangements for the flyingfish fishery, including identifying mechanisms for effective decision-making, implementation and ensuring compliance with the measures to ensure long-term conservation and management of flyingfish resources.

The recent regional flyingfish stock assessment was based on national data sets from Barbados, Saint Lucia and Trinidad and Tobago. Based on these data sets, the ad hoc Working Group concluded that the regional flyingfish stock is not currently overfished and that overfishing has not occurred in the history of the flyingfish fishery. The maximum recorded catch of flying fish in the Eastern Caribbean was determined as 4,700 tonnes.

The working group concluded that no immediate action was required by management to conserve the stock unless a significant increase in catches occurred. The working group further agreed that a trigger point of 5,000 tonnes should be established when action would need to be taken to ensure the stock does not become overfished. Management actions and options to be taken before the trigger point has been reached and after it has been exceeded are discussed further below.

The 2008 assessment of the Eastern Caribbean flyingfish stock was subsequently updated at the 7<sup>th</sup> Annual CRFM Scientific Meeting (CRFM, in prep).<sup>12</sup>

At the Fourteenth Session of WECAFC, WECAFC established a CRFM / WECAFC Working Group on Flyingfish in the Eastern Caribbean.

### **3.6 Data Collection, Analysis and Sharing**

The previous chapter on stock assessment of flyingfish in the Eastern Caribbean already identified some important shortcomings of the present data collection on flyingfish catch/landings data as follows:

- Flyingfish caught for bait is not covered at all by the present system of data collection even though it is estimated to account as much as 60 percent in the case of Tobago.
- Catch statistics in the region for flyingfish are also incomplete. There are currently no landings statistics for Martinique even though there is an active flyingfish fishery in the country.<sup>13</sup>
- Recompiled estimates of regional pelagic catches still did not reflect a number of known flyingfish fisheries such as Grenada, Martinique or Tobago.
- Under-recording of flyingfish catches occurs in other countries.

Other problems related to collection, recording, analysis and sharing of flyingfish catch and effort data highlighted at the Third Meeting of the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean are:

- Changes of operating patterns (landings of catch on weekends and holidays and after working hours of data collectors) are not covered by present data collection system.

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<sup>12</sup> The report of the CRFM assessment was not yet available by the time this report was submitted.

<sup>13</sup> This observation is not any longer valid since an IFREMER representative, based in Martinique started participating in the Annual CRFM Scientific Meetings (CRFM. 2010b).

- Shortage of staff, training and finances for adequate data collection, recording and analysis.
- Use of different data bases in different countries for entering vessel and fisher registration data.
- Problems with vessel registration data bases because of unrecorded transfer of ownership, change of landing site and use of vessels, lack of updating of vessel registration data bases from annual licensing programs and fisheries census.
- Use of different data bases for computerized catch and effort recording programs such as the more recent Caribbean Fisheries Information System (CARIFIS) Licensing and Registration System (LRS) and Trip Interview Program (TIP) data bases in some countries and Microsoft Excel in other countries.
- Delays in / lack of sharing data at the regional level through CRFM and lack of contributing to regional data bases.
- While in some cases, fisher associations and fish processors have supplied catch and processing data to fisheries administrations, the participation of fishers and other stakeholders in the collection and use of statistical data and in the identification of data needs has been modest.
- There is a lack of biological, economic and social data on flyingfish fisheries.
- The use of national data sets for analysis, assessments and any management and conservation actions has been rather limited especially in the case of flyingfish fisheries.

Country reports presented at the recent 7<sup>th</sup> Annual CRFM Scientific Meeting highlight similar problems (CRFM, 2011e). In the case of Grenada, it was pointed out while the fisheries sector has grown considerably in recent years, investment in data collection and management has not grown. This is the main reason while Grenada's data collection system functions presently at a minimum level providing estimates of total catch. This reflects the minimum investment in personnel, time and equipment for collection and analysis of fisheries statistics.

The confidence level of the data collected from the tertiary landing sites is affected by the lack of a standard format for recording catches. Consequently, some confusion exists in the minds of the staff members, who examine and collect data from these sources. Because of the fact that standard logbooks have not been introduced, catch and effort with respect to the longline fishery cannot be measured. This imposes limitations on the value of the data for assessment purposes other than tracking trends in fish landings.

The shortcomings in the collection of flyingfish data are reflected in a widespread skepticism of fishers regarding the reliability of official flyingfish statistics. Fishers generally observe a decline of flyingfish catches in recent years as well as declining local supplies and increasing prices.

The Third Meeting of the WECAFC Ad Hoc Flyingfish Working Group of the Eastern Caribbean (FAO, 2010, p. iv) concluded that the most significant uncertainty in the current assessment of flyingfish resources stems from the limited data available on catch and effort. Thus, it was agreed that improved data and monitoring is essential to ensure sustainable use of this and other fisheries resources into the future, and that achieving this improvement should be a priority focus for all WECAFC members with a flyingfish fishery. It was further agreed that the working group should maintain and update the electronic database assembled at the meeting.



CRFM, in its work plans 2010 through 2012, recognizes that because fisheries management systems in the Caribbean have been traditionally weak, it is of vital importance to improve fisheries management decision-making and planning on the basis of a sound data collection and management system (CRFM 2010a, p. 15). Under Activity 300, which deals with fisheries statistics and information, the CRFM secretariat provides assistance to member states on the establishment of a regional fisheries data base, training and technical assistance to develop the sampling system for catch, effort, biological and other fisheries related data and further development of the Caribbean Fisheries Information System (CARIFIS). However, countries are reluctant to participate in a regional database and contribute to it.

Activity 300 is supported by a JICA funded project to prepare a Master Plan on Sustainable Use of Fisheries Resources for Coastal Community Development in the Caribbean. Based on the findings of a baseline survey and regional consultations, the CRFM member states were classified into three groups according to the quality of their fisheries statistical systems and their capacity for improvements with group (a) having the highest quality and capacity for improvement and group (c) having the lowest quality and capacity for improvements. Two of the countries covered by this case study i.e. Barbados and Trinidad and Tobago were classified as group (a) countries while four countries i.e. Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines were classified as group (b) countries.

As far as support for the implementation of CARIFIS is concerned, missions to CRFM member countries are undertaken under the ongoing work plan to provide training for fisheries staff in using CARIFIS for data entry, querying and reporting and analysis of hindrances to successful implementation of CARIFIS at the national level for corrective actions.

### 3.6.1 Adequacy of present data collection, analysis and sharing system

A review of the management of large pelagic fisheries in CARICOM countries concludes that while progress has been made with national-level data collection and management, it is still probably insufficient to meet all obligations under Annex I of the United Nations Fish Stocks Agreement (FAO. 2004b, p. 106), which five of the countries covered by this report, i.e. Barbados, Martinique (France), Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago have ratified. Taking into account the deficiencies in data collection and management highlighted above, this statement applies probably also today to the collection, analysis and sharing of flyingfish fishery statistics in the Eastern Caribbean.

Annex 1 of the United Nations Fish Stocks Agreement outlines the general principles and the principles of data collection, compilation and exchange, defines basic fishery data, vessel data and information, reporting and the commitment to data exchange. Under the general principles (Article 1), the Annex highlights that the timely collection, compilation and analysis of data are fundamental to the effective conservation and management of straddling fish stocks and highly migratory fish stocks. The general principals also state that financial and technical assistance shall be provided to developing countries to enable them to meet their obligations.

The general principles of data collection, compilation and exchange (Article 2) state that States should compile fishery-related and other supporting scientific data and provide them in an agreed format and timely manner to the relevant sub-regional or regional fisheries management organisation or arrangement. These requirements are reiterated under Article 4 – data exchange. While data on flyingfish fisheries in the Eastern Caribbean have been shared occasionally at meetings such as the WECAFC ad hoc Flyingfish Working Groups or the CRFM Annual Scientific Meetings and used for assessment as elaborated above, there has not been any regular sharing of flyingfish fishery data in the form of contributing to and maintaining regional data bases.

Article 3 defines basic fishery data as time series of catch and effort by fishery and fleet, total catch in weight and number by species, discard statistics, effort statistics as well as fishing location by date and time fished. Where appropriate, states shall also collect and share data on catch composition by length, weight and sex and other biological as well as oceanographic and ecological information to be used in stock and other assessments. Article 4 specifies fishing vessel related data to be collected for standardizing fleet composition and vessel fishing power for converting between different measures of effort in the analysis of catch and effort data. From the above overview of shortcomings in data collection and analysis it is clear that countries in the Eastern Caribbean need further technical and financial assistance to cover all data requirements specified in Annex 1 of the United Nations Fish Stocks Agreement.

Apart from the Agreement, obligations for the collection, compilation and sharing of fisheries data also arise under the Agreement on the Establishment of the Caribbean Regional Fisheries Mechanism and under Articles 11 and 16 of the yet to be enacted but then binding Agreement establishing the Caribbean Community Common Fisheries Policy as well as under the non-binding FAO Code of Conduct for Responsible Fisheries (FAO, 1995, Article 6).

