



ISSN: 1995 – 1124

**CRFM Technical & Advisory Document Series**

**Number 2013 / 11  
Volume 1**

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**REGIONAL STRATEGY ON MONITORING, CONTROL  
AND SURVEILLANCE TO COMBAT IUU FISHING IN  
THE CARICOM / CARIFORUM REGION**

**2013**

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**CRFM Secretariat  
Belize 2013**

# **CRFM Technical & Advisory Document - Number 2013 / 11**

## **REGIONAL STRATEGY ON MONITORING, CONTROL AND SURVEILLANCE TO COMBAT IUU FISHING IN THE CARICOM / CARIFORUM REGION**

### **Preparation of Report:**

This report was prepared by Gilles Hosch, Paul Nichols and Tim Huntington, Poseidon Aquatic Resource Management Ltd., under contract to the ACP Fish II Project, on behalf of the Caribbean Regional Fisheries Mechanism (CRFM) Secretariat.

The report also benefited from an Expert Working Group that met in Belize over 13 - 16 August 2013, to review and finalise the draft report.

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Belize 2013**

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Correct Citation:

CRFM, 2013. Regional Strategy on Monitoring, Control and Surveillance to Combat Illegal, Unreported and Unregulated Fishing in the CARICOM / CARIFORUM Region. CRFM Technical & Advisory Document, No. 2013 / 11. 79p.

ISSN: 1995-1124

ISBN:

Published by the Caribbean Regional Fisheries Mechanism Secretariat  
Belize and St. Vincent and the Grenadines

This document has been produced with financial assistance of the ACP Fish II Programme - Funded by the European Union. However, the views expressed herein can in no way be taken to reflect the official opinions of the EU.



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## **Acknowledgements**

This Study was made possible through funding from the European Union under the ACP Fish II Programme and implemented by Poseidon Aquatic Resources Management Ltd. of the United Kingdom under contract to the ACP Fish II Programme. The field work and preparation of the reports were undertaken by Poseidon staff in collaboration with the CRFM Secretariat with inputs from the OECS Secretariat and staff of the national fisheries administrations of the CFRM / CARIFORUM Member States.

## Acronyms used

ACP	African, Caribbean and Pacific States
APSM	2009 FAO Agreement on Port State Measures
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum of ACP States
Code (The)	1995 FAO Code of Conduct for Responsible Fisheries
CG	Coast Guard
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMM	Conservation and Management Measures (of an RFMO)
COTED	Council for Trade and Economic Development
CPUE	Catch per Unit Effort
CRFM	Caribbean Regional Fisheries Mechanism
DWFNs	Distant Water Fishing Nations
FAO	Food and Agricultural Organisation of the UN
FAOCA	1993 FAO Compliance Agreement
FMP	Fisheries Management Plan
ICCAT	International Commission for the Conservation of Atlantic Tunas
IGO	Inter-Governmental Organisation
IPOA	International Plan of Action
IUU	Illegal Unreported and Unregulated (fishing)
KE	Key Expert
MCS	Monitoring, Control and Surveillance
MSC	Marine Stewardship Council
MTP	Medium Term Plan (CRFM)
NGO	Non-Governmental Organisation
NPOA	National Plan of Action
OECS	Organisation of Eastern Caribbean States
RFB	Regional Fisheries Body
RFMO	Regional Fisheries Management Organisation
RSS	Regional Security System
SOP	Standard Operating Procedures
SSF	Small Scale Fisheries
SVG	Saint Vincent and the Grenadines
SWOT	Strengths, Weaknesses, Opportunities and Threats
ToR	Terms of Reference
UN	United Nations
UNCLOS	1982 UN Convention on the Law of the Sea
UNFSA	1995 UN Fish Stocks Agreement
VMS	Vessel Monitoring System
WECAFC	Western Central Atlantic Fishery Commission

# 1 INTRODUCTION

## 1.1 THE MISSION

In 2005, the Caribbean Regional Fisheries Mechanism (CRFM) executed a study on illegal, unreported and unregulated (IUU) fishing and fisheries monitoring, control and surveillance (MCS) in the CARICOM/CARIFORUM Region. The study, which reviewed the situation of IUU fishing and MCS throughout the Region, also provided a strategy “*to enhance the effectiveness of MCS*”.

The present document represents the output of a review of the 2005 document, which was undertaken in the early second half of 2012 as a CRFM and ACP FISH II initiative. The purpose of the assignment was to provide Technical Assistance to the CRFM, as the main beneficiary and thereby national fisheries administrations, in developing a successful and co-ordinated strategic response to the growing problem of illegal, unregulated and unreported fishing in the region. The results to be achieved was: the CRFM MCS study (2005) reviewed and updated using a participatory approach involving stakeholders through selected country visits, remote consultations with other countries and one Regional Validation Workshop.

The initiative consisted of an extended first field phase, during which seven countries throughout the Region were visited<sup>1</sup>, and meetings with various stakeholders were held. The team that undertook the field visits consisted of Mr Terrence Phillips (Programme Manager, Fisheries Management and Development, CRFM SVG Office), and two experts recruited through Poseidon Ltd., Mr. Gilles Hosch (Team Leader), and Mr. Paul Nichols (Key MCS Expert). A second field phase consisted of a regional validation workshop which brought together actors of the Region to review, discuss and validate the document’s findings and proposals. A synoptic report of the October 2012 workshop is attached as an Annex to the Final Technical Report.

Following receipt of detailed comments from the CRFM Secretariat on behalf of its members, an Expert Working Group Workshop was convened over 13 – 16 August 2013 in Belize City to finalise this strategy.

The main body of this document is segmented into two distinct parts. The first one (Chapter 2) endeavours to characterise the current situation of the fisheries throughout the Region, IUU fishing in the Region, and the MCS responses directed at it. The second part (Chapter 3) assesses a range of factors conditioning a strategic MCS planning exercise (beyond the basics determined by the current IUU and MCS situation), and proposes a set of strategic guidelines to improve MCS throughout the Region at both regional and national levels. This second part is complemented by a set of project outlines, which are consistent with the proposed strategy, and are presented in *Annex 1*.

## 1.2 APPROACH TO THE UPDATING OF THE STUDY

The team arrived in Saint Vincent and the Grenadines in early August 2012, and spent one week at the CRFM Secretariat’s Eastern Caribbean office to plan and prepare the mission. A

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<sup>1</sup> The countries visited were (in chronological order): Saint Lucia, Suriname, Jamaica, Dominican Republic, Belize, Barbados and Saint Vincent and the Grenadines.

briefing with CRFM (Mr. Terrence Phillips) and ACP FISH II Officers (Dr. Sandra Grant, Regional Manager for the Caribbean, ACP FISH II Programme, Belize City, Belize, and Mr. Philippe Cacaud, Legal and MCS Expert, ACP Fish II Coordination Unit, Brussels) was held on the first day. The objective of the mission and the scope of the MCS study was clearly defined during the briefing, and formally recorded in an inception report.

The team was then provided a three week allotment for a field mission, to travel to an initially planned set of six countries. The list of countries was expanded to seven, adding an initially unplanned visit to Barbados, as Barbados was a necessary stop en route from Belize back to Saint Vincent and the Grenadines, and owing to the fact that the Chief Fisheries Officer kindly accepted to meet with the team on a Saturday.

In general terms, two working days were allocated for country visits to meet with the fisheries department, other agencies endowed with a mandate to carry out MCS functions (Navy, Police, Customs, Maritime and Port Authorities, etc.), and the private sector, fishermen's and boat owners associations, cooperatives and processors.

In parallel to the field visits, a questionnaire was circulated to all eleven CRFM members that were not to be visited by the team. The questionnaire, which is appended in *Annex 2*, covered the basic facets of IUU fishing and MCS framework substance that the field missions endeavoured to cover. The questionnaire was kept short and succinct, in order to guarantee a maximum number of returns. The same questionnaire was also responded to in visited countries, although ample opportunity to cover a lot more ground was provided during the field mission. The latter enabled the team to provide relevant examples and illustrations of particular relevant situations across the Region. By the end of the field mission, 17 out of 18 questionnaires had been secured, of which 10 out of 11 were from non-visited countries. This represents a rate of return of 94.4%. Therefore, the statistics resulting from the questionnaire can be considered face value and fully reflective of the current situation on those aspects of fisheries management, the legal framework, MCS arrangements, and IUU fishing for which statistics were raised. Results are appended in *Annex 2*.

The resulting MCS Strategy is grounded in a set of relevant and largely quantified indicators, and built around a clearly defined goal and objective. The Strategy is also informed by a synoptic regional risk analysis of IUU fishing, an analysis of the current MCS environment, a constraint (or problem tree) analysis, and a SWOT analysis of relevant national and regional institutions. Ultimately this will support the efforts of the CRFM member states in improving MCS.

## **2 CURRENT SITUATION: FISHERIES, IUU FISHING AND MCS**

### **2.1 DEFINITIONS**

#### **2.1.1 The Region**

The region to which this study applies is the CARICOM/CARIFORUM region, made up of the 17 CRFM members, plus the Dominican Republic. Forthwith, this study refers to the region as "*the Region*" for matters of simplicity. The map below provides an overview of this Region.



A key aspect of *the Region* resides in the fact that it is not contiguous, that it is spread across a vast expanse of the Caribbean Sea and its confines, and that it includes the Central American Isthmus, the Brazilian Shield, and the Lesser and the Greater Antilles Islands groups. The maritime space of the Region is splintered into five individual, contiguous groups of countries. This raises particular challenges for potential regional MCS actions.

Although the maritime boundaries of EEZs are indicated in the map below (Figure 1), many of these are merely indicative, and have not been officially set and recognised between parties. This state of affairs raises many uncertainties in the domain of where a State may, and where a State may not claim ownership of fisheries resources, and enforce its particular set of fisheries rules.

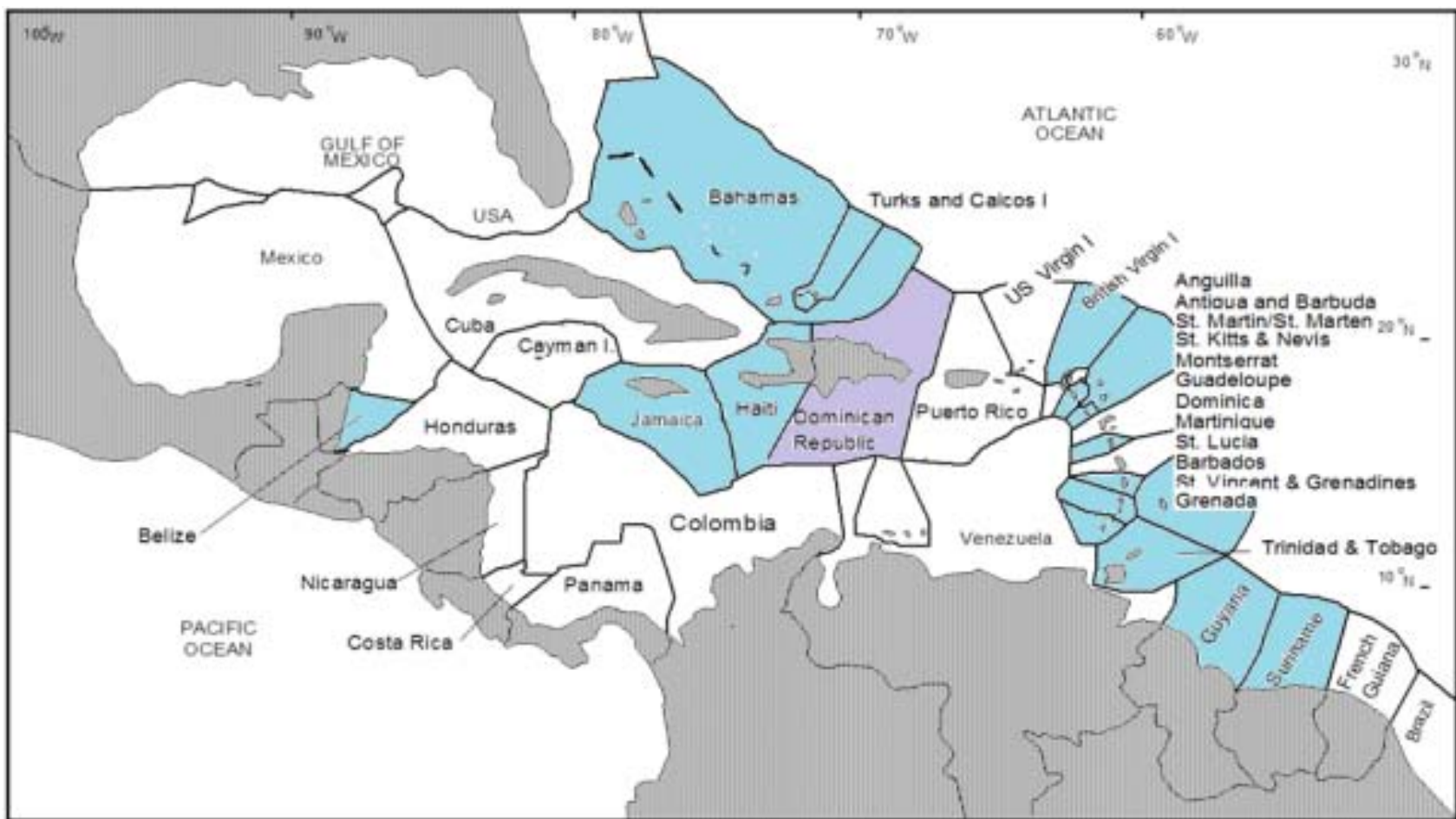


Figure 1: Map of the Region and its 18 members, as applicable to this study<sup>2</sup>

<sup>2</sup> The maritime boundaries on this map are indicative only. Many have not been formally defined, and several, as shown on the map, are not recognised by the countries they pretend to delimit. In particular a number of states do not agree with some of the hypothetical boundaries shown in this map. Note that the 18 members refers to both CRFM and CARIFORUM membership

## 2.1.2 IUU fishing

The following box provides a formal definition for IUU fishing:

### Box 1: Definition of Illegal, Unreported and Unregulated Fisheries

#### 3.1 **Illegal fishing** refers to fishing activities:

- 3.1.1 conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;
- 3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organisation but operate in contravention of the conservation and management measures adopted by that organisation and by which the States are bound, or relevant provisions of the applicable international law; or
- 3.3.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organisation.