#### **4. Recommendations for Improvements and Identification of Mechanisms for Decision Making for Conservation and Management of Flyingfish Resources at the Regional and Sub-regional Level**

##### **4.1 Legal and Policy Framework**

Several additional recommendations arise from this consultancy, for both national and regional fisheries management.

###### 4.1.1 National Level

At the national level fisheries management legislation is varied, both in terms of comprehensiveness and effectiveness. Several states have dated fisheries legislation which does not formally include reference to key principles, such as use of the best available scientific information, the precautionary principle, the ecosystem based approach to fisheries management, the principle of sustainable use, the participatory approach, and principles of good governance. It is recommended that all subject states include formal and express reference to such principles in their statutes. With respect to Commonwealth Caribbean states, it is also recommended that appropriate language be used to make Fisheries Advisory Committees mandatory, not discretionary, and that the membership of these committees be revised to expressly include all relevant stakeholders.

With respect to national fisheries management plans, literature and case studies demonstrate that such plans can be a strong component in an effective system of ecosystem based fisheries management. It is recommended that all subject states scrutinize and revise their fisheries management plans in light of modern scientific and ecosystem based knowledge, and the precautionary principle. These fisheries management plans also must be formally and officially adopted; draft plans cannot provide the basis for effective fisheries management.

###### 4.1.2 Sub-Regional and Regional Levels

The several international and regional treaties highlighted above in the sections on ‘Substantive Multilateral Fisheries and Environmental Treaties’ and ‘Substantive Bilateral Fisheries Treaties’ together potentially provide a strong framework for the management of flyingfish. However, as also highlighted above, there is very little commonality in terms of treaty ratifications by the states studied in this report.

Thus there is no single, common legal regime which could serve as fisheries governance architecture for the Wider Caribbean. For flyingfish management, the minimum management unit suggested by Mahon *et al.* (2007) is the combined EEZs of Dominica, Martinique, St. Lucia, Barbados, St. Vincent and the Grenadines, Grenada and Trinidad and Tobago.

During the course of the research mission accompanying this report, the consultants asked national fisheries officials questions about whether a new treaty or regional organisation was necessary to manage flyingfish. The overwhelming response was in the negative, and in fact several persons expressed concern about the already large number of treaties ratified by Caribbean states, and the resource implications required for compliance with these treaties. Fanning and Mahon (2011) also argue that fisheries revenues in the Caribbean simply cannot sustain a single regional fisheries management institution.

As a result, although it would be possible to recommend the creation of a new treaty aimed at managing flyingfish fisheries in the region, one that creates new organs with binding decision-making and enforcement powers, such a recommendation most likely would neither be welcome, nor practical. Rather, various combinations of several existing treaties and organisational structures present possible solutions. In this regard there are three general challenges in the present fisheries governance regimes that must be addressed.

The first is **substantive treaty coverage**. In terms of the above treaties setting out legal obligations in relation to fisheries and the environment, the *Agreement on Straddling and Highly Migratory Stocks (Straddling Stocks Agreement)*, and the *International Convention for the Conservation of Atlantic Tunas (ICCAT Convention)* have the strongest binding norms that could potentially apply to the management of flyingfish and large pelagic fish.

ICCAT has been highlighted as an important fisheries management mechanism in relation to the Caribbean (Singh-Renton 2010a), although its capacity to coordinate the management of *all* of the components of the even large pelagic ecosystem has been questioned (Singh-Renton *et al.* 2011). ICCAT does not yet regulate flyingfish, and may never do so because of the small size and limited value of the fishery, and its irrelevance to much of the ICCAT membership. Nevertheless, since flyingfish is a closely associated species in the Eastern Caribbean region, and because ICCAT appears to be moving towards an ecosystem-based approach, it is conceivable that ICCAT coverage could be extended to that fishery.<sup>14</sup> As a result it will be briefly considered here. In this regard, it should therefore be highlighted that ICCAT, through a combination of catch quota and fishing effort restrictions imposed on members and punitive measures imposed upon non-members for alleged IUU fishing, has significantly influenced its subject fisheries and the flag states of fishing vessels (Singh-Renton 2010a, p. 5). As a consequence, the membership of ICCAT has significantly expanded, and the participation of member countries has become much more active (Singh-Renton 2010a, pp. 5 - 7). CARICOM has participated in ICCAT meetings as an observer since 1991, and continues to do so today through CRFM (Singh-Renton 2010b). The CRFM provides technical support to its constituent states at ICCAT meetings, and has assisted its members in removing ICCAT-related punitive measures. In coordinating participation of ICCAT's Caribbean membership, CRFM has recently recommended the establishment of national and regional working groups, including a CRFM Working Group on ICCAT (Singh-Renton 2010c).

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<sup>14</sup> Note in this regard the following recommendation of the Panel in ICCAT (2009), at p. 15:  
*In light of these developments in recent years, the Panel recommends that the Commission consider the need to adopt the ecosystem approach or ecosystem-based management in a more formal and systematic manner. It should also examine the question of whether there is a need to amend the Convention in this regard.*

However, an additional form of participation may be recommended, one that would lessen the burden placed upon individual member states: joint membership through a regional organisation. Article XIV(4) of the ICCAT *Convention* allows ‘any inter-governmental economic integration organisation constituted by States that have transferred to it competence over the matters governed by this Convention, including the competence to enter into treaties in respect of those matters’ to become a party to the *Convention* and a member of ICCAT. Further, the *Convention* provides that once such an inter-governmental organisation becomes a party, the member states of that organisation cease to be parties to the *Convention* in their own right (Art XIV(6)). In other words, the inter-governmental organisation replaces its members with respect to ICCAT membership. In the Caribbean context, CARICOM could be designated the competent inter-governmental economic integration organisation and could act – through CRFM – on behalf of all CARICOM Member States. Such a move would obviate the need for separate national delegations, and when combined with the proposed CRFM Working Group on ICCAT, and supported by national working groups, would ensure widespread and proactive national and regional participation in ICCAT.

In the event that this recommendation related to regional representation is not accepted, it should be noted that regional country membership in both the *Straddling Stocks Agreement* and *ICCAT* is not widespread. In addition, neither treaty currently includes all of the relevant fisheries from an ecosystem perspective. In fact the only relevant treaty involving all subject states is the *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention)*, and as discussed earlier this *Convention* is concerned more with environmental issues, such as pollution.

For this reason, a key recommendation is that relevant states in the Wider Caribbean Region should be encouraged to ratify all of the multilateral fisheries and environmental treaties surveyed in this report, either as individual states or through a representative regional organisation. Such a move would ensure both the consistency of their treaty obligations and their participation in, and awareness of, related fisheries and environmental developments. The concern expressed about the already onerous obligations assumed by some member states in relation to treaties (in terms of legislative requirements and reporting obligations), could be addressed by representative membership through a regional organisation. This will be further addressed below.

The second challenge is one of **organisational membership**. Membership in fisheries and environmental treaties is not sufficient if these treaties do not ensure binding, enforceable decisions. Membership in a regional or international *organisation* is required to enforce existing treaty commitments (substantive fisheries and environmental treaties), to develop new treaties, to take and enforce binding decisions. Since flyingfish and large pelagic fish are integrally related stocks, at least in the Eastern Caribbean, an ecosystem approach to fisheries management must be implemented. This means that ideally all of the states and territories whose waters are part of the ecosystem of flyingfish and large pelagic fish should be involved in the management of these fisheries. From this perspective, a regional or international arrangement that covers *all* of the states studied in the present report would be the most suitable. As illustrated in Table 2.0, below, three organisations include all subject states in their membership: the FAO, WECAFC and the ACS.

Table 2.0: Membership in International and Regional Organisations

	Barbados	Dominica	Grenada	Martinique *	St Lucia	St. Vincent and the Grenadine	Trinidad and Tobago
FAO	■	■	■	■	■	■	■
WECAFC	■	■	■	■	■	■	■
ACS	■	■	■	■	■	■	■
CARICOM	■	■	■		■	■	■
OECS		■	■		■	■	

However, the FAO, as highlighted earlier, appears to have the coverage, but not the competence to act as a full-fledged international fisheries management organisation. The FAO seeks to provide advice and technical assistance to its members, and has developed non-binding legal and policy instruments (such as the FAO Code of Conduct), to guide fisheries management regimes. But it is not equipped to take and enforce binding decisions and to engage in the practical aspects of monitoring, control and surveillance. As a result the FAO does not at present appear to be a suitable candidate for a comprehensive fisheries management organisation.

WECAFC, an FAO offshoot, is likewise too weak in its present form to serve as an RFMO, although its membership includes all of the states covered in the present report. Similar considerations apply to the ACS.

Nevertheless three alternative models may be suggested in relation to a suitable RFMO for the region. These models are similar to those advocated by Robin *et al.* (2011b), but place a stronger emphasis on effective, legally binding decision making and enforcement processes.

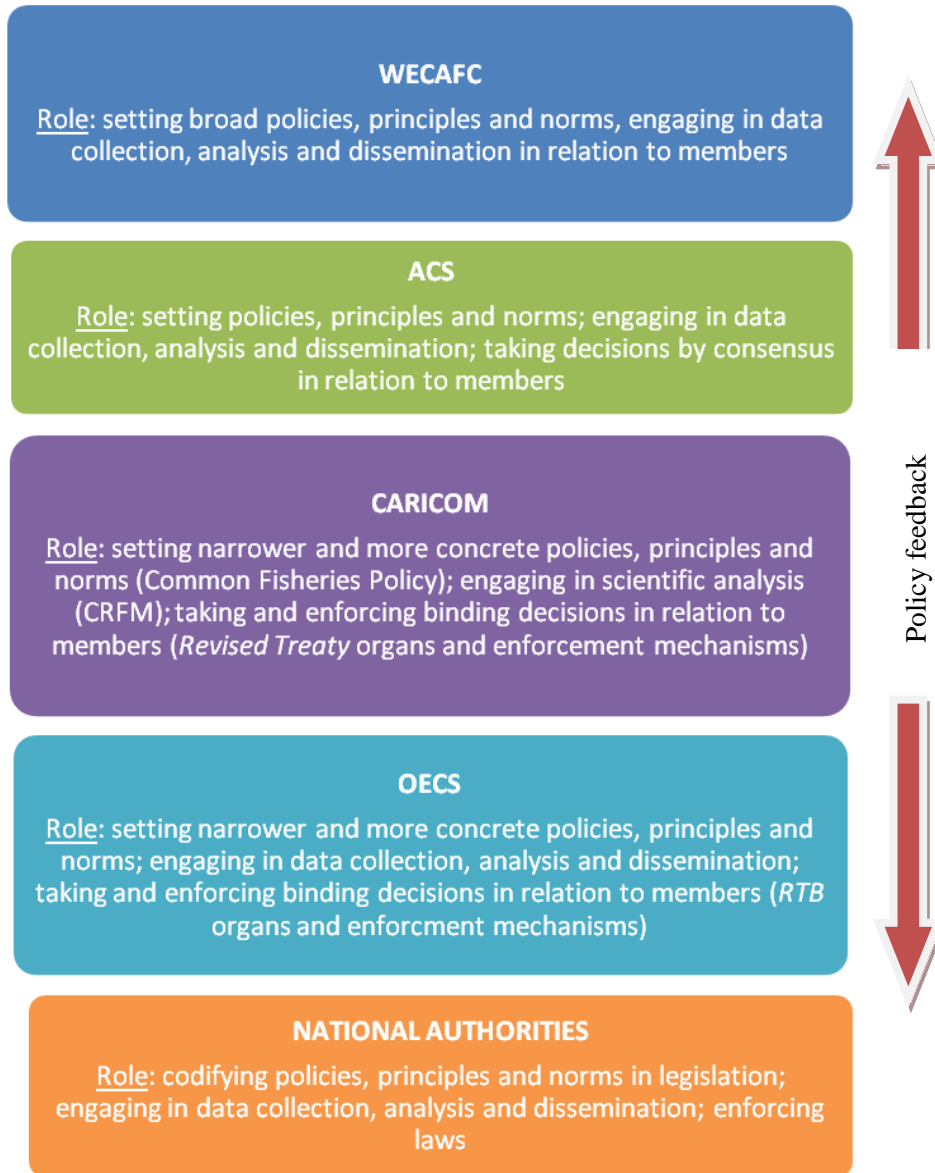
*Model A: Splitting Policy from Decision-Making / Enforcement*

The first is to use the existing ocean governance architecture for different, but complementary purposes. In this model an organisation with the widest membership, such as WECAFC, should be utilised as a mechanism for organising fisheries management in its broadest sense. In ocean governance terms, WECAFC could be reconceived as an overarching ocean policy arena (Mahon *et al.* 2011a). In relation to flyingfish (a stock for which there is already an ad hoc Working Group), WECAFC could be used as a central facility to generate, analyse and share scientific data and other information, to formulate principles, norms and policies, and to help coordinate and report on more concrete fisheries enforcement mechanisms of other regional organisations, such as the ACS, CARICOM and the OECS.

The latter three organisations could be used to implement policies developed at WECAFC in terms of taking binding decisions and enforcing those decisions (using their own dispute settlement and enforcement mechanisms), as well as to generate their own policies for consideration by WECAFC. In other words, WECAFC and Caribbean sub-regional organisations would be linked by policy cycles operating on different geographical scales and at multiple levels (local, national, regional and global), as advocated in the LME Governance Framework (Mahon *et al.* 2011a; Fanning and Mahon 2011). National authorities would also contribute to the policy cycles but also play a key role in codifying policies and norms in the form of binding rules, capable of enforcement. Perhaps a distinction involved in the model here recommended is that it proposes to use each ‘lower-level’ organisation to concretise policy decisions through binding decision-making and enforcement processes. However, states that are not members of these sub-regional organisations would need to be convinced to undertake and enforce

legal commitments compatible with those taken by the ACS, CARICOM and OECS. The following table illustrates such an arrangement.

Table 3.0: Multilevel Governance



An alternative formulation of this model, closer to that advocated by Mahon *et al.* (2011a), would be one in which WECAFC is replaced by the Caribbean Sea Commission of the Association of Caribbean States. This formulation, however, would require significant expansion, development and formalisation of the Caribbean Sea Commission, which currently lacks a Secretariat (Mahon *et al.* 2011a).

*Model B: Strengthening an Existing Organisation to be an Effective RFMO*

The second potential solution is to strengthen an existing regional organisation and to increase its membership in order to allow it to become an effective RFMO.<sup>15</sup> Although WECAFC could be a candidate for such an exercise, its infrequent meetings and its apparent reluctance to change its status to an Article XIV body and assume regulatory, decision-making and enforcement powers, militate against such a choice (Kuemlangen 2004). The ACS, the largest regional organisation in the Caribbean, appears similarly unsuitable. Its decision-making procedures are weak and its enforcement mechanisms non-existent. This leaves CARICOM and the OECS. Although the OECS could be a suitable RFMO for the Eastern Caribbean, its small size and limited human, technical and financial resources weaken its potential as a candidate. CARICOM *per se* has too many focuses other than fisheries (the CSME).

But two offshoots of CARICOM could be combined to create a powerful RFMO – the Common Fisheries Policy and the CRFM. The Common Fisheries Policy provides a strong framework. It is expressly concerned with the conservation, management, sustainable utilisation and development of fisheries resources and related ecosystems, and is guided by several fundamental principles, including using the best available scientific information, applying the precautionary and ecosystem based approaches to fisheries management, the principle of sustainable use, the participatory approach, principles of good governance and the principle of subsidiarity. The Common Fisheries Policy, however, lacks a Competent Agency to implement its normative framework. The CRFM could be designated such role (but *cf* Kuemlangen 2004). However, in order for it to be effective several changes would be required. The membership or other forms of participation in CRFM would need to be expanded to allow the effective participation of the states studied in the report which are not presently members. This may not prove impossible, since scientists from Martinique (France) already participate in the Scientific Meetings, albeit not in a formal, Governmental capacity. CRFM decision-making processes also would need to be streamlined and made more effective, in accordance with international legal rules and best practices. Clear procedures need to be developed to ensure that decisions do not become delayed or sidelined as a result of consensus-oriented processes; rather, qualified majority processes should become the norm. Enforcement processes also should be made more accessible, determinate and effective. If Associate Membership is chosen by a non-member state like Martinique (France), then the current arbitration process should be fully opened to Associate Members. Other aspects of the CRFM *Agreement* also may need to be adjusted, depending upon the attitudes of current non-member states. The CRFM may need to be, and be seen to be, legally independent of the Caribbean Community, which has its own social, political, economic and cultural imperatives. How far the CRFM would wish to remove itself from the sphere of CARICOM, however, would need to be informed by negotiations with those states that the CRFM seeks to include in its membership.

*Model C: Strengthening an Existing Organisation to be an Effective RFMO with Additional Treaty Relations with Third States*

A third model is to empower the CRFM to serve as the RFMO, within the framework of the Common Fisheries Policy, as in the second model, but to resolve the issues related to the participation of non-CARICOM Members by creating separate international agreements between each state or territory, on the one hand, and the CRFM on the other. In other words, rather than request Martinique (France), the United States and Venezuela to become Associate Members, CRFM could enter into separate treaty arrangements with each state or territory. These treaties would specify in full the rights and obligations related to participation in, and dispute settlement with, the CRFM and its members.

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<sup>15</sup> Note that given the nature of the marine resources in question, such an RFMO would likely have to work closely with other existing international organisations, such as ICCAT.