#### 3.2 **Unreported fishing** refers to fishing activities:

- 3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or
- 3.2.2 undertaken in the area of competence of a relevant regional fisheries management organisation which have not been reported or have been misreported, in contravention of the reporting procedures of that organisation.

#### 3.3 **Unregulated fishing** refers to fishing activities:

- 3.3.1 in the area of application of a relevant regional fisheries management organisation that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organisation, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organisation; or
- 3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

The definition is directly sourced from paragraph 3 of the International Plan of Action to Combat, Deter and Eliminate Illegal, Unregulated and Unreported Fishing (IPOA-IUU). FAO, Rome. 2001.

### 2.1.3 MCS

An MCS 'Conference of Experts' organised by FAO in 1981 developed a definition of MCS that is commonly accepted by fisheries personnel:

- (a) monitoring – the continuous requirement for the measurement of fishing effort characteristics and resource yields;
- (b) control – the regulatory conditions under which the exploitation of the resource may be conducted; and
- (c) surveillance – the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.

Simply stated, MCS is the mechanism for implementation of agreed policies, plans or strategies for oceans and fisheries management. MCS is an aspect of oceans and fisheries management that is often undervalued. In reality, it is key to the successful implementation of any planning strategy. The absence of MCS operations renders a fisheries management scheme incomplete and ineffective.

Since the 1981 MCS Conference, the definition of MCS has been enhanced to promote the concept that MCS covers more than just fisheries enforcement – it is an integral and key component for the implementation of fisheries management plans. It encompasses not only traditional enforcement activities but also the development and establishment of both data collection systems, the enactment of legislative instruments and the implementation of the management plan through participatory techniques and strategies. A 1993 workshop in Ghana offered the following clarifications.

- (a) Monitoring includes the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards, area of operations, etc. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.
- (b) Control involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub-regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented. For maximum effect, framework legislation should clearly state the management measures being implemented and define the requirements and prohibitions that will be enforced.
- (c) Surveillance involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access, and management measures are observed. This activity is critical to ensure that resources are not over exploited, poaching is minimised and management arrangements are implemented.

These wider definitions amplify the importance of all aspects of MCS.<sup>3</sup>

## **2.2 FISHERIES IN THE REGION**

The Region encompasses the semi-enclosed Caribbean Sea, surrounded by the Greater and Lesser Antilles; the Central Atlantic Ocean off the coast of South America, extending from Suriname to Trinidad and Tobago; and the east of the island chain from the Lesser Antilles to The Bahamas (refer Map – figure 1). This area, totalling approximately 14.5 million km<sup>2</sup>, comprises a significant portion of FAO fishing area No. 31.

### **2.2.1 The marine environment**

Marine currents in the Region flow clockwise, with the exception of the North Equatorial and Guyana currents. The Caribbean Basin is shallow while the continental shelves are generally narrow except those of Guyana and Suriname that together contribute approximately 40% of the total respective EEZs of the Region.

The continental shelf that extends along the northeast coast of South America (sometimes referred to as the ‘Guiana Banks’) includes the maritime zones of Guyana, Suriname, French Guyana and Brazil. Numerous rivers, including the Amazon and Orinoco, drain into the Atlantic Ocean and, as a result of the slow-moving westward-flowing south equatorial current, riverine nutrients and sediment are deposited along the coast, resulting in shallow and highly productive waters.

The Region also includes countries with reef environments such as Belize and some Eastern Caribbean islands as well as countries with offshore banks with highly diverse marine living resource assemblages, as in the case of Jamaica and the Bahamas.

On the western side of the Caribbean, the marine area off Belize is a complex system consisting of the largest barrier reef in the Atlantic (220 km in length), three offshore atolls, patch reefs, sea grass beds, several hundred keys of sand and mangrove, extensive mangrove forests, coastal lagoons and estuaries.

### **2.2.2 Resources and key fisheries**

The diverse marine environment of the Region supports offshore, coastal and reef-associated fisheries. The various fisheries are characterised by the often highly migratory nature of the resource, by the presence and location of straddling stocks (due to maritime boundary delimitation), as well as by ecological and environmental factors.

The biological productivity of the Caribbean Sea is relatively low. This is due to three major factors: (a) topographical features, characterised by the relatively small shelf areas around the islands; (b) distance from land-based nutrient loads - the small island areas receive only minimal effects of the large river discharges from South America; and (c) climatic factors, in that warm tropical waters are generally not as productive as temperate, higher latitude waters.

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<sup>3</sup> This section is a partial transcript of section 1.2 “Definition of MCS”. Flewwelling, P. *et al.* *Recent trends in monitoring, control and surveillance systems for capture fisheries*. FAO Fisheries Technical Paper. No. 415. Rome, FAO. 2002. 200p. It is widely regarded as the definition of MCS.

However, the biological productivity of the marine area from Suriname to Trinidad and Tobago is higher than that of the Caribbean Sea due to the relatively large continental shelf, which accounts for around 40% of the total EEZ area, and because of the clockwise flow of currents. This allows for high nutrient retention in the area, which drives higher primary productivity and greater abundance of demersal and pelagic fish resources.

Major living marine resources across the Region include:

- **Shellfish:** queen conch, spiny lobsters, crabs, molluscs, penaeid shrimps.
- **Coral-reef fishes and associated species:** grunts, parrotfish, triggerfish, snappers, groupers, etc
- **Coastal pelagic finfish:** jacks, dolphinfish, rainbow runner, wahoo, mackerels, sharks, flying fish, herrings, sardines, anchovies.
- **Echinoderms:** sea-urchins (sea-eggs), bêche-de-mer (sea-cucumbers).
- **Offshore large pelagic finfish:** tunas, billfish and sharks.
- **Deep slope demersal finfish:** snappers, groupers.
- **Turtles and marine mammals** (whales, dolphins).

The living marine resources exploited within the coastal waters of Guyana and Suriname are mainly demersal resources with an active shrimp and sea-bob fishery and, to a limited extent, pelagic resources on the continental shelf and towards the continental slope. The target species offshore include snappers and groupers. Venezuelans, in particular, exploit this fishery under a negotiated bi-lateral fishing arrangement with Suriname. The Venezuelans also fish for snappers and groupers in Guyana's waters by way of vessel charter arrangements. However, there is still some amount of poaching of red snappers and groupers taking place in the red snapper and grouper fishery in the Guianas - Brazil area. In these countries there are substantial inland fisheries including those targeting fish for the ornamental (aquarium) trade. Both countries are also in the forefront of actively developing aquaculture in the Region.

The reef fishery, the demersal bank fisheries (snapper and grouper), and the lobster and conch fisheries dominate the fisheries in the island chain of the Eastern Caribbean Islands.

Migratory pelagic fishes such as tuna and tuna-like species, dolphinfish and flying fish also populate the waters of the Caribbean. The commercial fishing industry in the Bahamas and Turks and Caicos Islands is based largely on spiny lobster and queen conch.

There are many similarities between the fisheries of the Eastern Caribbean and Jamaica. However, fisheries in Jamaica are categorised as inshore – comprising the shelf of the main island of Jamaica - and offshore – comprising offshore fishing banks such as the Pedro Bank.

Highly migratory tuna and tuna-like species are exploited by Caribbean vessels ranging from Venezuela to Cuba and The Bahamas, and by distant water fishing fleets, principally from south-east Asia, Europe, Latin America and the USA. Flying fish, which are also migratory but on a lesser scale, form the basis of important fisheries, particularly in the waters of Barbados, St. Vincent and the Grenadines, Grenada, St. Lucia, Dominica and Trinidad and Tobago.

The shared and highly migratory nature of many of the Region's fish stocks requires concerted, harmonised action over the full geographical range of such species, and thus presents particular challenges to the countries within the Region.

The nature of fisheries in the Region ranges from pelagic fisheries of Trinidad and Tobago, shrimp and groundfish fisheries of Guyana and Suriname, reef-fish based fisheries of the Eastern Caribbean, and conch and lobster fisheries of Jamaica, Bahamas, and Belize. In addition, migratory pelagic species such as tuna, wahoo, dolphinfish and Spanish mackerel move throughout the Region and support important fisheries.

Most catches are taken by a variety of small-scale vessels, using a wide range of gear and methods, including fish traps, nets (cast, seine, gill, trammel, dip-net), and hook and line (surface and bottom-set long-line, vertical hand-line, cast-line, trolling).

Capital-intensive, industrial-scale fishing vessels operate in Barbados, Guyana, Suriname, and Trinidad and Tobago, targeting demersal species such as spiny lobster, shrimp, conch and finfish, as well as pelagic species including tuna and flying fish.

Catches landed by the small-scale fleets are sold mainly fresh on the domestic market or processed and exported to regional or international markets. Landing from industrial catches are mainly processed into product forms and exported to regional markets, or internationally, primarily to United States of America, European Union and Latin American markets.

### **2.2.3 Resource status**

As a result of constraints in fisheries stock assessment research throughout the Region, the distribution, abundance and productive capacities of the major fish stocks in the Region are not well known. Available data on catch, effort and biological indicators reveals high levels of exploitation resulting in a number of fully fished or over-exploited fish stocks in the region, such as shrimp, spiny lobsters, queen conch and certain reef species.

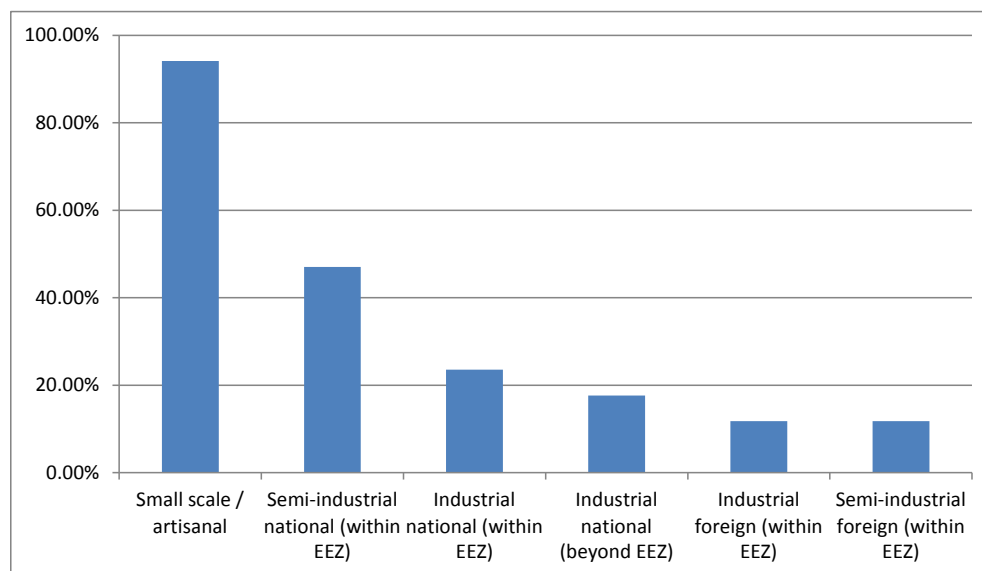
Since 2004, the CRFM has organised an Annual Scientific and Species Specific Working Group Meetings. At these meetings, assessments of commercially important fish stocks are regularly reviewed and management advice is provided and updated, as required (e.g. CRFM 2005, 2006, etc.).

Anecdotal information provided by stakeholders suggest declining CPUE trends throughout many fisheries in the Region, with fishers commonly reporting the need to fish further afield and for longer periods of time in order to catch the same amount that they caught in times gone by.

## 2.2.4 Fleets

The structure of fishing fleets in the Region, according to analysis of questionnaire responses, is indicated in Figure 2 below.

In the majority of countries the fisheries are dominated by a large proportion of small-scale fishing (SSF) vessels<sup>4</sup> which operate on a one or two day trip basis, with short value chains between point of landing and end-consumer of their products. These vessels are small, in general <6 m in length, and utilise limited catching and catch preservation technology. Small-scale vessels range from small open canoes to larger open or covered pirogues, constructed from either wood or fibreglass, and propelled by outboard engines. The small-scale fishery gillnet vessels in Guyana (and possibly Suriname), can spend from 4 to 14 days at sea (depending on whether they are covered or uncovered vessels) as they are equipped with ice boxes. In terms of number of vessels and volume of catch, they can be seen as significant. SSF vessels generally fish with nets, hand lines, traps, and fish impaling apparatuses such as the Hawaiian sling used in conjunction with casitas and / or other FADs. The SSF fleet accounts for the large majority of landings in the Region. These vessels operate from and land their catches at various points along the coasts. In most cases national regulations do not require that their catches are fully reported, and thus represents a major fisheries management and related MCS challenge across the Region. That noted, statistical monitoring systems are in place in all CRFM States, and there are efforts to address sampling deficiencies when estimating total catches.



**Figure 2: Types of fisheries in and beyond national waters**

A fleet of semi-industrial and industrial vessels also operate, comprising larger, modern, capital intensive vessels, of larger size and possessing advanced technology (electronics, hydraulics, advanced catching and preservation systems). These semi-industrial and industrial-scale

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<sup>4</sup> This document refers to 'small-scale' fishing rather than 'artisanal' vessels, due to the fact that the definition of 'artisanal' fishing vessels varies between countries.



vessels target a number of high value species groups, including: shrimp, notably off the coast of Guyana and Suriname; flying fish in the Eastern Caribbean; tuna and other highly migratory species in the EEZs of the wider Caribbean (in particular tuna long-liners); spiny lobster (Jamaica and Bahamas); conch (Jamaica, Bahamas, Belize); and the tuna and tuna-like resources of the High Seas. The semi-industrial and industrial fleets are supported by modern fishing ports and complexes where catches are landed and where ice, water, fuel, and provisions for the offshore fishing vessels are acquired.

## **2.2.5 Economic and social contribution**

### ***Landings and exports***

Total landed fish production in the Region in 2001 was estimated at 133,000 tonnes, rising to 155,000 tonnes in 2005<sup>5</sup>, (equivalent to around 0.2% of the world total production), with an estimated first sale value of just over USD450 million. Due to weaknesses in obtaining complete and published data by national fisheries administrations, such figures are mostly indicative.

The economic contribution of marine fisheries in terms of contribution to national GDP is highly variable, ranging between 2001 and 2006 from an average of 0.13% in the case of Trinidad and Tobago, to an average of 6.85% in the case of Guyana<sup>6</sup>. Such calculations of the contribution to GDP, however, fail to recognise the importance of the social and often cultural contribution of fisheries throughout the Region.

Major commercial fisheries, in terms of export earnings, include the sea bob and large penaeid shrimp fisheries of Guyana and Suriname; spiny lobster and conch fisheries of Belize, Jamaica, The Bahamas, Turks and Caicos and St. Lucia; and tuna and other fish species exported mainly to North America and the EU. The value of exports in recent years on a country-by-country basis is often unknown, due to weaknesses in data collection and dissemination.

The industry also generates import-substitution effects and earns hard currency from exports and recreational fishing.

### ***Employment and livelihood creation***

Two major indicators of the importance of the fishing industry to the Region are employment opportunities that the industry provides in the primary and secondary sectors, and the contribution it makes to the economy of each country. Fishing sustains communities, maintains rural stability and shapes the culture and social life of many communities through the primary activity as well as the support and downstream processing, packaging and marketing. These support activities provide employment for large segments of the communities particularly for women in the processing sector. The impact can be seen in Jamaica where there are 184 landing sites, most of which are attached to communities.

Fisheries in the Region employ at least 182,000 persons through stable full-time direct employment for fishers and indirect employment opportunities for others in the processing,

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<sup>5</sup> CRFM Second Medium Term Plan, 2008 - 2011. CRFM Secretariat, 2009.

<sup>6</sup> Ibid, CRFM 2009.

marketing, boat building, net making and other support services<sup>7</sup>. Fisheries-related employment is particularly important in rural areas where alternative income earning opportunities are limited or non-existent. A common feature across the Region is that the number of fishers is increasing, due to a tendency of fishers staying active for longer in the sector as a result of limited or reduced employment opportunities in other economic sectors that are often vulnerable to the negative impacts of natural disasters, and partly due to increased life expectancy. However young recruits to the sector are decreasing, the net result being that the average age of fishers is increasing.

Further employment opportunities have been generated through the growth of recreational fishing and diving as well as non-consumptive activities such as whale and dolphin watching. The Caribbean is today highly prized by game-fish anglers targeting billfish, such as marlins and sailfish. Sport-fishing is also popular for those seeking to catch smaller species such as tunas, Wahoo, Spanish mackerel, mahi-mahi and other coastal pelagics. International, regional and national fishing tournaments are held each year throughout the Region. Among the CRFM and CARIFORUM countries, the popular sports fishing destinations include The Bahamas, Belize, Antigua and Barbuda, Barbados, Dominican Republic, Grenada, Jamaica, St. Lucia, Trinidad and Tobago and the Turks and Caicos Islands. The Region is also regarded as a premier dive destination, due to the varied coral and reef fish assemblages that are available. There is therefore considerable socio-economic benefit to be had in managing these marine resources and their environments.

### ***Food security***

Marine fisheries are crucial to national food security, providing a significant proportion of dietary protein throughout the Region, particularly in rural areas where per capita consumption of fish is higher and poverty levels are higher than the national average. Per capita consumption of fish ranges between 23 - 25 kg, according to available estimates, compared to the world average of 16.3 Kg per capita. In 2003, consumption ranged from 59.8 Kg in Guyana, 19 Kg in the Lesser Antilles and 9.3 Kg in the Greater Antilles<sup>8</sup>.

Fish as a share of animal protein averaged around 10% between 2001 - 2003, the highest being Grenada with 16%<sup>9</sup>. This is reflected in the high per capita consumption of fish in most states of the Region. Most CRFM States rely heavily on fish imports to satisfy domestic demand.

### ***Cooperatives***

A positive feature throughout the Region is the relatively good degree of organisation of fishermen in the form of cooperatives and other types of fisher organisations. However, the range of competence and levels of service provision to members varies a lot. Belize is particularly noteworthy, having two advanced cooperative societies both of which have

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<sup>7</sup> Haughton, M.O. (2004). Fisheries subsidy and the role of regional fisheries management organisations: The Caribbean experience. UNEP workshop on fisheries subsidies and sustainable fisheries management, Geneva, Switzerland, 26 - 27 April 2004.

<sup>8</sup> A.S. Franklin (2005). Review of the current situation on IUU fishing and monitoring, control and surveillance (MCS) in the fisheries sector of the CARICOM / CARIFORUM Region.

<sup>9</sup> CRFM Second Medium Term Plan, 2008 - 2011. CRFM Secretariat 2009.

developed to the stage where they are vertically integrated into processing and marketing of a range of fish products, particularly spiny lobster and conch, caught by their members.

Unfortunately, despite a good degree of fisher organisation throughout the Region, many such organisations lack the professional business and financial skills needed to provide effective services to their members. Many also lack an effective and unified national voice to advocate the needs of the SSF sector. Nevertheless, these organisations provide a tangible avenue for partnership to improve fisheries management, through developing inclusive mechanisms to increase the say that fishers have in setting fisheries policy and the management framework. The Caribbean Network of Fisherfolk Organisations, an observer at the Forum level of the CRFM, has a mandate to support fisher organisations at the national and regional levels.

## 2.2.6 Fisheries Management

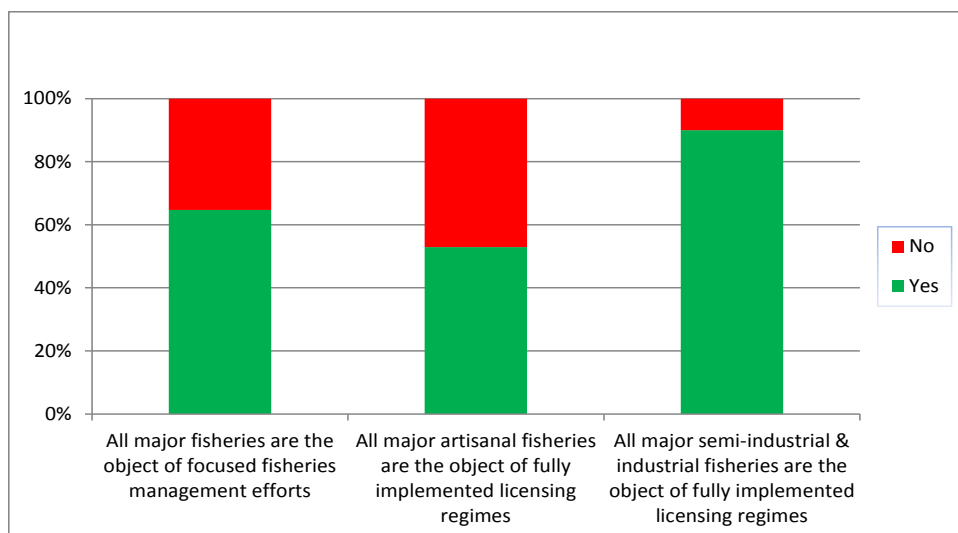
An indication of the degree to which fisheries in the Region are adequately managed is seen in Figure 3 below. The majority of states have clearly focused their efforts on devising registration and licensing schemes for vessels and fishers. For the small-scale sector that typically target what are generally considered as near-shore resources; many countries require nationals to obtain fishing licenses in order to fish for commercial gain (and some require vessel registration also), no limit is placed on the numbers of such licences issued, and as a result the large majority of small-scale fisheries are *de facto* open access. The open-access nature of these fisheries has contributed to reduced catches, smaller average fish sizes and declining CPUEs – all of which are symptomatic of fully-exploited- or over-exploited stocks.<sup>10</sup>

Management measures that are applied by national management authorities are proportionate to the socio-economic importance of the fishery concerned and include measures, for example:

- Vessel registration (annual, seaworthiness, presence of safety equipment)
- Fishing licence conditions (when, where and how fishing may take place)
- Export licence regimes
- Closed seasons (*e.g.* sea urchin)
- Closed areas, gear restrictions
- Protected species (*e.g.* turtles)
- Prohibited areas (*e.g.* marine protected areas, Fishery Management Areas)
- Technical measures (*e.g.* compulsory fitting of turtle exclusion devices, by-catch reduction devices)

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<sup>10</sup> Haughton, M.O. (2004). Fisheries subsidy and the role of regional fisheries management organisations: The Caribbean experience. UNEP workshop on fisheries subsidies and sustainable fisheries management, Geneva, Switzerland, 26 - 27 April 2004.



**Figure 3: Management and licensing across the Region**

Few, if any, fisheries access arrangements exist within the Region, whereby DWFN vessels may gain access to the resources of a country through the negotiation of access agreements. The Suriname-Venezuela access arrangement is the exception rather than the rule. However, some CRFM States flag DWFN vessels primarily for operation on the High Seas.

An important issue is the untapped potential for management measure harmonisation of shared resources between neighbouring States. For example, setting a closed season for a particular resource in one State without doing the same in the neighbouring State may encourage fishers to catch the resource out of season in one State and sell it “legally” on the market in the other State. The potential in curbing IUU fishing through such harmonised measures in a cost-effective manner is important.

Despite efforts and good intentions, only a few member states have managed to develop and implement formal Fisheries Management Plans as a basis for the management of marine resources and only Antigua and Barbuda, and Belize have successfully developed and are currently implementing National Plans of Action to combat IUU fishing (NPOA - IUU). It was the intention of the CRFM members that NPOAs would be developed under the ACP Fish II Programme but this activity was not implemented.

The benefits to be derived through the creation of such plans are considerable: they provide States with a framework for planning and the implementation of actions that are specifically crafted to address fisheries management issues in general, and IUU issues in particular. Such plans incorporate in their structure details of the participatory process by which their implementation is monitored, achievements evaluated and amended to ensure that they stay current and in line with the needs of the fishery and fishery stakeholders.

Trade in conch is controlled through the additional imposition of the CITES export certificate scheme. This has had a positive impact on trade flows for this lucrative and vulnerable species but has in some cases led to increased unreported catches for this species through trading at sea between neighbouring states. It is important to note that in the case of The Bahamas, as in several other states in the Region, the export of conch is governed by a quota system which may or may not have any linkages to CITES but rather research and the precautionary principle.

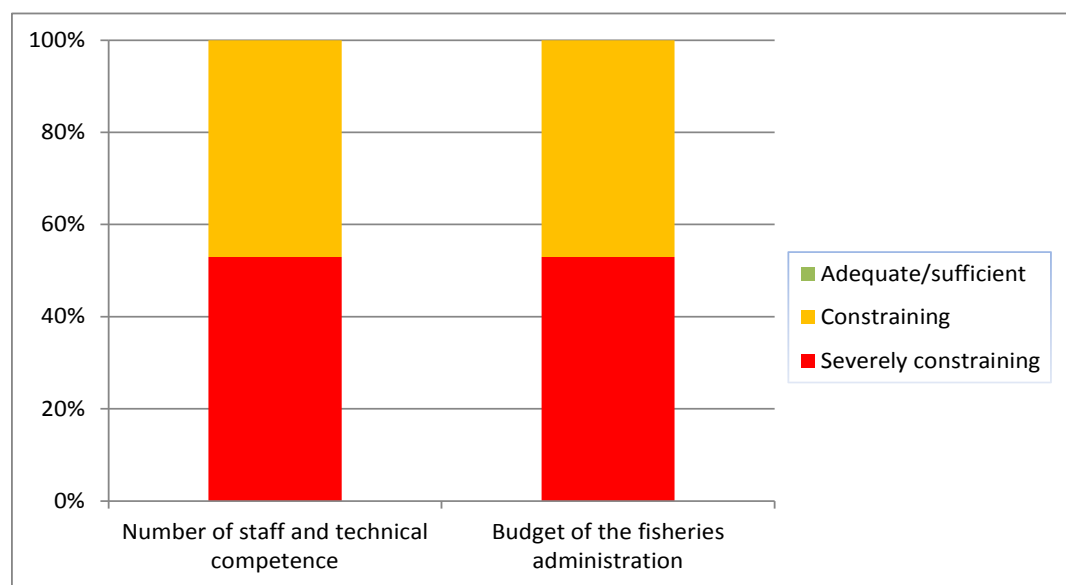
## 2.2.7 Institutions

### *National level*

National responsibility for planning, administration and management of fisheries in all CRFM Member States rests with a fisheries division/department forming part of the ministry charged with primary production (i.e. the ministry of agriculture). These fisheries administrations are functionally structured to carry out a wide range of regulatory and service tasks, including:

- **Extension services:** support to industry, fisher training and skills development, promotion of responsible practices, fishing, catch handling, processing, marketing, business development, public awareness campaigns, information dissemination;
- **Research:** stock assessment, biological analysis, population dynamics, socio-economic research, statistical analysis, data and information dissemination.
- **Resource management:** planning, licensing, monitoring/catch inspection, management and conservation;
- **Aquaculture:** planning, development and promotion; and
- **Administration / support services:** personnel, accounting, budgeting and secretariat support.

The major constraint facing the fisheries administrations of the Region are indicated in Figure 4.



**Figure 4: Staffing and resourcing of fisheries administrations**

All CRFM states indicate that the number of staff and their technical competence is either constraining or severely constraining. A similar picture applies to the budget of the administration, which is also in all cases considered either constraining or severely constraining.

Many fisheries administrations throughout the Region appear under-resourced. This is in spite of the high level political support given to issues such as tackling IUU fishing, as evidenced by the 2010 Castries Declaration and the Draft Regional Common Fisheries Policy. It should be noted that fisheries administrations could do more to help their case to attract more resources for the job they are mandated to do.