## **4.2 Fisheries management approaches, plans, measures, data collection and sharing**

Most of the representatives of fisheries administrations interviewed during the field mission agreed with the observations and recommendations made by the recent regional meetings and studies cited above, most of which they themselves participated in and contributed to, regarding the weaknesses of present management regimes for flyingfish, weaknesses of data collection, analysis and sharing and lack of involvement of stakeholders.

### 4.2.1 Strengthening Principled Ocean Governance Networks (PROGOVNET): Transferring Lessons from the Caribbean to the wider Ocean Governance Community

In the past, there has been a lack of commitment of countries as far as regional cooperation in implementing an EBM and EAF approach at the sub- regional level and, in the process, sharing and delegating and national sovereignty over marine resources. Leading experts within and beyond the regional participated in the Caribbean Regional Symposium titled Marine Ecosystem-based Management in the Caribbean: An Essential Component of Principled Ocean Governance. The solution suggested by the experts to further regional cooperation focused on strengthening efforts to provide advice to policy makers in a clear and consistent manner, incorporating knowledge from both stakeholders and scientists in the advice given.

The experts further highlighted that while fisheries was an important sector, an inter-sectoral approach that includes key marine sectors that impact the marine environment including tourism, shipping, oil and gas should be included. A strong focus on the need to provide policymakers, stakeholders and the public at large with reliable economic data on the value of ecosystem goods and services also emerged as a new idea (Fanning, Mahon, McConney 2011, p. 374). The recent adoption of a Common Fisheries Policy of the Caribbean opens up new opportunities to foster and promote regional cooperation.

The recommendations for improving fisheries management approaches, plans, measures, data collection and sharing are grouped with reference to the five stages of the fisheries management cycle i.e. (1) generation of data and information, (2) analysis of data and information and generation of advice, (3) decision-making, (4) implementation and (5) review and evaluation which form an iterative process that is a key part of the governance assessment methodology developed for the CLME Project (Mahon et al. 2011d).

### 4.2.2 Stage 1 and 2 of Fisheries Management Cycle i.e. Generation of Data and Information, Analysis of Data and Information and Generation of Advice

As previously mentioned, the Third Meeting of the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean (FAO. 2010) concluded that the most significant uncertainty in the current assessment of flyingfish resources stems from the poor data available on catch and effort. It was agreed that improved data and monitoring is essential to ensure sustainable use of this and other fisheries resources into the future and that achieving this improvement should be a priority focus for all WECAFC members with a flyingfish fishery.

This view was strongly confirmed by representatives of national fisheries administration and regional organisations met during the field mission who emphasized the notion “back to the basics” meaning getting data collection, analysis and sharing in order as a foundation for other management functions. The respondents also stressed that in order to strengthen the collection, analysis and sharing of data, there was a need for increased allocation of human and financial resources to fisheries administrations. The willingness of policy makers and the public to pay more attention to the needs of the fisheries sector can be positively influenced by more clearly demonstrating the contribution of the fisheries sector to the



national economy as well as by highlighting the eco-services and goods provided by marine eco-systems. These concerns are addressed by the recommendations below.

*Recommendations for Improvements of Flyingfish Catch and Effort Data Quality and Sharing*

- (a) **Expansion of coverage of data collection systems to systematically include flyingfish caught for bait at the national level and regional level by identifying and sampling vessels catching flyingfish for sale as bait in conjunction with registration and licensing of fishing vessels and renewal of licenses.** Such data improvements are to be shared with the CRFM / WECAFC ad hoc Flyingfish Working Group and the CRFM SCPWG. The growth of flyingfish fisheries for bait should be discussed at forthcoming annual scientific meetings of CRFM. Stakeholders such as flyingfish fishers, buyers of flyingfish to be used as bait, fisherfolk associations and other stakeholders are to be involved in identifying suitable data collection mechanism and in interpretation and use of data collected. This should include the consultation of traditional knowledge of stakeholders.
- (b) **Improvement of collection of catch statistics on flyingfish catches and effort in sub-region as part of ongoing efforts to improve fisheries statistics systems.** This is to be achieved through a) expansion of the use of Trip Interview Programmes (TIP), b) adjustment of sampling systems to changing patterns of operations of flyingfish vessels, c) identification of causes for possible under-recording of flyingfish catches, d) better training of data collectors, e) improvements of data recording systems, f) use of CARIFIS and g) sharing of national data sets with CRFM SCPWG and WECAFC Ad Hoc Flyingfish Working Group. Stakeholders such as flyingfish fishers, buyers of flyingfish to be used as bait, fisherfolk associations and other stakeholders are to be involved in identifying suitable data collection mechanism and in interpretation and use of data collected.
- (c) **Allocation of more staff and resources for the collection, recording and analysis of fisheries statistics.** This should include better training for staff dealing with the collection, analysis and sharing of flyingfish and other fisheries statistics.
- (d) **Establishment of a regional data base for catch and effort data of the eastern Caribbean flyingfish.** The database should be managed by the CRFM SCPWG in cooperation with the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean. It should draw on regional data sets assembled at the 3<sup>rd</sup> Meeting of the WECAFC Ad Hoc Flyingfish Working Group of the Eastern Caribbean and the 7<sup>th</sup> CRFM Annual Scientific Meeting for the assessment of the Eastern Caribbean Flyingfish stock. The data base should include flyingfish catches and effort from Martinique. It should eventually also encompass biological, ecological, oceanographic, economic and social data.
- (e) **Harmonization and improvement of national vessel registration and licensing systems and expansion of the use of LRS to clearly identify vessels fishing for flyingfish.** LRS should track the change of ownership, base of operation and use of vessels and provide information on licensed / registered flyingfish vessels to CRFM to be incorporated in a future regional LRS data base of CRFM SCPWG. Stakeholders such as flyingfish fishers, fisherfolk associations and other stakeholders should be involved in identifying suitable data collection mechanism and in interpretation and use of data collected.
- (f) **Expansion of fisheries extension services.** These services are to be expanded with the purpose of involving fishers' associations, fish processors and other stakeholders in the collection of

catch, trade and processing data related to flyingfish fisheries and in the identification of data needs.

*Recommendations for Studies on Ecosystem and Trophic Interactions*

- (a) **Conduct study on the impact of land and sea based human activities on habits, life cycles and food webs of flyingfish and the productivity of related marine ecosystems.** Known hotspots (Sweeney and Corbin 2011, p. 60) in the Caribbean Large Marine Ecosystem of pollution loading and pollution from land and sea based activities should be selected and their impact on the productivity of adjacent marine ecosystems, ecosystem processes and services including flyingfishes and their food webs should be investigated. Generation of information to be used by policymakers and stakeholders in ICZM, marine spatial planning and restoration of marine ecosystems; study to be guided by CRFM SCPWG and findings to be discussed at CRFM Annual Scientific Meeting.
- (b) **Valuation of economic losses resulting from negative impact of land based human activities in coastal areas and watersheds.** Information to be used by policymakers and stakeholders in ICZM to evaluate trade-offs between different land and marine ecosystem use options and for restoration of marine ecosystems.

*Recommendations for Economic and Social Evaluations of Flyingfish Fisheries*

- (a) **Conduct of a sub-regional cost and earnings study and comparison of the economic and financial performance of flyingfish fisheries and flyingfish value addition in selected countries of the Eastern Caribbean.** The purpose of the study would be the generation of advice to CRFM member states for improving the economic and financial performance and benefits of flyingfish fisheries and related value addition in the sub-region through national or sub-regional initiatives and assessment of economic contribution of flyingfish fisheries to regional economy. The study would also shed light on the profitability of individual flyingfish enterprises/fishing units and identify the factors which positively or negatively affect economic and financial performance. The study is to be guided by CRFM SCPWG and the findings to be discussed at the CRFM Annual Scientific Meetings. The study is to be carried out in close cooperation with fishers' organisations including the identification of information needs, study design, data collection and analysis.
- (b) **An economic valuation of ecosystem goods and services provided by the large marine ecosystem within which flyingfish fisheries take place in the Eastern Caribbean is recommended** (Schuhmann, Seijo and Casey. 2011). This study would complement the study recommended under C.1, which is limited to measuring the value and cost of goods and services in the measured market economy. The valuation should also include the value of ecosystem goods and services provided by watersheds that drain into the pelagic ecosystem. A valuation of ecosystem goods and services should demonstrate the benefits of responsibly managing and conserving flyingfish and other fisheries within the marine ecosystem and associated island watersheds. The valuation could be a tool to convince policy makers and the public to allocate sufficient financial resources for the proper management and conservation of fisheries and the marine ecosystem rather than neglecting the two. The study should be guided by CRFM SCPWG and the findings should be discussed at the CRFM Annual Scientific Meetings.<sup>16</sup>

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<sup>16</sup> The objective of this study should be twofold, i.e. a) to provide general information on ecosystem services and their connection to the economy and b) to estimate the monetary value of selected ecosystem services where sufficient information is available. In addition to the pelagic ecosystem services listed in chapter 3.2, watershed ecosystem services of watersheds draining into the pelagic Caribbean ecosystem as well as shoreline and wetland ecosystem services such as storm protection, flood protection, shoreline stabilization and water flow regulation and drinking water supply and filtration should also be valued.