In general, fisheries administrations operate limited data collection, analysis and dissemination mechanisms that affect their ability to manage fisheries effectively. This could be a consequence of the relatively low priority afforded to fisheries administrations in terms of budgetary allocations. For example, whilst most fisheries administrations do produce annual reports, they may not necessarily publish and disseminate these reports. Annual reports provide an opportunity to highlight the importance of the sector to the national economy, and in terms of food security, livelihoods creation, etc. Although IUU fishing is generally identified as a major challenge, there have been few attempts to quantify the cost of IUU, or the cost and benefits of various strategies to improve MCS as part of the management function.

The fisheries legislation in many States in the Region make provision for the establishment of fisheries advisory committees (FACs), with a membership appointed by the Minister responsible for fisheries, and is supposed to include a wide range of sectoral stakeholders. These committees have the potential role to allow stakeholders to be part of the decision-making process on matters of fisheries policy and management. Although such committees are functional and active in several States, there are a few countries where they are not yet functional and active.

### ***Regional level***

CARICOM States have in recent years launched the CARICOM Single Market and Economy (CSME) and established a number of regional institutions to accelerate and safeguard the region's social and economic development, including protecting its economic interests and natural resources and maintaining law and order. For fisheries, they established the CRFM<sup>11</sup>. The Caribbean Community Common Fisheries Policy (CFP) mandates the establishment of a regional register of fishing vessels which may be expected to require vessels to display their markings, and exchange information about vessel sightings etc. The CRFM - OSPESCA Joint Plan considers the need to review and strengthen MCS capacities, and importantly, considers the issue of regional collaboration and networking for improved MCS.

In the area of crime and security, they established the *CARICOM Implementation Agency for Crime and Security* (IMPACS), and its sub-agencies, the *Regional Intelligence Fusion Centre* (RIFC) and *Joint Regional Communications Centre* (JRCC) to strengthen regional capacity to collectively combat serious crime and to counter other security threats in the Region. There is also an international agreement for the defence and security of the eastern Caribbean region, the '*Regional Security System*'.

The Organisation of Eastern Caribbean States (OECS) had agreed to the establishment of *common fisheries surveillance zones* among member states. It has also recently reinvigorated its 1999 *Fisheries Management and Development Strategy and Implementation Plan*, which addresses a number of regional MCS issues.

The role of these initiatives in combating MCS issues, including IUU fishing, should be fully explored.

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<sup>11</sup> The CRFM is comprised of a Ministerial Council, a Forum of Chief Fisheries Officers and Directors of Fisheries and a Secretariat representing the network of member states.

## 2.2.8 Summary overview – CRFM fisheries sector

The fisheries of the Region are highly varied. Target species groups include shrimp; demersal, pelagic and reef-associated finfish, and conch and spiny lobster. Migratory pelagic species of tuna, Wahoo, flying fish and dolphinfish roam throughout the area.

Stock abundance, distribution and reproductive potential need much more research. The status of the region's major fishery resources are monitored through the efforts of the CRFM and other RFBS operating in the region, though these efforts are often limited by the availability of quality data. Available information indicates high levels of exploitation for several commercial stocks particularly shrimp, spiny lobster, queen conch, and certain reef-associated and deep-slope species. Some pelagic species (e.g. Wahoo, Spanish mackerel, small coastal pelagics, and deep-water diamond-back squid) may be moderately exploited.

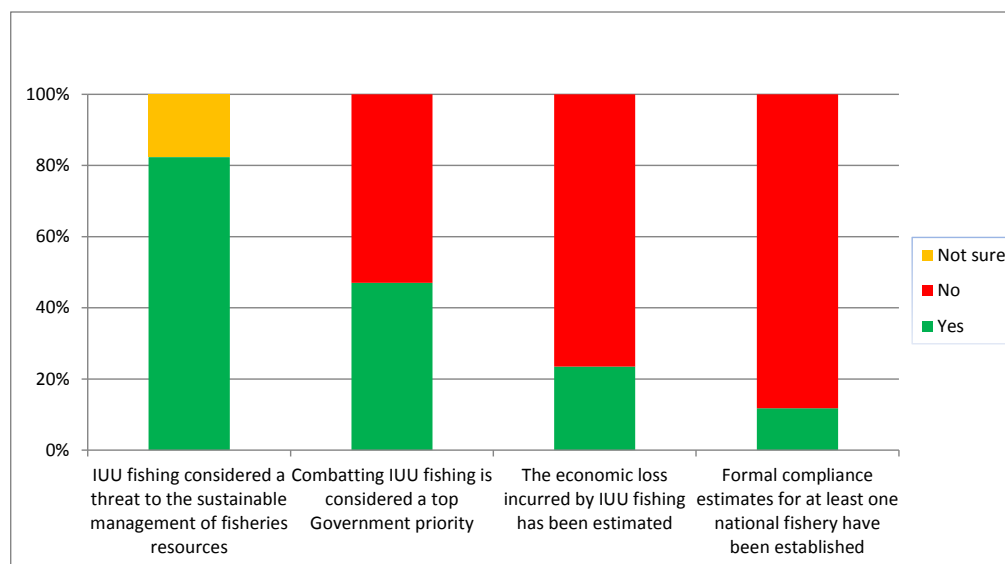
According to FAO statistics, seafood contributed an average of 10% of dietary protein throughout the Region (between 2000 and 2003), ranging from 6% (St Vincent & Grenadines, Trinidad & Tobago) to 16% (Grenada). Seafood is therefore an important element to national food security. At least 182,000 people rely on the sector for their livelihoods. Total marine production is not known for certain, due to inefficient data collection, but was in the order of 150,000 tonnes in 2005 (equivalent to less than 0.5% of total world production). The great majority of landings are taken by small-scale craft. In the majority of cases, the small scale fisheries are *de facto* open-access, with few if any restrictions placed on limiting numbers of fishers or vessels. Some of the larger fisheries, such as the Trinidadian, Guyanese and Surinamese shrimp / seabob fisheries, do have limited access regimes in place. Exports are limited, and dominated by high value species such as shrimp (particularly from Guyana and Suriname), conch (Belize, Jamaica, The Bahamas, Saint Lucia), spiny lobster and large pelagics (tuna and tuna-like species). The USA is a major end-market destination. The EU is also a major market for conch from Jamaica, seabob from Guyana and Suriname and spiny lobster from The Bahamas.

Despite the socio-economic significance of the sector, national governments have under-invested in the necessary institutional infrastructure (human, material and financial resources) needed to engage in effective management and development of national fisheries sectors. In general terms, fisheries management *per se* is largely characterised by the use of generic regulations, although major fisheries – such as spiny lobster, Nassau grouper, conch and shrimp – have more specific management approaches. Both upstream fisheries research and downstream MCS dimensions (see next section for the latter) of the fisheries management cycle may be under-performing, thus diminishing the effectiveness of fisheries management interventions. Several exceptions to this general state of affairs exist, notably in the conch fisheries, where government research and management action is guided by CITES recommendations. In addition, managed access and spatial approaches have been proving very successful across the region. Management of small-scale, multi-species fisheries is generally recognised to be complicated.

## 2.3 IUU FISHING IN THE REGION

### 2.3.1 Main forms of IUU fishing in the Region

Available published information on the nature, extent and magnitude of IUU fishing across the Region is sparse and fragmented, and mostly anecdotal in nature. Few countries have established formal compliance figures for any of their fisheries (see Section 2.4.3 and Figure 5 below). Therefore, the magnitude of IUU incidence across the Region, and its associated environmental, economic and social costs remain un-quantified to a large degree.



**Figure 5: National assessments of the impact of IUU fishing**

This study endeavours to develop a typology of IUU fishing in the Region to better understand the nature and extent of the problem, identify and define the most common forms of the phenomenon, and provide evidentiary basis for developing a coordinated regional strategy and countermeasures to combat IUU fishing across the region.

#### ***IUU fishing by nationals within national waters***

Based on the survey IUU fishing as conducted by nationals in the small-scale sector is the most frequently reported form of IUU fishing. This is perhaps not surprising given the nature of the small-scale sector, which is characterised by a large number of small craft, making shorter and more frequent fishing trips, and operating from and landing at many geographically distributed sites, which makes monitoring of fishing activities and enforcement of management measures particularly difficult.

Illegal fishing by nationals within national waters takes a range of forms, the commonest of which reported by stakeholders includes:

- Fishing with an unregistered / unlicensed vessel
- Using illegal / unapproved gear
- Taking species during a closed season (e.g. spiny lobster)
- Taking undersized species (e.g. conch, spiny lobster)
- Taking of banned species (e.g. turtles)
- Fishing in a restricted /closed area (e.g. marine park, marine protected area)



- Transshipping catch at sea to avoid export duties (particularly conch and lobster)

Illegal activities by small-scale national fishers tend to be concentrated within coastal waters, given the size and range of the craft involved. Weaknesses in the national fisheries statistical monitoring systems are a major concern, undermining the accuracy of national statistics on landings and fishing effort. However, as mentioned above, in the artisanal sector this is more of a fisheries management issue rather than one of IUU fishing that contravenes management and conservation regulations.

The next two most prevalent forms of IUU fishing is by nationals within national waters using industrial and semi-industrial craft. These categories of fishing craft are most likely rated as a lower IUU risks not because of better compliance, but likely as a result of the lower number of such vessels active within the Region, their more offshore operations, and hence less frequency of opportunity for detecting illegal practices, especially those taking place at sea.

### ***IUU fishing by foreign industrial vessels in national waters***

Foreign IUU fishing in national waters is believed to be generally limited to poaching, though the full nature and extent of foreign IUU fishing is not known. According to the survey, across the Region, less than half the respondents complain of illegal incursions by foreign industrial vessels, and in the case of semi-industrial and artisanal incursions, only one in three respondents rates these phenomena as serious. This may be a direct result of the region's current limited capacity to conduct sea patrols. Incursions of unlicensed industrial vessels are identified as a source of serious concern by just over 40% of all respondents. However, as noted above, due to limitations arising from the survey methodology, these results may be unreliable and should therefore be treated with caution.

This category of IUU fishing is perpetrated by (a) industrial vessels flying the flag of regional states, that enter into national waters of neighbouring States, to target high value demersal species such as conch, lobster, shrimp, sea urchin, bêche-de-mer and finfish; and (b) industrial vessels flying the flag of DWFNs (particularly Asian, European and south American countries), targeting large pelagic species such as tunas and sharks.

With respect to the first form of IUU fishing, Honduran incursions into Jamaican waters, targeting conch, are noteworthy. These operations are often combined with other forms of crime. They include the employment of non-qualified conch divers, subject to high levels of risk. These IUU operations have direct impacts on the resource, and were initially accounted for by Jamaican authorities to represent 50% of the overall catch, in a bid to establish a precautionary MSY and sustainable catch quotas for the national (legal) operators.

With respect to the DWFN incursions, fishers in the east of the Region regularly report large vessels operating within national waters, but no reliable or formally compiled sightings data exist, and apprehensions are very rare. It is likely that most of these vessels are tuna long-liners fishing in the ICCAT zone, and violating EEZs within the Caribbean Sea, and on the Atlantic side as well. It is not possible to evaluate if incidence is more concentrated in any particular geographical area, based on the anecdotes collected in the countries.

This form of IUU fishing has a significant impact in terms of social and economic costs, because although much of the high seas large pelagic resources are little exploited by the countries themselves at present, such IUU fishing activities hinder the granting of new tuna fishing opportunities to CRFM States by the relevant RFMO (ICCAT). Hence, countries should pro-

actively address the phenomenon, and engage with flag States of vessels presumed in engaging in these forms of IUU fishing, as well as with ICCAT in combating such activities. It should also be recognised that due to their much larger fishing capacity, even small levels of IUU activity by industrial vessels has the potential to have a significant effect on resource sustainability. They are also potentially linked to other criminal activities.

### ***IUU fishing by foreign semi-industrial and small-scale vessels in national waters***

This category of IUU fishing primarily concerns small-scale and semi-industrial fishers from neighbouring States, entering national waters to target conch, lobster and other high value species. It is these forms of IUU fishing that have the most palpable and immediate impact on strategic national resources, as they compete directly for the same resources as the national small scale and semi-industrial sectors (mostly near-shore resources).

The situation is confounded by a certain degree of connivance between fishers of neighbouring states; family ties are common. A high degree of camaraderie often exists between such groups, and as a result the *'illegal'* fishing of such vessels is often condoned and goes largely unreported.

Many of these forms of unlicensed cross-border fishing have been in place for generations, and pre-date UNCLOS, formal maritime boundaries, the notion of EEZ, etc. These fishers would defend the notion of traditional or customary access rights on the basis of their historical exploitation patterns, and it is the coming into existence of UNCLOS and the putting in place of 200nm EEZs that has led to turn historically legal operations into modern IUU fisheries. The fact that many maritime boundaries have not been officially set further complicates the issue.

Authorities often find it difficult to address this form of IUU fishing, which in many cases is reciprocal (*i.e.* fishers from both States fish illegally in each other's waters). What is clear is that the unreported portions of catches on both sides (caught in the waters of one State, but landed on the shores of another) would tend to undermine fisheries research and the solidity of informed decision making in those fisheries.

### ***Other forms of crime***

An important element in understanding drivers of IUU fishing is the link that exists between the fisheries sector and other forms of organised crime, such as drug running and people and contraband smuggling. In these forms of crime, fishing vessels are often implicated.

In Suriname, in the waters west of Paramaribo towards the Guyanese border, occasional attacks are a cause of concern for the small-scale fishers that operate to the west. Fishers in these waters are at risk from the theft of catch, gear and craft. This situation is also applicable to Belize. At least part of this criminality originates from within the country itself, and may be linked to other forms of crime, such as robbery, drug running, and the trade of contraband.

## **2.3.2 Estimation of the extent of IUU fishing**

Crucial as a foundation to the development of a policy to address IUU fishing, if it is to be effective, is an appreciation of the severity of the problem. Figure 5 indicates that the vast majority (>80%) of governments in the Region consider IUU fishing to be a threat to the sustained management of fisheries resources. As noted above, this appreciation is based more on circumstantial and anecdotal evidence, rather than being footed in a solid analysis of law

enforcement data that have been accumulated and worked up over time. This is also the reason why three States indicated that they were unsure about whether IUU fishing was in fact a threat to the sustainable management of fisheries resources in their waters. From a scientific point of view, it is clear that the firm assertion that IUU fishing is indeed undermining the sustainable management of fisheries resources, in the absence of quantitative information on incidence, has got to be questioned.