- (c) **Conduct of a social-economic study of flyingfish fishers and processors in selected countries of the Eastern Caribbean.** The purpose of this study would be the generation of information on a) vocational skills and mobility; b) patterns of ownership, operation and management of fishing vessels, operations and crews; c) level of education; d) income and ownership of assets; e) demographic profile of households; f) housing conditions and use of services and utilities; g) financial and training needs and other aspects. The study would generate information on needs of fishers for training, technical financial and other kinds of assistance at the national or sub-regional level that might lead to a more sustainable and beneficial use of flyingfish resources and for a better involvement of fishers and their associations in the management and conservation of flyingfish resources and the aquatic environment. The study is to be carried out in close cooperation with fishers' organisations including the identification of information needs, study design, data collection and analysis and guided by CRFM SCPWG and findings to be discussed at CRFM Annual Scientific Meeting. Such a study should draw on and complement the recently completed Diagnostic Study to Determine the Poverty Levels in Fishing Communities in selected CARICOM / CRFM Member States to the extent that the study covers fishers, who are involved in flyingfish fisheries in Barbados, Grenada, Saint Vincent and the Grenadines and Trinidad and Tobago (CRFM 2010).

#### 4.2.3 Stage 3 of Fisheries Management Cycle i.e. Decision-making

All representatives of national and sub-regional fisheries authorities and organisations were generally aware that flyingfish being a shared resource can only be managed at a sub-regional level. As previously mentioned, the Third Meeting of the WECAFC ad hoc Flyingfish Working Group of the Eastern Caribbean recently conducted an assessment of Eastern Caribbean flyingfish resources and agreed on a Draft Sub-regional Fisheries Management Plan for Flyingfish in the Eastern Caribbean.

The recent regional flyingfish stock assessment was based on national data sets from Barbados, Saint Lucia and Trinidad and Tobago. Based on these data sets, the Ad Hoc Working Group concluded that the regional flyingfish stock is not currently overfished and that overfishing has not occurred in the history of the flyingfish fishery. The maximum recorded catch of flying fish in the Eastern Caribbean was determined as 4,700 tonnes. The working group concluded that no immediate action was required by management to conserve the stock unless a significant increase in catches occurred. The working group further agreed that a trigger point of 5,000 tonnes should be established when action would need to be taken to ensure the stock does not become overfished.

As highlighted above, there are a number of shortcomings in catch and effort data on flyingfish in the eastern Caribbean. There is also a lack of information on ecosystems and trophic interactions involving flyingfish and a lack of socio-economic information. Once progress towards overcoming these shortcomings and filling these information gaps has been made and regionally harmonized/compatible and up-to-date databases on vessels fishing for flyingfish, their fishing effort and catch have been established, the following recommendations could be adopted regarding decision-making on the management and conservation of flyingfish fisheries and resources.

#### *Recommendations for Management Approaches and Measures*

1. **It is recommended to update the most recent stock assessments of the Eastern Caribbean Flyingfish stock by the CRFM/WECAFC Flyingfish Working Group and the CRFM SCPWG.** This is to be done as soon as progress has been made with the collection and analysis
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of flyingfish statistics. In case it is found that the trigger point of 5000 tonnes established by the Third meeting of the WECAFC ad hoc Flyingfish Working Group has been reached, which is a quite possible outcome, it is recommended that CRFM would then advise their members on how to limit and manage the overall catch of flyingfish.

2. **It is recommended to introduce limited licensing as it will be the most appropriate management measure to limit flyingfish fishing effort should this become necessary following the precautionary approach.**<sup>17</sup> The key issue is constraining flyingfish fishing effort by allocation of total allowable fishing effort through limiting licensing among Eastern Caribbean stakeholders in the flyingfish fishery. In line with earlier regional recommendations of CFRAMP and McConney (2001), the draft regional management plan concludes that since boat types fishing for flyingfish vary significantly among different stakeholders and countries, there is a need to express total allowable fishing effort in terms of number of standard fishing units. This requires intercalibration of various boat types and needs to be reflected in a harmonized flyingfish vessel database and related registration and licensing procedures.
3. **Another management measure to be considered is the closing of the flyingfish fishery during a part of the season.** However, the socio-economic implications of this measure need to be considered carefully in terms of the effects of a closure on the economics of fishing operations and on the supply of fish to processors and consumers and as bait to longline fisheries (FAO, 2010, p. 81).

4.24 Stages (4) i.e. implementation and (5) i.e. review and evaluation of the fisheries management cycle

#### *Recommendations regarding a regional flyingfish management organisation*

**It is recommended that CRFM should be the appropriate regional flyingfish management authority tasked with the implementation review and evaluation of the regional flyingfish management plan.** The draft flyingfish fisheries management plan adopted at the Third Meeting of the WECAFC Ad Hoc Flyingfish Working Group already identifies the CRFM as the impartial sub-regional body suitable for implementing a sub-regional management plan for the shared four-wing flyingfish resource of the Eastern Caribbean. The task would be carried out with technical advice from the WECAFC Ad Hoc Flyingfish Working Group and in cooperation with fishers' organisations and fishery industry.

#### *Recommendations regarding Management Functions*

**It is further recommended that the management functions to be carried out by CRFM should be along the lines of the ones adopted by the recently established CRFM Ministerial Sub-committee on Flyingfish.** As previously mentioned, the management functions would include a) a regularly review the status of the flyingfish stocks and identification of actions required for their conservation and management, b) the adoption of proposals for joint action of Member States and Cooperating States and Territories in the Caribbean designed to achieve sustainable use of the flyingfish resources, c) to develop joint conservation and management measures and a harmonized monitoring, control and inspection scheme to ensure compliance with management and conservation measures, d) to review compliance with adopted conservation and management measures and to implement adopted monitoring, control, surveillance and enforcement measures. The participation of Martinique as well as other Caribbean States

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<sup>17</sup> The Draft Sub-regional Fisheries Management Plan for Flyingfish in the Eastern Caribbean adopted at the Third Meeting of the WECAFC ad hoc Flyingfish Working Group discusses a number of output controls such as TACs/IQs, bag limits, size limits and input control such as limited licensing, closures and gear limits (FAO, 2010).

or Territories having a real interest in the flyingfish fishery is already envisaged in the membership provisions of the CRFM Ministerial Sub-committee on Flyingfish.

Lodge et al. (2007, p. ix) point out that if an RFMO is to be stable over time, then the core issues of intra-RFMO compliance, coping with unregulated fishing and accommodating new entrants must be resolved.

*Recommendations regarding Stakeholder Participation in Implementation, Review and Evaluation*

**The present functioning and structure of national Fisheries Advisory Committees should be revised to assure participation of all fisheries sub-sectors.** Stakeholders from other sectors than fisheries, who have an impact or interest in flyingfish fisheries and its ecosystem, should also be represented. The selection process for members of Fisheries Advisory Committees should be made transparent and carried out in close consultation with the groups which are to be represented on the FAC. The structure and functioning of the FACs should be more clearly defined and operational ensuring, among other things, that the chairperson of the committees has sufficient time to fulfill her/his task.

**Impact and outcomes of management decisions on flyingfish stocks, stakeholders and marine ecosystem should be regularly reviewed at the regional level and evaluated together with concerned stakeholders who should be representative of the entire ecosystem affecting flyingfish fisheries.** Depending on the outcome of these evaluations, management plans and measures should be adjusted on a regular basis consistent with ecosystem approach to fisheries management.

*Recommendations regarding Monitoring, Control and Surveillance*

**Monitoring, control and surveillance of flyingfish fisheries should be carried out by the national fisheries authorities as well as at the sub-regional level in close cooperation with the CRFM Ministerial Sub-committee on Flyingfish.** As mentioned above, the functions of CRFM would include developing a harmonized monitoring, control and inspection scheme to ensure compliance with management and conservation measures, to review compliance with adopted conservation and management measures and to implement adopted monitoring, control, surveillance and enforcement measures.

**Lodge et al. (2007, p. 44) highlight that** the main objective of MCS systems in RFMOs is to strengthen the effective exercise of flag States' responsibility for fishing vessels flying their flags. Apart from conventional (and costly) MCS by surveillance aircraft and patrol vessels, commonly used MCS tools are vessel registers, VMS, observer programmes and inspections. The purpose is to make certain that parties effectively discharge their obligations under relevant legal instruments so as to ensure compliance with conservation and management measures adopted by the RFMO. The various elements of an MCS system cannot be seen in isolation; they are all important parts of the total system.