The extent of IUU fishing in quantitative terms throughout the Region is unknown, and so is the magnitude of its impact on the sustainable management of fisheries resources. The only thing that is sure is that IUU fishing impact is always negative. It is clear that in some specific fisheries, such as the Jamaican conch fishery, or the Surinamese coastal fishery, incursions are regular and impacts on the resource base are expected to be significant, but how significant exactly, is unknown.

Some countries have attempted to estimate the economic losses incurred to IUU fishing. Such losses should ideally be separated into economic, social and environmental costs, in order to inform decision makers and politicians of their value.

Jamaica is one country that has made an effort to estimate the economic impact of conch and lobster poaching in its waters. Jamaica produces around 400 tonnes of lobster per year. A conservative estimate indicates that illegal fishing activities take at least twice this amount per year, representing an annual lost value of some US\$26 million<sup>12</sup>. This paper also estimates poaching of queen conch to have been in the region of 400 tonnes per year prior to the listing of conch under the CITES Convention, which has resulted in a significant drop in illegal fishing of this species, due to difficulties faced in marketing illegally caught product.

It should be noted, however, that compliance rates and losses in those countries where they have been established, have been undertaken on an *ad hoc* basis, only for specific fisheries, for example when making a specific submission to a donor for development assistance. Such efforts to quantify IUU fishing and its impacts therefore only provide a partial picture which is often not grounded in solid data.

## **2.4 MCS IN THE REGION**

The single and only objective of MCS is to maximise compliance. Without the successful pursuit of this objective, any fisheries management regime will have difficulty in succeeding.

### **2.4.1 Legal frameworks**

The basis for any fisheries management and MCS regime is the legal framework. It is synonymous with the “C” (*Control*) in the MCS acronym, although modern legal frameworks for fisheries typically contain provisions supporting monitoring and surveillance also.

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<sup>12</sup> Anon, 2011. IUU Fishing and Border Security Issues in Jamaican Waters. Discussion Paper, 4<sup>th</sup> Meeting of the Ministerial Council of the CRFM Secretariat, 20 May 2011, St. John’s, Antigua.

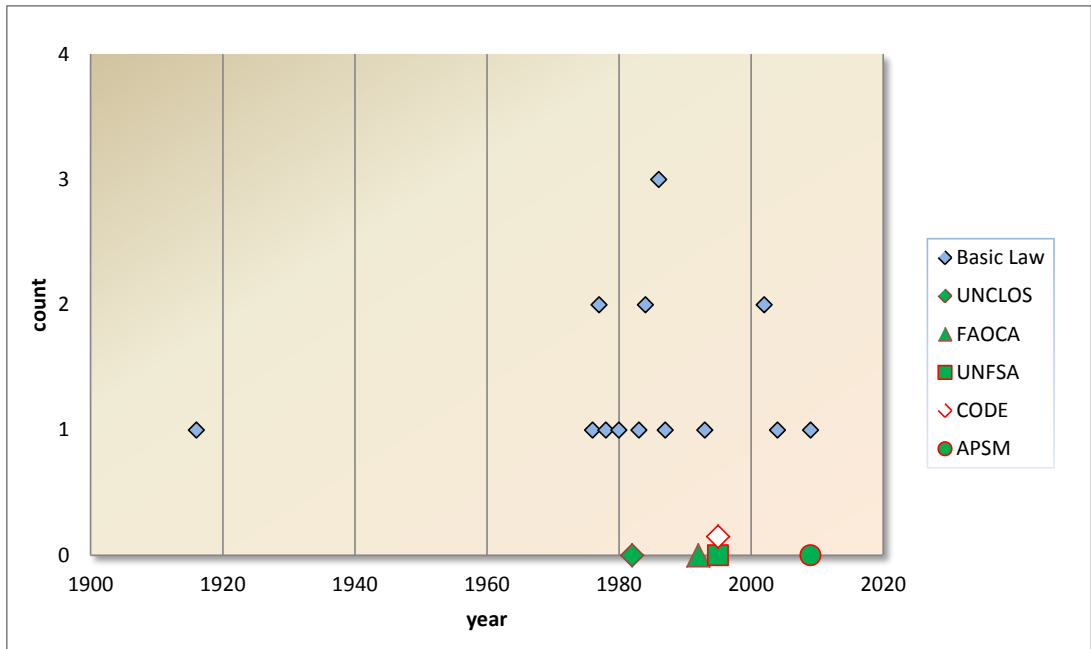


Figure 6: Number of basic fisheries laws by year of publication

**Table 1: Summary of basic fisheries laws in the Region, compared to the dates of adoption of key international fisheries instruments**

Year	Jurisdiction	Instrument
1916	Trinidad and Tobago	Fisheries Act <sup>13</sup>
1948	Belize	Fisheries Act <sup>14</sup>
<b>1966</b>	<b>Regional</b>	<b>International Convention on the Conservation of Atlantic Tunas (ICCAT)</b>
1976	Jamaica	Fishing Industry Act <sup>15</sup>
1977	The Bahamas	Fisheries and Resources (Jurisdiction and Conservation) Act <sup>16</sup>
1978	Haiti	Décret réglementant l'Exercice du Droit de Pêche
1981	Suriname	Decree on Marine Fishery
<b>1982</b>	<b>Global</b>	<b>United Nations Convention on the Law of the Sea (UNCLOS)</b>
<b>1982/3</b>	<b>Regional</b>	<b>OECS Harmonised Fisheries Legislation</b>
1984	Saint Lucia	Fisheries Act
1984	Saint Kitts and Nevis	Fisheries Act
1986	Grenada	Fisheries Act
1986	Saint Vincent and the Grenadines	Fisheries Act
1987	Dominica	Fisheries Act
1993	Barbados	Fisheries Act
<b>1993</b>	<b>Global</b>	<b>FAO Compliance Agreement</b>
<b>1995</b>	<b>Global</b>	<b>FAO Code of Conduct for Responsible Fisheries</b>
<b>1995</b>	<b>Global</b>	<b>United Nations Fish Stocks Agreement (UNFSA)</b>
1996	Cuba	Decreto Ley - Reglamento de Pesca
2001	St. Vincent & the Grenadines	High Seas Fishing Act
<b>2001</b>	<b>Global</b>	<b>FAO International Plan of Action on IUU Fishing (IPOA-IUU)</b>
1984	Dominican Republic	Fisheries Act
2002	Guyana	Fisheries Act
2003	Belize	High Seas Fishing Act & principal Fisheries Act
<b>2003</b>	<b>Regional</b>	<b>Agreement establishing the Caribbean Regional Fisheries Mechanism</b>
2006	Antigua and Barbuda	Fisheries Act
<b>2009</b>	<b>Global</b>	<b>FAO Agreement on Port State Measures</b>
<b>2010</b>	<b>Regional</b>	<b>Castries Declaration on IUU Fishing</b>

<sup>13</sup> A new Fisheries Management Act was drafted in 2011, but is not yet enacted.

<sup>14</sup> A new Fisheries Act was drafted in 2011, and is expected to be enacted in 2013.

<sup>15</sup> A new Fisheries Act has been drafted and it is reported that it will be tabled before the legislature in the near future.

<sup>16</sup> A new Fisheries Act is currently being drafted.

The majority of the legal frameworks throughout the Region can be characterised by their outdated nature. The figure above renders a 2012 snapshot of the current situation regarding the publication date of the basic fisheries laws, as currently in force in all 18 States covered by this study<sup>17</sup>. It arises that more than a quarter of basic fisheries laws pre-date UNCLOS (1982), two thirds pre-date the FAOCA (1993), almost three quarters pre-date the FAO Code of Conduct for Responsible Fishing and the UNFSA (1995), and all of them pre-date the Agreement on Port State Measures (APSM) in 2009. The table below elaborates this in a little more detail, and in particular inserts a number of important regional instruments that have an impact on shaping, supporting or influencing fisheries legal frameworks, many of which again post-date the adoption of framework fisheries laws in the region.<sup>18</sup> These instruments combined have not only created a broader range of international obligations, standards and approaches to which fisheries laws are intended to aspire, but they have also generated comprehensive new standards and approaches to how fisheries laws, including in relation to MCS, are drafted.

While date of adoption of the laws (which are in any case amended and updated from time to time) is not in itself determinative of scope or content, a review of the laws themselves reveals that many do not contain detailed provisions on MCS (and in some cases are almost entirely absent).

A modern, comprehensive fisheries law, consistent with internationally recognised “best practice” models would be expected to have provisions dealing with most of all of the following matters:

- the authorisation of, powers, functions and duties of inspectors, authorised officers and observers (including powers to search, seize items, require vessels to go to port, etc.;
- establishment of observer schemes, Port State inspection schemes, vessel monitoring system (including provisions on how these schemes are to be applied, the powers of observers, inspectors, etc. and the treatment of evidence)
- establishment of a record of fishing vessels;
- complementary licensing / authorisation controls, including in relation to high seas fishing; and
- provisions detailing how evidence is to be collected, and providing for the treatment of evidence in court (e.g. so-called certificate evidence, photographic evidence, etc.)

It is fair to say that none of these provisions are reflected fully in any example that can be taken from within the Region (which is to be expected, since the same statement could be made about the fisheries laws in most geographic regions).<sup>19</sup> Whilst some of the later fisheries laws reflect these types of provisions to some extent (in some cases, fairly extensively), all fisheries laws in the Region could be strengthened in relation to MCS.

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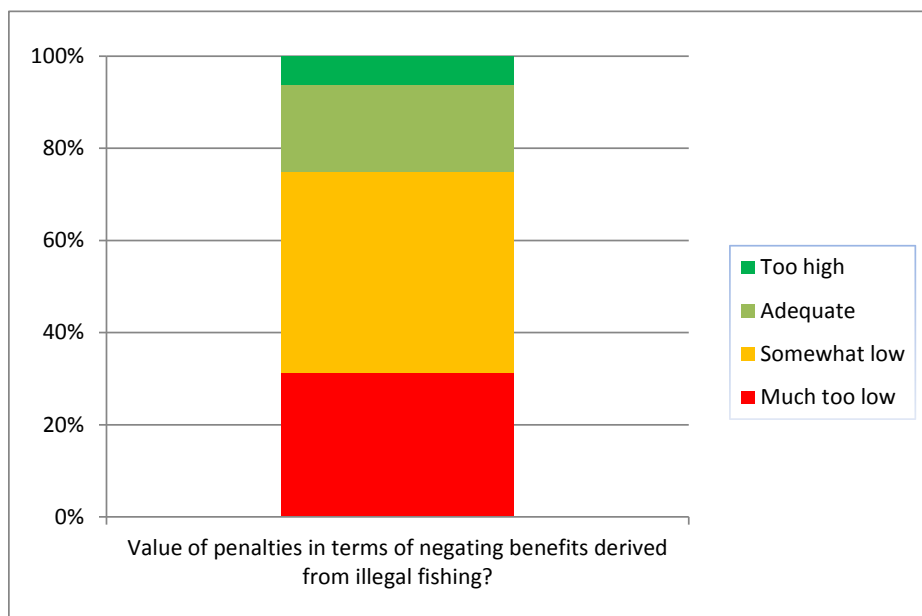
<sup>17</sup> For this particular statistic, Haiti is included.

<sup>18</sup> It may also be observed in the table, however, that some of the older fisheries laws are in the process of revision, and in some cases new draft Fisheries Acts have been completed.

<sup>19</sup> It is noteworthy, however, that the draft fisheries laws referred to in the table above reflect these types of provisions comprehensively.

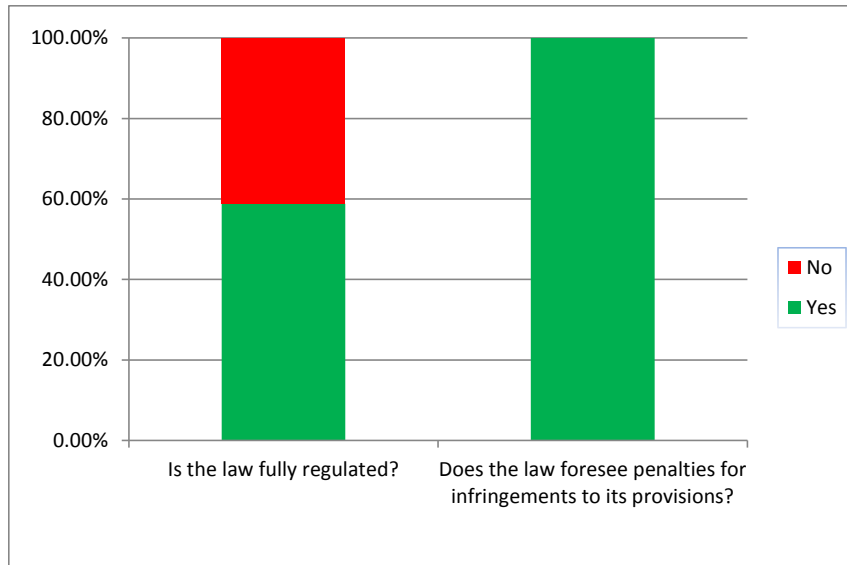
This does not necessarily mean that MCS is not currently possible, but the lack of a proper legal basis is a recognised impediment to effective and fully functional MCS. Moreover, there are some measures that cannot be implemented by coastal, flag or port States, unless the basic fisheries law makes specific provision for these, and endows them with the necessary legal foundation. (Examples of this might include high seas fishing controls, observer schemes, vessel monitoring schemes, and port State inspection schemes).

Although this study did not have the opportunity to analyse national basic fisheries laws in detail, it arises that the majority of the national basic frameworks do present serious limitations for the effective implementation of modern MCS principles and tools. As a general point, it has been verified in the countries visited, that many of the internationally advocated MCS tools need further strengthening across the Region.