## **5. List of Key Informants met during Mission**

*Caribbean Regional Fisheries Mechanism (CRFM) Secretariat*

- Milton Haughton, Executive Director, CRFM Secretariat, Belize
- Terrence C. Phillips, Programme Manager, Fisheries Management and Development, CRFM Secretariat, Saint Vincent and the Grenadines
- Susan Singh-Renton, D. Phil., Deputy Executive Director, CRFM Secretariat, Saint Vincent and the Grenadines

### ***Organisation of Eastern Caribbean States (OECS)***

- Keith Nichols, Head, Environment and Sustainable Development Unit (ESDU), Saint Lucia
- Peter Murray, Programme Officer III, Environment and Sustainable Development Unit (ESDU), Saint Lucia

### ***Caribbean Large Marine Ecosystem Project (CLME)***

- Patrick Debels, Project Coordinator

### ***FAO Sub-regional Office for the Caribbean (SLAC)***

- Raymon Van Anrooy, Fishery and Aquaculture Officer / Secretary of WECAFC

### ***Barbados***

- Stephen Willoughby, Chief Fisheries Officer, Fisheries Division, Ministry of Agriculture and Rural Development
- Joyce Leslie, Deputy Chief Fisheries Officer, Fisheries Division, Ministry of Agriculture and Rural Development
- Christopher Parker, Fisheries Biologist, Fisheries Division, Ministry of Agriculture and Rural Development
- Hazel Oxenford, Professor, University of the West Indies (UWI)
- Robin Mahon, Professor of Marine Affairs and Director, Centre for Resource Management and Environmental Studies (CERMES), University of the West Indies (UWI)

### ***Dominica***

- Harold Guiste, Chief Fisheries Officer, Fisheries Development Division, Ministry of Agriculture Fisheries and the Environment

### ***Grenada***

- Justin Rennie, Chief Fisheries Officer, Fisheries Division, Ministry of Agriculture, Forestry and Fisheries

### ***Saint Lucia***

- Sarah George, Chief Fisheries Officer, Department of Fisheries, Ministry of Agriculture, Lands, Forestry and Fisheries
- Sarita Williams-Peter, Fisheries Biologist, Department of Fisheries, Ministry of Agriculture, Lands, Forestry and Fisheries
- Seon D. Ferrari, Fisheries Extension Officer, Department of Fisheries, Ministry of Agriculture, Lands, Forestry and Fisheries

### ***Saint Vincent and the Grenadines***

- Raymond Ryan, Chief Fisheries Officer, Fisheries Division, Ministry of Agriculture, Rural Transformation, Forestry and Fisheries

### *Trinidad and Tobago*

- Christine Chan A. Shing, Acting Director of Fisheries, Fisheries Division, Ministry of Food Production, Land and Marine Affairs, Trinidad
- Elizabeth Mohammed, Senior Fisheries Officer, Fisheries Division, Ministry of Food Production, Land and Marine Affairs, Trinidad
- Louanna Martin, Fisheries Officer, Fisheries Division, Marine Fisheries Analysis Unit, Ministry of Food Production, Land and Marine Affairs, Trinidad
- Kieron Draper, Transshipment Monitor, Fisheries Division, Ministry of Food Production, Land and Marine Affairs, Trinidad
- Claudette Nero, Owner, Crompton Fish Products Limited, Trinidad
- Garth Ottley, Acting Director of Fisheries, Division of Agriculture, Marine Affairs, Marketing and the Environment, Tobago
- Heather Caruth, Administrator, Division of Agriculture, Marine Affairs, Marketing and the Environment, Tobago
- Honorable Gary Melville, Secretary, Division of Agriculture, Marine Affairs, Marketing and the Environment, Tobago

### *United States of America*

- Dr. Randell Robinson, Bureau of Oceans, International Environmental and Scientific Affairs, Office of Marine Conservation, United States of America Department of State
- Nancy K. Daves, Capacity Building Coordinator, Office of International Affairs, NOAA Fisheries Service

## **6. Conclusions and Recommendations of Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries (CCRF) in the Caribbean: Achieving Improved Fisheries Management and Utilization in the wider Caribbean Region**

The Regional Policy and Planning Workshop on the FAO Code of Conduct for Responsible Fisheries (CCRF) in the Caribbean: Achieving Improved Fisheries Management and Utilization in the Wider Caribbean Region, was held at the University of the West Indies, Cave Hill Campus, Barbados in the period 6 - 9 December 2011. The workshop was co-organized by FAO, the Ministry of Agriculture, Food, Fisheries and Water Resource Management of Barbados Centre for Resource Management and Environmental Studies (CERMES) and the Western Central Atlantic Fishery Commission (WECAFC).

The workshop was attended by participants from:

Antigua and Barbuda, Barbados, British Virgin Islands (BVI), Dominica, Grenada, Guyana, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname and the United States of America (USA), as well as the following organisations: Barbados Boat Owners and Fishers Association (BOFA), Barbados National Union of Fisherfolk Organization (BARNUFO), Bellairs Research Institute, CARIBSAVE, Cape Eleuthera Institute (CEI), Centre for Resource Management and Environmental Studies (CERMES), CLME, Caribbean Network of Fisherfolk Organizations (CNFO), CRFM, Fisheries Advisory Committee of Barbados (FAC), FAO, NOAA, OECS-ESDU, SICA / OSPESCA, The Nature Conservancy (TNC), WECAFC and WWF-Guianas.

## Conclusions

The workshop recognized the important contribution of fisheries to the social and economic development and food and nutrition security in the Caribbean Region and the need to strengthen existing frameworks by implementing relevant provisions of the CCRF to ensure long-term sustainable use of these valuable resources. The workshop also noted with respect to the implementation of the CCRF in the Caribbean Region, that the following regional constraints and solutions require attention from all stakeholders:

Constraints	Solutions
Limited human, technical and financial resources	Increase access to human and budgetary resources for fisheries (through increasing awareness on the socio-economic and ecological value of fisheries) and promote further collaboration and technology transfer among countries in the region
Incomplete and outdated policy and legislative frameworks for fisheries and aquaculture	Align policy and legislative frameworks (under development) with the CCRF and its technical guidelines and a common regional policy framework
Institutional weaknesses of fisheries authorities and other relevant stakeholders	
Low overall priority given to fisheries and ocean resource management and development	Increase commitment and political will for development of more sustainable practices in the fisheries sector and responsible fisheries management processes
Uncoordinated research efforts and access to information on responsible fisheries and its management	Increase collaboration between regional and international fisheries bodies (CRFM, WECAFC, OSPESCA, ICCAT) and others (CITES, OECS, UNEP, FAO) to avoid overlap and focus on consolidating efforts, and establish regional priorities for research
Inadequate / insufficient Monitoring Control and Surveillance arrangements	Mainstream fisheries management, in line with the CCRF, in existing MCS programmes of related sectors (customs, navy, coast guard, port authorities, trade and tourism).
Lack of awareness of the CCRF among Fisheries Authorities staff and other sector stakeholders, including fisheries policy makers	Communicate better the practical and economical benefits of implementing the CCRF and establish cross-sectoral linkages to further awareness
Lack of attention paid to the CCRF in fisheries management.	Develop & implement strategies to incorporate the CCRF's objectives into existing fisheries policies, laws, management plans and activities
Limited participation (and implementation) of Caribbean States in existing international fisheries instruments such as the UNFSA and Compliance Agreement	Review and ratify, accede or accept and implement relevant international fisheries treaties such as UNFSA, Compliance Agreement and Port States Agreement



The workshop also recognized that:

- The Caribbean countries and regional organisations have made major efforts in the implementation and monitoring of the CCRF; such efforts have been successful in many cases and deserve recognition.
- The CCRF is highly regarded and being used as main framework for fisheries policy development and planning at regional level, as demonstrated in important recent initiatives such as the formulation of Caribbean Community Common Fisheries Policy.
- The Ecosystem Approach to Fisheries (EAF) is highly relevant to fisheries in the region, which requires additional capacity building and awareness raising.
- Governance of the sector is taking place at different levels and is complicated in terms of the number and wide variety of authorities and stakeholders involved.
- In context of the International Plan of Action for the conservation and management of Sharks (IPOA-Sharks) it was regarded that the eastern Caribbean sharks are generally caught within a multi-species, multi-gear fishery, often untargeted. Nevertheless, it is important to note that shark catches are not discarded as they are sold and consumed, without waste, by the locals.

## **Recommendations**

In recognition of above conclusions and the intensive discussions that took place at the workshop, the regional workshop participants endorsed the following recommendations:

### **To Governments in the Caribbean Region:**

- Increase commitment to the sustainable management of fisheries and follow-up on the implementation of binding / non-binding fisheries instruments.
- Fishery and aquaculture legal and policy frameworks that are being developed should be based on the principles and consistent with the objectives of the Code of Conduct for Responsible Fisheries, whilst being in line with the Caribbean Community Common Fisheries Policy and the St Lucia Declaration on IUU fishing.
- The absence of updated legal frameworks should not delay efforts to promote the implementation of the CCRF.
- Governments (including Fisheries authorities) should be mindful of the international binding and non-binding agreements related to fisheries and work towards their adoption and implementation, as appropriate; the latter may be converted into a binding nature at regional level to ensure and enhance their effectiveness.
- Political will for and commitment to the implementation of the Code of Conduct for Responsible Fisheries, its ancillary instruments and other relevant international agreements and conventions, be increased in the region.