**Figure 7: The value of legislated penalties**

While all basic fisheries laws do make provision for penalties, another characteristic trait of basic fisheries laws is the fact that in the majority of cases (close to 80%) these penalties are regarded as too low in terms of annulling the benefits derived from IUU fishing. Hence, the majority of legal frameworks are not producing the necessary basic deterrent effect to discourage illegal operators from engaging in IUU fishing. It may be argued that all other MCS actions are futile in the face of this critical weakness, arising as a shared feature that is common to the Region. Less than one in four countries define their penalties as being “adequate” or “too high”.



**Figure 8: Attributes of basic fisheries laws**

It also appears that a relatively important percentage of basic fisheries laws – despite the length of time they have been in place – have not had all necessary regulations in place (see figure above).

Two key weaknesses were discussed in several countries. Firstly, countries often have their texts of law drafted by legal departments which are separate from the Ministry responsible for fisheries, and which are often constrained in terms of manpower and the time they can allocate to drafting fisheries texts. This system also requires the establishment of formal multi-disciplinary working groups where fisheries staff explain to legal drafters the concepts they want to see enshrined in regulations, often leading to ensuing long and multiple exchanges of revised drafts. Secondly, fisheries matters are often not dealt with as a priority, and therefore basic fisheries laws can – and do – fail to become fully regulated for years – and in some cases for decades – leading to regulatory voids.

In countries where fisheries regulations are drafted by fisheries departments, and are then adjusted *ex post* by departments responsible for legal drafting (whether in-house or by other Government agencies) generally seem to achieve full regulation quicker, and more successfully than others. Failure to fully regulate basic fisheries laws generally implies fundamental weaknesses and gaps in fisheries management regimes. Ideally, management regimes ought to be defined, and laws ought to be fully regulated before the MCS dimension of fisheries is tapped into.

## 2.4.2 Licensing

Despite their distinct differences, “licensing” and “registration” often fall under a single administrative procedure. In this Study, the term “licensing” means the concession of an authorisation to operate within a given fishery and remove living marine resources from it, while “registration” refers merely to the registration of a fishing craft onto a record of fishing vessels authorised to exercise an activity, granted they have obtained a license to do so also.



Licensing of fishing vessels and fishers is generally considered as one of the most fundamental fisheries management tools. It enables jurisdictions to establish conditions for license holders that these must adhere to, it enables the fisheries administration to identify and monitor entrants, and finally and most importantly, licensing may be used as the primary tool to limit entry into any given fishery.

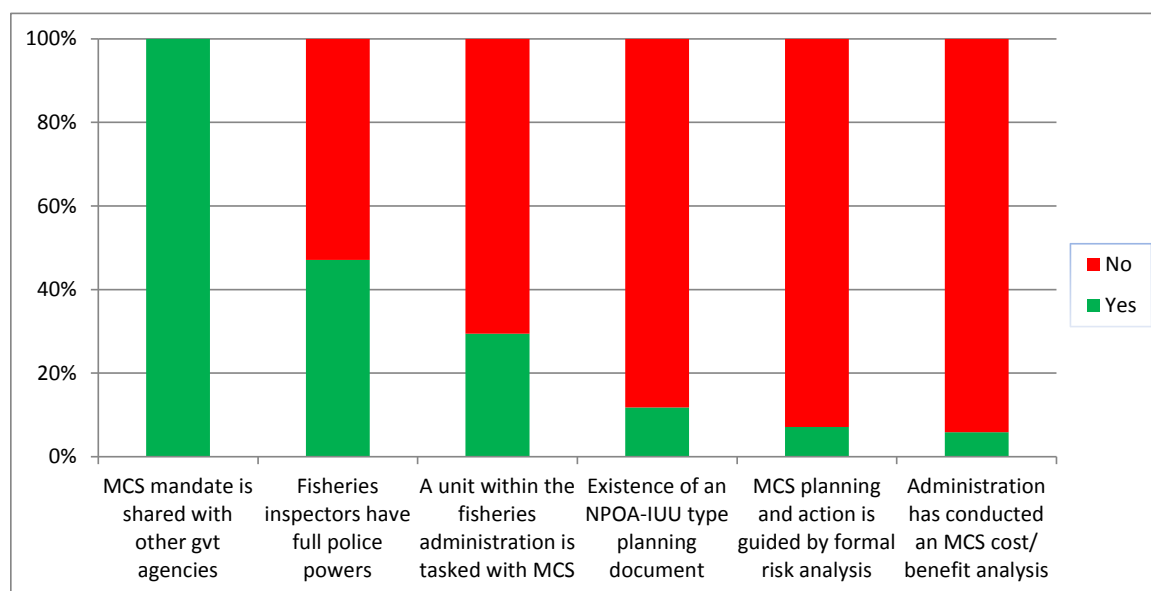
From the data collected during this study, it arises that only about half of all small-scale fisheries across the Region are subject to a fully implemented licensing regime (Figure 3). With small scale fisheries being the most important segment of fisheries across the Region, this implies that the most fundamental tool for managing these fisheries is not fully in place in one out of two countries. In the countries where licensing is fully implemented, applying for a license generally leads to the issuing of a license. Therefore, small scale fisheries across the Region, and with few exceptions, remain *de facto* open access, engendering the previously raised concerns regarding sustainability.

In larger scale fisheries, licensing regimes are almost complete, and formal records of registered and licensed vessels are generally held by fisheries departments. This entails that the monitoring of larger scale fleets through licensing may generally be regarded as adequate. In these fleets also, the use of the licensing regime is generally not used to limit entry into the fishery – with noteworthy exceptions though, such as Suriname’s MSC certified sea-bob fishery. Guyana also operates limited entry regimes for their seabob, penaeid shrimp and red snapper fisheries. There is also a licensing and limited entry system in the large scale conch and lobster fishery in Jamaica.

Licensing of foreign operators is little practiced across the Region, but does exist to a limited extent (Figure 2). Foreign semi-industrial or industrial operators in national waters are the most uncommon types of fishery segments in existence across the Region. No country visited during this study has subscribed to a fisheries agreement regulating the entry of foreign DWFN fishing vessels into national waters on a bi-lateral or multi-lateral basis, and there is ample evidence suggesting that no such agreement exists in the Region.

### 2.4.3 MCS: mandates, planning and reporting

Even though the concept of MCS has been around for over 30 years now (with the official FAO definition dating back to 1981), it remains an underutilised element of fisheries management in many world regions. Within fisheries administrations, MCS competes for resources with the longer established practices, such as fisheries research or fisheries management. The notion of MCS lacking a sufficiently formal footing within fisheries administrations applies to the Region in general.



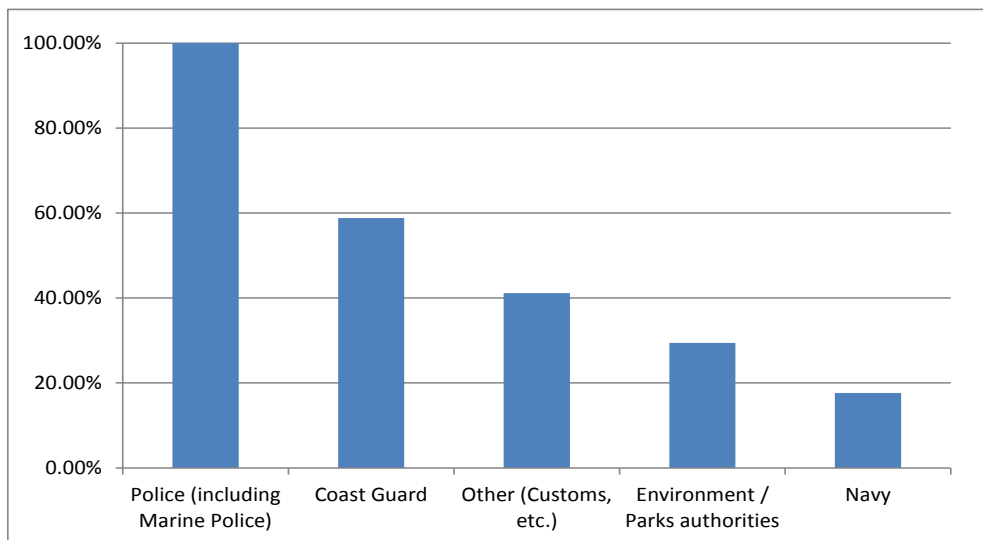
**Figure 9: National MCS mandates, and MCS planning**

Figure 9 renders a number of key indicators that help to define the standing of MCS in the Region. A first useful statistic to derive from the above figure is the third bar, which indicates that just over a quarter of countries have got in place a unit within the fisheries administration which is actively tasked with MCS functions.<sup>20</sup> In all other countries (>70%), MCS is not the object of focused and targeted attention. Although fisheries administrations in general have a mandate for fisheries law enforcement laid out in the basic fisheries law, other government agencies, such as the Police and the Coast Guard are also provided mandates to enforce fisheries laws (Figure 10 below) – the former of which in 100% of all countries. This particular finding implies that in three out of four countries, MCS is not the object of focused and exclusive fisheries administration action, as research or management planning would generally be.

In few of the countries do fisheries officers have full police powers. It appears that in many countries, “fisheries inspectors” *per se* do not exist. Equally, in some countries it is often incumbent for fisheries officers, data collectors or extension officers to also enforce the fisheries

<sup>20</sup> An “MCS Unit” is defined as a formal section within the organogram of a fisheries administration. It is tasked specifically with law enforcement functions, and related tasks. Such tasks may include the planning of inspection cycles, monitoring and data recording, data analysis for compliance purposes, observer program implementation, operation of the VMS system, carrying out of inspections and patrols, case instruction, etc.

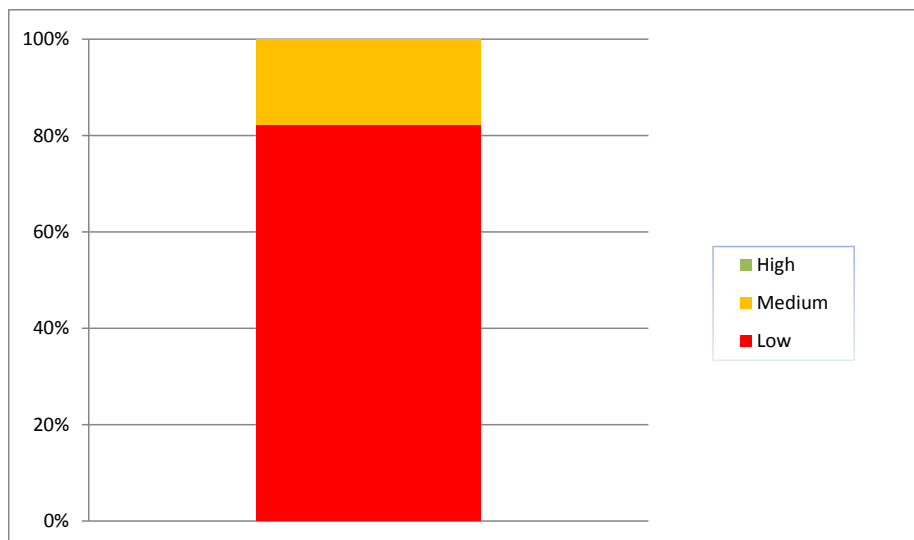
law, in which cases the duplicity of functions (“*friend*” and “*foe*”) tends to undermine all of the functions these officers are expected to carry out. In some of the countries where fisheries officers do have full police powers, they are not used; administrations preferring to have the police handle investigations.



**Figure 10: Other national agencies with fisheries law enforcement mandates**

With fisheries departments rarely being endowed with an MCS unit, not employing fisheries inspectors with police powers, and other agencies sharing an MCS mandate, it follows that in many countries no single agency is directly responsible to carry out focused and regular fisheries law enforcement activities. Across the Region, MCS is not fully integrated as a natural and integral part of fisheries governance, something that might be addressed through the region-wide adoptions of NPOAs for IUU fishing. In instances in which other agencies have been identified within the legal framework to assist the fisheries departments with MCS, this would call for better cooperation and coordination among agencies. This could be formalized by way of a Memorandum of Understanding (MOU) or another coordination mechanism.

With respect to the other agencies listed in Figure 10 above, fisheries is not readily regarded as a priority. In actual fact, not one of the non-fisheries agencies across the Region provides a high priority ranking to fisheries law enforcement.



**Figure 11: Priority afforded to MCS by non-fisheries agencies**

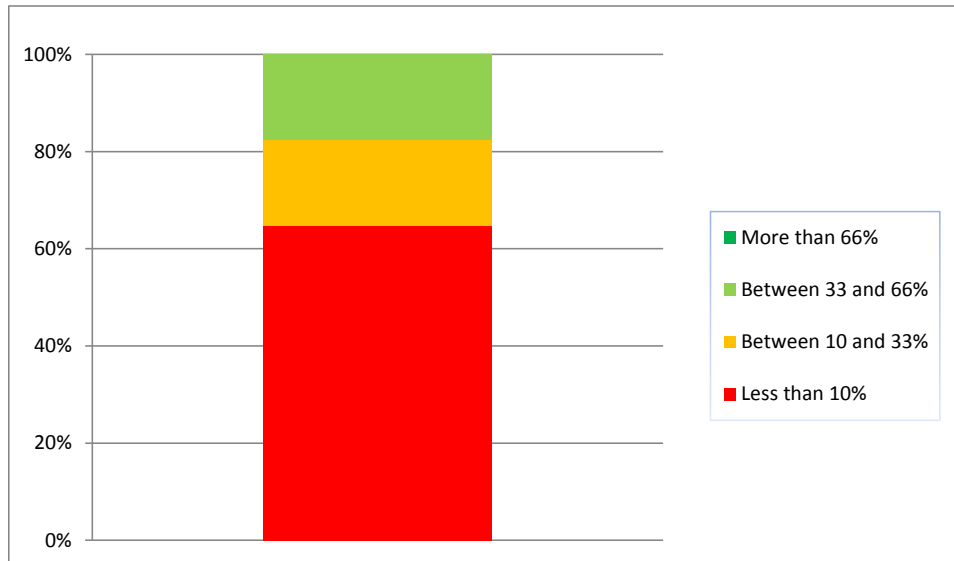
Both Police and the Coast Guard, the two types of agencies most regularly endowed with a fisheries law enforcement mandate, generally cite drug interdiction, smuggling of contraband, and illegal migration as their top priorities. Drug interdiction is also heavily subsidised by the USA, and presents a source of relevant revenue for those agencies, relegating fisheries into the ranks of low priority for most countries and agencies across the Region (>80%).