- Linkages and collaboration be improved between the fisheries sector and other sectors in terms of implementation of certain aspects of the CCRF, such as the integration of fisheries into coastal zone management.
- Linkages and collaboration be strengthened among fisheries authorities and other government ministries and departments to improve a general understanding of the CCRF and facilitate its implementation.
- Fisherfolk organisations, in particular those of small-scale fishers, at local, national and regional level be strengthened in order to become true partners in the implementation of the CCRF and responsible fisheries management in general.
- Efforts be made to better document the features and contributions of the small-scale fisheries sector in the region, capturing in particular the socio-economic aspects.
- Efforts be increased by fisheries authorities and other stakeholders to mainstream fisheries into national poverty reduction and development plans, strategies and programs.
- Fisheries Authorities should aim to incorporate the Ecosystem Approach to Fisheries (EAF), including adaptive management concepts in the management of their fisheries and aquaculture sectors. Special attention should be given to valuing traditional fisheries knowledge in the EAF processes.
- NPOAs-Sharks be developed in Caribbean countries that catch substantial quantities of sharks in their fisheries and that all Caribbean countries improve their data collection on shark catches and landings, as well as the skills to identify different species, in line with the FAO Technical Guidelines on the IPOA sharks and ICCAT recommendations.
- The precautionary approach be applied for deep sea sharks fisheries, in order to avoid fishing to depletion of stocks we do not know enough about as yet.
- Priority be given to certain social-economic and ecological objectives in the region, as resources are limited.

**To Others (International and Regional Organisations as well as NGOs):**

- That FAO supports, through relevant national and regional bodies, fisherfolk representatives and other regional stakeholders in regional processes to develop the SSF guidelines and in the implementation of the guidelines afterwards.
- That FAO considers feedback on specific tools of the EAF toolbox and makes efforts to add examples of how tools are used by countries and projects for information.
- That biennial monitoring of the CCRF implementation in the Caribbean Region should be continued by the FAO Secretariat in close cooperation with the WECAFC secretariat and the countries in the region, to report on specific developments in the region.
- The role of national, regional and international NGO's (e.g. TNC, WWF, IUCN, CARIBSAVE, CANARI, CERMES, CNFO) in the implementation of the CCRF should be increased through

better use of their relationships with fisherfolk communities and media, as well as involving these organisations in awareness raising and capacity building efforts in the region.

- CRFM, OSPESCA, WECAFC and OECS collaborate more closely on the implementation of the CCRF, by organizing joint capacity building activities that target their constituency and by regularly sharing information, including on best practices and successful experiences.
- CLME, ACP Fish II and other projects and programs active in the region adopt the Ecosystem Approach to Fisheries (EAF) and the precautionary approach in their activities and ensure that policies, strategies, plans and legal frameworks developed with support of these projects adhere to the principles of the CCRF.
- Awareness raising and information campaigns for consumers, including in particular the tourism sector, should be conducted to sensitize the regional market on issues related to sustainable fisheries.

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*Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas* (adopted 24 November 1993, in force 24 April 2003) 2221 UNTS 91 ('FAO Compliance Agreement')

*Cartagena Protocol on Biosafety to the Convention on Biological Diversity* (adopted 29 January 2000, in force 11 September 2003) 2226 UNTS 208.

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*Convention on Biological Diversity* (adopted 5 June 1992, in force 29 December 1993) 1760 UNTS 79 ('CBD').

*Convention on Fishing and Conservation of the Living Resources of the High Seas* (adopted 29 Apr 1958, in force 20 Mar 1966) 559 UNTS 285.

*Convention on International Trade in Endangered Species of Wild Fauna and Flora* (adopted 3 March 1973, in force 1 July 1975) 993 UNTS 243 ('CITES').

*Convention on the High Seas* (adopted 29 Apr 1958, in force 30 Sep 1962) 450 UNTS 11.

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*International Convention for the Conservation of Atlantic Tunas* (adopted 14 May 1966, in force 21 March 1969) 673 UNTS 63.

*Kyoto Protocol to the United Nations Framework Convention on Climate Change* (adopted 11 December 1997, in force 16 February 2005) 2303 UNTS 148.

*Protocol attached to the Final Act of the Conference of Plenipotentiaries of the States Parties to the International Convention for the Conservation of Atlantic Tunas* (adopted 10 July 1984, in force 14 December 1997) 2020 UNTS 21 ('Paris Protocol')

*Protocol Concerning Co-Operation in Combating Oil Spills in the Wider Caribbean Region* (adopted 24 March 1983, in force 11 October 1986) (*Oil Spills Protocol*)

*Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region* (adopted 6 October 1999, in force 13 August 2010) (*LBS Protocol*)

*Protocol concerning specially protected areas and wildlife to the Convention for the protection and development of the marine environment of the wider Caribbean Region* (adopted 18 January 1990, in force 17 June 2000) 2180 UNTS 101 (*SPAW Protocol*)

*Protocol to Amend Paragraph 2 of Article X of the International Convention for the Conservation of Atlantic Tunas* (adopted 5 June 1992, in force 10 March 2005) 2367 UNTS 380 (*Madrid Protocol*).

*Revised Treaty of Basseterre Establishing the Organisation of Eastern Caribbean States Economic Union* (adopted 18 June 2010, in force 21 January 2011) (*RTB*)

*Revised Treaty of Chaguaramas Establishing the Caribbean Community, Including the CARICOM Single Market and Economy* (adopted 5 July 2001, in force 1 January 2006) 2259 UNTS 293 (*RTC*).

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St. Lucia. Fisheries Act. Law 10 of 1984, as amended.

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*Salomon v Commissioners of Customs and Excise* [1967] 2 QB 116 (CA Eng) 143 (Lord Diplock).

*Trendtex Trading Corporation v Central Bank of Nigeria* [1977] QB 529 (CA Eng).

**Annex 1: Selected Multilateral Fisheries and Environmental Treaty Ratification Statistics for Subject States**

**Table 4.0: Selected Multilateral Fisheries and Environmental Treaty Ratification Statistics for Subject States**

Item (with relevant entry into force date)	Barbados	Dominica	Grenada	Martinique*	St Lucia	St. Vincent and the Grenadines	Trinidad and Tobago	United States	Venezuela	Convention Status (Date Bound as Party)
Convention on the Territorial Sea and the Contiguous Zone (10 Sep 1964)							11-Apr-66	10-Sep-64	10-Sep-64	
Convention on Fishing and Conservation of Living Resources of High Seas (20 Mar 1966)				18-Sep-70			11-Apr-66	20-Mar-66	20-Mar-66	
Convention on High Seas (30 Sep 1962)							29-Jun-71	30-Sep-62	30-Sep-62	
UNCLOS (16 Nov 1994)	16-Nov-94	16-Nov-94	16-Nov-94	11-Apr-96	16-Nov-94	16-Nov-94	16-Nov-94			
Part XI Agreement (provisionally: 16 Nov 94; definitively: 28 Jul 96)	28-Jul-96		28-Jul-96	28-Jul-96			28-Jul-96	29-Jul-94		
Agreement on Straddling and Highly Migratory Fish Stocks (11 Dec 2011)	11-Dec-11			11-Dec-11	11-Dec-11	11-Dec-11	11-Dec-11	11-Dec-11		
ICCAT (21 Mar 1969)	13-Dec-00			21-Mar-1969 (F) or 14-Nov-97 (EU)		20-Nov-06	30-Mar-99	21-Mar-69	17-Nov-83	
ICCAT Paris Protocol (14 Dec 1997)				14-Dec-97				14-Dec-97	14-Dec-97	
ICCAT Madrid Protocol (10 Mar 2005)	10-Mar-05			10-Mar-05			10-Mar-05	10-Mar-05	10-Mar-05	
ICCAT Panel Membership	0					1,2,4	1,4	1,2,3,4	1,4	