MCS is also not the object of consistent information analysis and planning cycles (Figure 10: Other national agencies with fisheries law enforcement mandates). Eleven years after the publication of FAO's International Plan of Action to Combat Deter and Eliminate Illegal, Unregulated and Unreported Fishing (IPOA-IUU), only one country in the Region has developed an NPOA-IUU, which is also being actively implemented (Antigua and Barbuda), despite there being a FAO Regional Workshop on the Elaboration of NPOAs to Prevent, Deter and Eliminate IUU Fishing, Port of Spain, Trinidad and Tobago in 2004. This failure has been attributed to a lack of post-workshop follow-up and technical assistance. Belize has developed a NPOA for IUU fishing, but has yet to fully implement it. This implies that a formal exercise to analyse the performance of the existing national MCS system, and planning necessary upgrades in areas where gaps, weaknesses and needs have been detected / established, has not been done anywhere else. In all other countries, the performance and completeness of MCS systems remains to be evaluated.

The same statistic applies to the use of formal risk analysis as a tool to guide the recurrent planning of MCS activities and operations. This entails that law enforcement activities, often the most expensive element in the administration of fisheries, is often not based on relevant information (or "*intelligence*"). This engenders inefficiencies, which contribute to making MCS more expensive and less efficient than would otherwise be the case.

No country, with the exception of Antigua and Barbuda, has conducted an MCS cost/benefit analysis. This implies that fisheries administrations will find it hard to evaluate how much to invest in MCS. It is thus difficult to justify budget allocations to MCS in particular. This ties in with the fact that losses incurred by IUU fishing incidence, and compliance rates have not been established either by the majority of countries – as discussed under section 2.3. It is difficult to

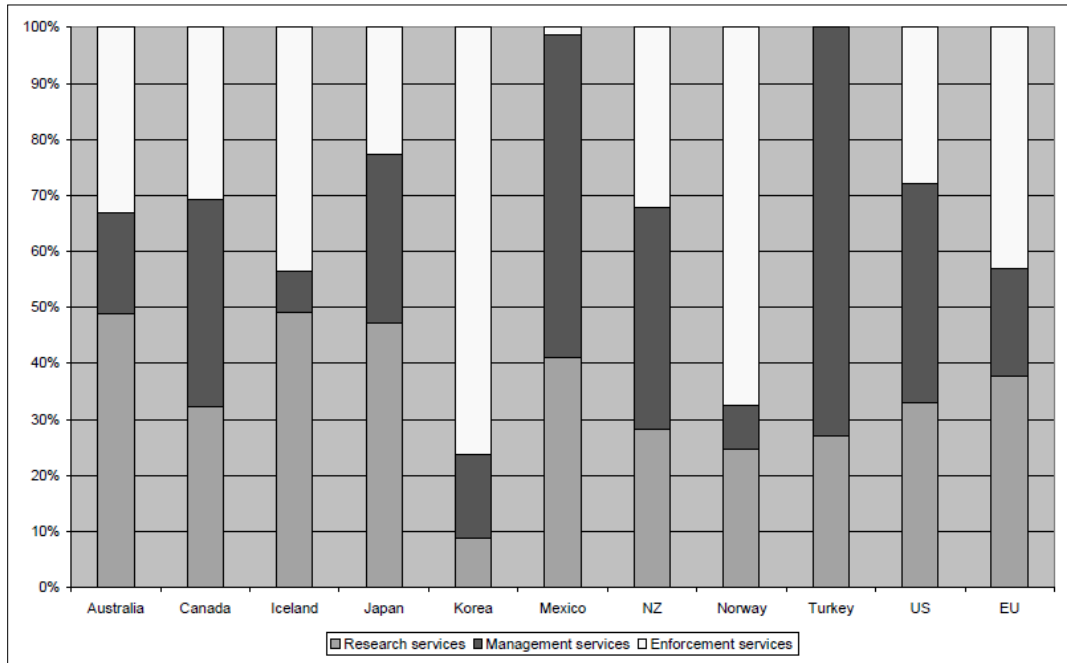
do an MCS cost / benefit analysis when compliance rates and IUU losses have not been quantified.



**Figure 12: Share of fisheries budget allocated to MCS**

It arises that in about two thirds of the countries of the Region, budgets allocated to MCS are below 10% of the overall envelop afforded to fisheries. Several countries indicated that the budget was actually nil (Figure 12). One in three countries allocated between 10 and 66% to MCS, but often, these budgets are limited to designate staff allocations – not operational means and recurrent allocations to finance MCS operations (e.g. VMS systems, patrols, etc.). No country allocates more than two thirds of its budget to MCS.

A 2003 OECD study<sup>21</sup> indicated that countries with a good track record in fisheries management were investing substantial portions of their fisheries budgets on law enforcement (Figure 13 below). It arises from that study that an allocation of 30% or above would seem appropriate to implement successful fisheries management regimes (specifically referring to Iceland, New Zealand, Norway and the US – to a more limited extent). In the case of Norway, a country recognised for its generally favourable fisheries management outcomes, over two thirds of the fisheries budget is allocated to MCS. This goes to underline that allocations to research and management services of overall fisheries budgets should be aligned with the budgetary needs that MCS functions command.



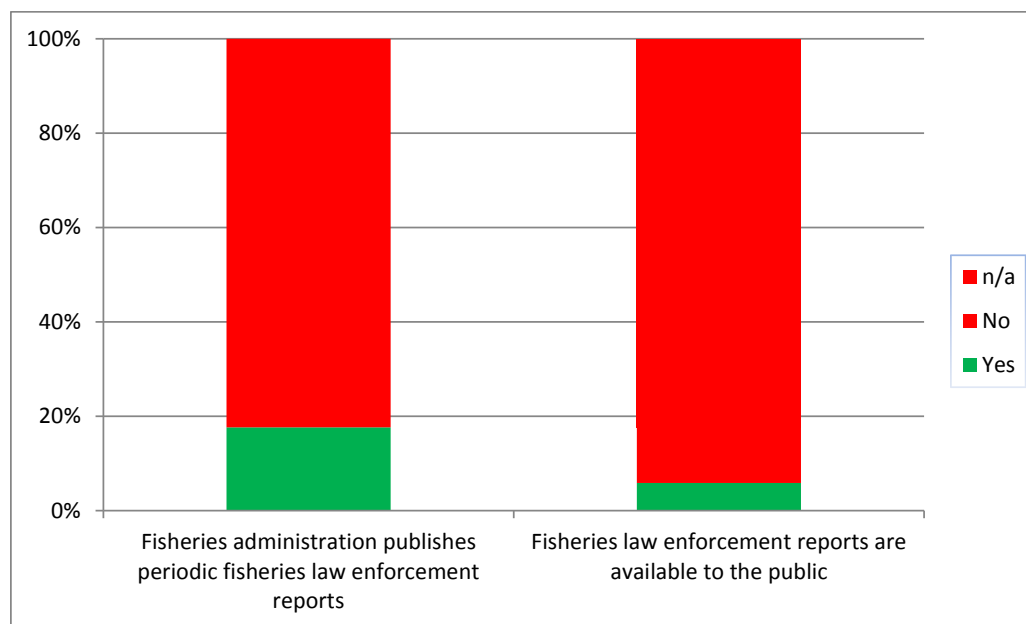
**Figure 13: OECD study on budgetary allocations for MCS**

Indications are that this is not the case for the majority of countries in the Region. The fact that all countries report human resource and budget allocations as insufficient compounds the issue. It has been mentioned in section 0 that few fisheries administrations publish annual reports. This limits the volume of, and access to readily available and up-to-date information describing the fisheries sector, limiting the scope of recurrent trend analyses that could be performed on any single object of interest regarding the national fisheries sector (landings, effort, entrants, establishments, exports, infractions, etc.). The same is true for the collating of, and the formal publication of law enforcement data (Figure 14).

Only Belize and Antigua & Barbuda produce comprehensive law enforcement reports. Only Antigua & Barbuda makes these accessible to the public. Not producing law enforcement reports engenders limitations to inform self, decision-makers, and politicians on observed compliance rates and the magnitude and impact of IUU fishing. The latter are derived from the number of inspections carried out, the number of illegal operations detected, and the number of

<sup>21</sup> OECD (2003) The Costs of Managing Fisheries. 173p. Paris, France.

violations successfully prosecuted or fined. As indicated earlier, lacking compliance statistics entail that the magnitude, the evolving nature of IUU fishing, and its ecological, economic and societal costs cannot be estimated with confidence.



**Figure 14: Fisheries law enforcement reports and public access**

The few examples of formally published law enforcement reports across the Region underlines, to a certain extent, the lack of attention generally afforded to the subject of MCS and fisheries law enforcement by national governments and fisheries administrations in particular.

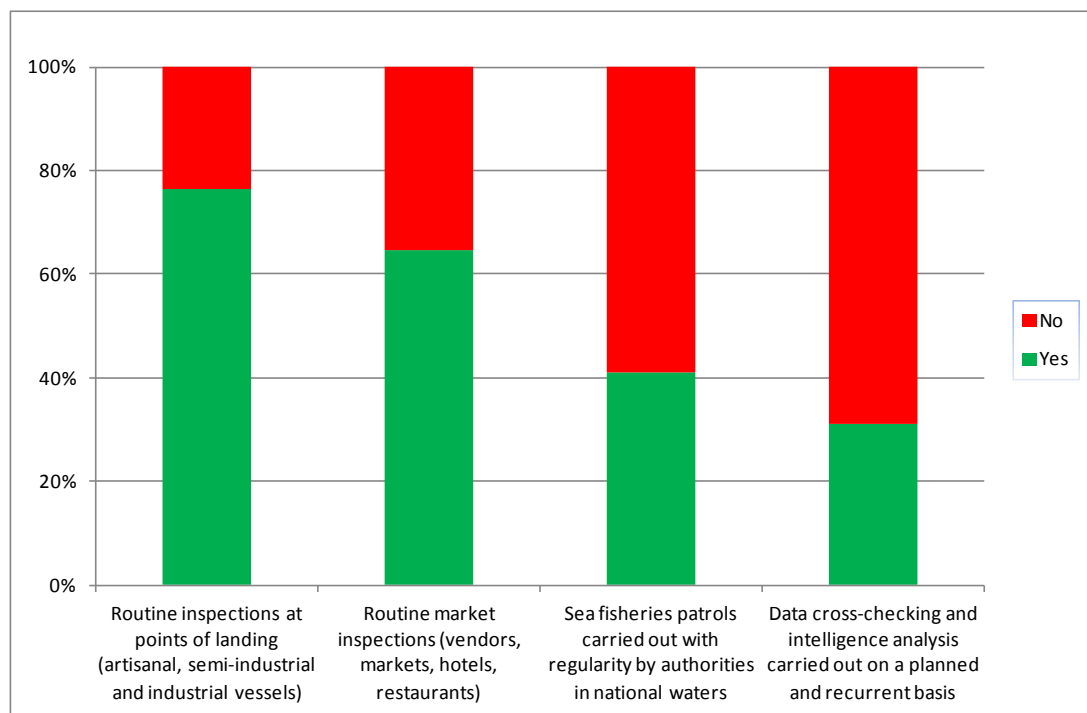
#### 2.4.4 MCS operations

A general misconception is that *MCS operations* are often understood to be only *sea fisheries patrols* - in fact, sea fisheries patrols are one of several forms of MCS operations. All of the different forms can be used to specific effect when aiming to detect and to sanction fisheries offences. The widely held view is that awareness-raising is considered to be a necessary complement to MCS operations. A healthy mix of awareness raising and law enforcement is referred to as “*the carrot and the stick*” approach to MCS.

The study focused on four particular routines, which all constitute MCS operations at different stages along the chain of custody of fisheries products. These are sea fisheries patrols, landing site inspections, market inspections, and data / intelligence analysis and data cross-checking routines. Individual routines have different potentials, depending on the particular fishery, and the particular rules which are of interest. Figure 15 represents the general application of such routines for the countries of the Region.

Figure 15 lists inspection routines in descending order of implementation. More than three in four countries report to implement routine inspections in points of landing. Just under two in three countries report to conduct routine inspections in the market place (markets, vendors, restaurants) – serving the purpose of enforcing minimum sizes of species, or closed seasons during which vending of specific species might be prohibited. These two forms of inspections form the two most important land-based forms of physical inspections than can and should be

undertaken, in order to maximise compliance. While many countries do engage in some forms of such inspections, several other countries do not run routine inspections at all. For countries that do claim to do so, several have not detected any infringements in years – which suggests that enforcement is either so effective that deterrence is maximal, or alternatively, that enforcement is so superficial that most infringements go undetected. A limited number of countries, such as Belize and Antigua and Barbuda, have records that show that routine inspections do take place, and do produce tangible results.



**Figure 15: MCS operations and inspection routines**

Sea fisheries patrols are executed by less than one in two countries, and are generally limited to coastal waters. It follows that across half the Region, the maritime domain is completely open for any types of fisheries fraud to occur, and to go undetected. These include incursions by poachers, illegal transshipments and sales of catches at sea, the violation of closed areas, the deployment of illegal gears. Few fisheries administrations operate their own sea-going assets, and for those relying on other agencies’ means, priority of fisheries law enforcement tasks on sea patrols is generally low (Figure 11).