Item (with relevant entry into force date)	Barbados	Dominica	Grenada	Martinique <sup>*</sup>	St Lucia	St. Vincent and the Grenadines	Trinidad and Tobago	United States	Venezuela
Convention on Biological Diversity (29 Dec 1992)	10-Dec-93	6-Apr-94	11-Aug-94	1-Jul-94	28-Jul-93	3-Jun-96	1-Aug-96		13-Sep-94
Cartagena Protocol on Biosafety (11 Sep 2003)	11-Sep-03	13-Jul-04	5-Feb-04	11-Sep-03	16-Jun-05	11-Sep-03	11-Sep-03		11-Sep-03
FAO Constitution (16 Oct 1945)	6-Nov-67	12-Nov-79	8-Nov-75	16-Oct-45	26-Nov-79	7-Nov-81	19-Nov-63	16-Oct-45	16-Oct-45
WECAFC Membership	(NDI)	(NDI)	(NDI)	(NDI)	(NDI)	(NDI)	(NDI)	(NDI)	(NDI)
FAO Compliance Agreement (24 Apr 2003)	24-Apr-03			24-Apr-03	24-Apr-03			24-Apr-03	
Cartagena Convention (11 Oct 1986)	11-Oct-86	4-Nov-90	16-Sep-87	11-Oct-86	11-Oct-86	10-Aug-90	11-Oct-86	11-Oct-86	17-Jan-87
Oil Spills Protocol (11 Oct 1986)	11-Oct-86	4-Nov-90	16-Sep-87	11-Oct-86	11-Oct-86	10-Aug-90	11-Oct-86	11-Oct-86	17-Jan-87
SPAW Protocol (17 Jun 2000)	14-Nov-02			5-May-02	17-Jun-00	17-Jun-00	17-Jun-00	15-May-03	17-Jun-00
LBS Protocol (13 Aug 2010)				13-Aug-10	13-Aug-10		13-Aug-10	13-Aug-10	
CITES (1 Jul 1975)	9-Mar-93	2-Nov-95	28-Nov-99	9-Aug-78	15-Mar-83	28-Feb-89	18-Apr-84	1-Jul-75	22-Jan-78
CRFM Agreement (4 Feb 2002)	4-Feb-02	(NDI)	4-Feb-02		(NDI)	4-Feb-02	4-Feb-02		
ACS Convention (4 Aug 1995)	4-Aug-95	4-Aug-95	4-Aug-95	20-Mar-98	4-Aug-95	4-Aug-95	4-Aug-95		4-Aug-95
Revised Treaty of Chaguaramas (1 Jan 2006)	1-Jan-06	1-Jan-06	1-Jan-06		1-Jan-06	1-Jan-06	1-Jan-06		
Revised Treaty of Basseterre (21 Jan 2011)		21-Jan-11	21-Jan-11		30-Apr-11	21-Jan-11			



## NOTES

\* Ratification information for Martinique is that of France, on the assumption that France has extended its treaty party status to its overseas territories

(NDI) No date is indicated for ratification or accession but the state is specified to be a party in the relevant treaty-related documents

### **Convention on the Territorial Sea and the Contiguous Zone, Geneva, 29 April 1958**

UNTS website: In force 10 September 1964

#### **Venezuela (Bolivarian Republic of)**

With reference to article 12 that there are special circumstances to be taken into consideration in the following areas: The Gulf of Paria and zones adjacent thereto; the area between the coast of Venezuela and the island of Aruba; and the Gulf of Venezuela.

#### *Reservation made upon ratification:*

With express reservation in respect of article 12 and paragraphs 2 and 3 of article 24 of the said Convention.

### **Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, 29 April 1958**

UNTS website: In force 20 March 1966

### **Convention on the High Seas, Geneva, 29 April 1958**

UNTS website: In force 30 September 1962

France signed the Convention on 30 October 1958 but did not ratify.

### **United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982**

UNTS website: In force 16 November 1994

Convention status statistics reflect date of entry into force of UNCLOS if the state's ratification occurred prior to that date.

### **Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, New York, 28 July 1994**

UNTS website: In force provisionally (16 November 1994), definitively (28 July 1996)

Agreement status statistics reflect date of entry into force of the Agreement if the state's ratification occurred prior to that date.

States indicated became a party by means of consent to be bound

The US is provisionally applying only

**Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, New York, 4 August 1995**

UNTS website: In force 11 December 2011

Agreement status statistics reflect date of entry into force of the Agreement if the state's ratification occurred prior to that date.

**International Convention for the Conservation of Atlantic Tunas, Rio de Janeiro, 14 May 1966**

ICCAT website (<http://www.iccat.es/en/signatures.htm>)

UNTS website: In force 21 March 1969

Status dates are those for which ratification became effective. Note that the US is stated to have become a party on the ICCAT website on 18 May 1967.

France became a party to the Convention in 1968, but the ICCAT website only lists St-Pierre et Miquelon in relation to France. Since French fisheries is now governed by EU law, the EU date of acceptance of the Convention is also listed.

***ICCAT Panels***

Panel 1 Tropical tunas - Yellowfin, Bigeye, Skipjack

Panel 2 Temperate tunas North - Albacore and Bluefin

Panel 3 Temperate tunas South- Albacore and Bluefin

Panel 4 Other species - Bonito, Swordfish, Billfish, other species

**Protocol attached to the Final Act of the Conference of Plenipotentiaries of the States Parties to the International Convention for the Conservation of Atlantic Tunas, Paris, 10 July 1984 (Paris Protocol)**

ICCAT website lists entry into force date as 14 December 1997, since entry into force required a decision by the Commission on that date. This date is accepted as official.

UNTS website lists entry into force date as 19 January 1997, and therefore the same date for effectiveness.

**Protocol to amend paragraph 2 of article X of the International Convention for the Conservation of Atlantic Tunas, Madrid, 5 June 1992 (Madrid Protocol)**

UNTS website: In force 10 March 2005

**Convention on Biological Diversity, Rio de Janeiro, 5 June 1992**

UNTS website: In force 29 December 1992

The United States signed the convention on 4 June 1993 but is not a party

**Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Montreal, 29 January 2000**

UNTS website: In force 11 September 2003

**Constitution of the Food and Agricultural Organization of the United Nations, Quebec City, 16 Oct 1945 (FAO Constitution)**

FAO website - Membership (<http://www.fao.org/Legal/member-e.htm>) and basic texts (<http://www.fao.org/Legal/member-e.htm>)

Entry into force date not specified on website but assumed to be the first date of membership: 16 October 1945

**WECAFC Membership**

FAO website (<http://www.fao.org/fishery/rfb/wecafc/en>)

**Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, November 1993 (FAO Compliance Agreement)**

FAO website (<http://www.fao.org/Legal/treaties/012s-e.htm>): In force 24 April 2003

France is not a party to the Agreement, but since the European Union is, the EU's date of acceptance is indicated for Martinique.

**Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena de Indias, 24 March 1983 (Cartagena Convention)**

Cartagena Convention website (<http://www.cep.unep.org/cartagena-convention/ratification-status.pdf>): In force 11 October 1986

UNTS website: In force 11 October 1986

Following the entry into force of the Convention and its Protocols, subsequent accessions are effective 30 days after date of deposit of instrument of ratification: Art. 28, Cartagena Convention

**Protocol Concerning Co-Operation in Combating Oil Spills in the Wider Caribbean Region, Cartagena de Indias, 24 March 1983 (Oil Spills Protocol)**

Cartagena Convention website (<http://www.cep.unep.org/cartagena-convention/ratification-status.pdf>): In force 11 October 1986

Following the entry into force of the Convention and its Protocols, subsequent accessions are effective 30 days after date of deposit of instrument of ratification: Article 28, Cartagena Convention

**Protocol concerning specially protected areas and wildlife to the Convention for the protection and development of the marine environment of the wider Caribbean region, Kingston, 18 January 1990 (SPAW Protocol)**

Cartagena Convention website (<http://www.cep.unep.org/cartagena-convention/ratification-status.pdf>): In force 18 Jun 2000

All entry into force information from Cartagena Convention website

UNTS website: In force 17 June 2000

Following the entry into force of the Convention and its Protocols, subsequent accessions are effective 30 days after date of deposit of instrument of ratification: Article 28, Cartagena Convention

**Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Oranjestad, Aruba, 6 October 1999 (LBS Protocol)**

Cartagena Convention website (<http://www.cep.unep.org/cartagena-convention/ratification-status.pdf>): In force 13 August 2010

Following the entry into force of the Convention and its Protocols, subsequent accessions are effective 30 days after date of deposit of instrument of ratification: Article 28, Cartagena Convention

**Convention on international trade in endangered species of wild fauna and flora, Washington, 3 March 1973 (CITES)**

UNTS website: In force 1 July 1975

Trinidad and Tobago entered an amendment to Article XI (3) (a) on 13 April 1987.

The United States of America entered an amendment to Article XI (3) (a) on 13 April 1987.

**Agreement Establishing the Caribbean Regional Fisheries Mechanism, Belize City, Belize, 4 Feb 2002 (CRFM Agreement)**

UNTS website: In force 4 February 2002

The CRFM website lists Dominica and St. Lucia as members, but neither the UNTS or CARICOM Matrix of Agreements lists their dates of signature.

The FAO, CARICOM and the OECS are Observers

**Convention Establishing the Association of Caribbean States, Cartagena de Indias, 4 August 1995 (ACS Convention)**

UNTS website: in force 4 August 1995

**Revised Treaty of Chaguaramas (1 January 2006)**

Entry into force date calculated by author

**Revised Treaty of Basseterre (21 January 2011)**

Entry into force date calculated by author.