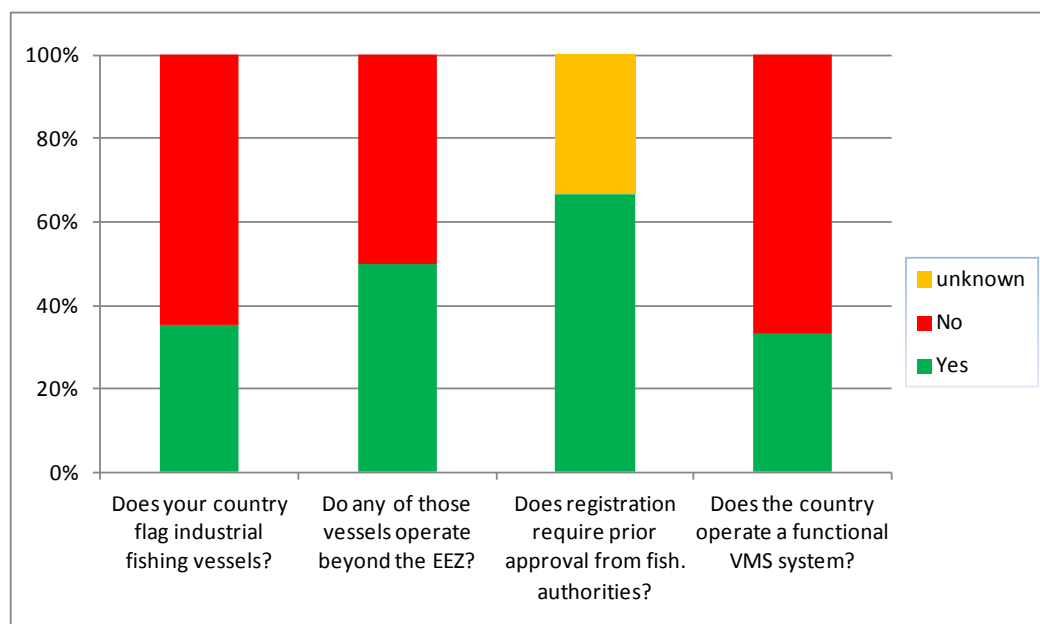
One of the important impediments in making MCS work across the Region is the limited collection, centralisation, analysis and use of intelligence and data for direct law enforcement purposes. Less than one in three countries reports to execute planned and recurrent data cross-checking routines for law enforcement purposes. Data analysis and intelligence are generally viewed as the lowest-cost, and in several domains, the most effective instruments for the successful combating of IUU fishing. As stated further above, data collection and monitoring systems in general are weak in many countries, undermining the use that can be made of data for law enforcement purposes. Where they do exist, the shortage of manpower, and possibly the lack of technical knowhow, limits the use that is made of available information.



## 2.4.5 Flag State enforcement

Just over a third of countries across the Region confer flags to industrial-scale fishing vessels (Figure 16). A number of these vessels, such as the Surinamese sea-bob vessels, or the Trinidadian longline vessels, operate largely or exclusively within their EEZ. A limited number of States have open registries that flag fishing vessels which operate in waters that lie beyond the jurisdiction of the State.. Some of these States have been identified in the past as Flag-of-Convenience (FOC) States by other jurisdictions and / or international organisations (e.g. RFMOs), because in the eyes of these entities those States have failed to discharge their responsibilities with respect to the monitoring and controlling the activities of such fishing vessels on the high seas and / or in waters of third party jurisdictions. Some vessels flagged to these jurisdictions also appeared on RFMO vessel black lists.<sup>22</sup>

Generally speaking, CRFM member countries directly concerned by this issue have adopted policies over the last decade that have contributed to remedying this situation and to improving their international standing – to varying degrees. These policies are generally sourced from, and consistent with provisions inherent to the 1993 FAO Compliance Agreement, and policy action suggested in the 1995 FAO Code of Conduct for Responsible Fisheries.



**Figure 16: Flagging of industrial fishing vessels**

In Figure 16, the three bars to the right only apply to those countries in which flagged vessels operate beyond the EEZ. It arises from Figure 16 that half of those countries flagging industrial scale vessels do confer flags to vessels that fish exclusively in waters beyond national jurisdiction.

It arises that in two out of three cases, a registration arrangement has been established in which the fisheries administration is informed of an application (generally submitted to the Maritime

<sup>22</sup> See for example: [www.fiskeridir.no/english/fisheries/norwegian-black-list](http://www.fiskeridir.no/english/fisheries/norwegian-black-list)

Authority), and must provide its formal consent for registering particular vessels. In doing so, it authorises the vessel to fish/operate in the particular fishery that is of interest to the prospective vessel owner seeking registration. If the fisheries administration fails to provide its consent, the vessel is not flagged. This policy is fully consistent with the Code of Conduct and the IPOA-IUU on the subject matter.

In terms of monitoring the movements of these vessels around the globe, only one out of three countries is currently operating a functional VMS system (Source: survey results and interviews). Based on the absence of this single and fundamental MCS tool, in two out of three cases, it arises that substantial monitoring deficiencies in the Region continue to persist in this particular domain. Fisheries administrations of these flag States will have to invest more resources into the basic assets that allow them to monitor their overseas fleets on a real-time basis, in order to discharge their duties under international fisheries law.<sup>23</sup> Authorizing vessels to fish beyond national jurisdiction, and not being in a position to monitor those vessels effectively via VMS would readily be interpreted as a State breach to the provisions of the FAOCA by a majority of Parties today, irrespective of the fact that the State might be undertaking other efforts to monitor the operations of such vessels.

Two out of three flag States have accepted the FAOCA, in 1994 and 2005 respectively. However, only one of these submits the list of its flagged vessels to the central HSVAR database<sup>24</sup>, as provided for in the agreement. The third country has not yet accepted the agreement. The FAOCA has entered into force, and is considered international law, irrespective of the accession, ratification or acceptance of further individual nation States. Therefore, the principles provided in such agreements ought to be applied by individual States, regardless of whether such agreements have been acceded to, ratified, or accepted. The standard of performance is the one laid down in international law that is in force. This principle is provided unmistakable endorsement in the Castries Declaration.

In the case of the FAOCA, the two basic corner-stone principles applying to fishing vessels<sup>25</sup> that are of utmost importance are the following:

1. The fishing vessel flying the flag of the State must be provided with a formal authorisation that allows it to operate in waters beyond national jurisdiction;
2. The authorisation specifies terms and conditions of such operations. Typically, these ought to include the duty to carry a functional VMS transponder, to supply periodic catch and landings reports, to know the content of and abide by the CMMs of relevant RFMOs, and to provide copies of licences held to operate in third country jurisdictions.

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<sup>23</sup> No Party shall authorise any fishing vessel entitled to fly its flag to be used for fishing on the high seas unless the Party is satisfied that it is able (...) to exercise effectively its responsibilities under this Agreement in respect of that fishing vessel. (FAOCA / art. III 3. - Flag State Responsibility)

<sup>24</sup> <http://www.fao.org/figis/vrmf/hsvar/stats/coverage.jsp>. Note that the Castries Declaration in no uncertain terms urges signatories to the FAOCA to submit their vessel data to the HSVAR, and non-signatories on a voluntary basis (art. 7(iv)).

<sup>25</sup> "Fishing vessel" means any vessel used or intended for use for the purposes of the commercial exploitation of living marine resources, including mother ships and any other vessels directly engaged in such fishing operations; (FAOCA / art. I(a) - Definitions)

This underlines that pro-active monitoring and active responsiveness to IUU fishing challenges is a fundamental duty of the flag State. A cost benefit analysis, assessing the costs associated to monitoring (and disciplining) overseas fleets, and the windfalls earned from registration fees, has generally not been done by the flagging States.

With the exception of high seas fishing authorisations targeting the establishment of a national historic track-record of access to RFMO quotas, the costs of monitoring and policing accruing to the State would normally be expected to outweigh the modest financial benefits that can be secured by the State for flagging distant water fishing vessels. In addition to this, international pressure and the informed readiness to take serious action against lenient flag States is mounting.<sup>26</sup> In its latest publication on IUU fishing, the Environmental Justice Foundation (EJF) calls on the FAO to develop with a matter of urgency a binding international agreement on Flag State Measures. These developments are likely to increase the pressure on lenient flag States adhere to and respect international agreements regulating the matter. The concluding provision of the Castries Declaration also centres on this issue.<sup>27</sup>

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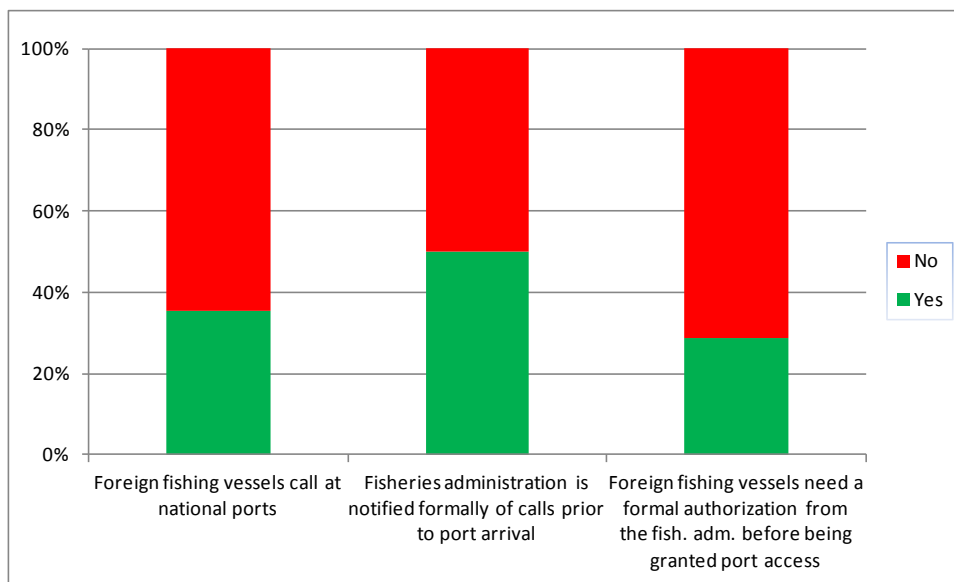
<sup>26</sup> Calley, D.S. (2012) Market denial and international fisheries regulation: the targeted and effective use of trade measures against the flag of convenience fishing industry. Martinus Nijhoff Pub. 285p.

<sup>27</sup> See 2010 Castries Declaration. Article 7(v).

## 2.4.6 Port State enforcement

A limited number of States across the Region receives foreign fishing vessels, which call at their ports for landings, or for bunkering, changes of crews, or maintenance. Sometimes foreign fishing vessels call at ports because of emergencies, such as sailors needing emergency medical attention. Figure 17 shows that just over one third of countries in the Region receives foreign fishing vessels in its ports. In the same figure, the two bars to the right apply only to those countries that do receive foreign fishing vessels.

The important thing to note is that in one out of two cases, fisheries administrations are not normally advised of the arrival of such vessels, and in only about a quarter of cases does the fisheries administration issue a formal authorisation for such fishing vessels to enter its ports, following the reception of a formal notification of arrival.

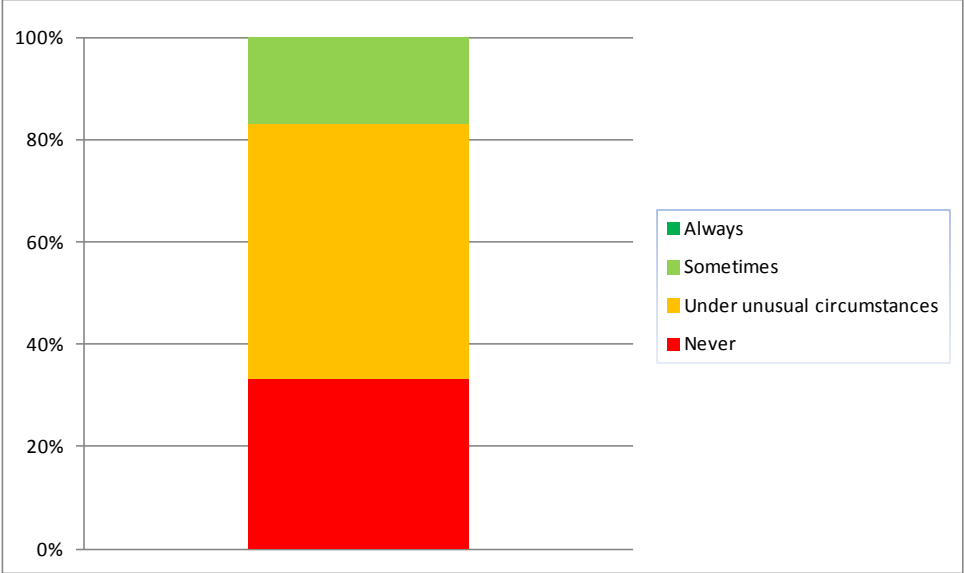


**Figure 17: Port State control**

Provisions of the APSM are little applied across the Region to date, and the Castries Declaration makes no specific mention of the Agreement.<sup>28</sup> The entry and exit of foreign fishing vessels should be tightly monitored and controlled by fisheries authorities, in order to ensure the compliance status of those vessels is monitored, and presumed IUU fishing is detected. However, in reality, such movements are only controlled by a minority of countries receiving such port calls. This reflects the fact that many of requirements of the port state measures are implemented by agencies other than the fisheries department (see text), and thus may not have been fully captured by the questionnaire. Powers for port state inspections by fisheries authorities may also be limited by international law, which will be addressed by the 2009 Port State Agreement which has not yet entered into force.

<sup>28</sup> All relevant international fisheries instruments are listed in the preamble (1<sup>st</sup> page) of the Castries Declaration, except for the 2009 Agreement on Port State Measures. "Port State" responsibilities are mentioned in two separate instances in the declaration proper, amalgamated with flag, coastal and market state responsibilities. While flag State responsibilities are clearly highlighted and developed in specific provisions, port State measures are not.

Figure 18 shows the frequency with which fisheries authorities effect full background checks of foreign fishing vessels calling to port for the first time. It arises that fisheries authorities are not responsible for the monitoring of the legality of the transactions of such vessels when visiting national ports. As a result over 80% of fisheries administrations in affected countries report that they fail to run full background checks of foreign fishing vessels.

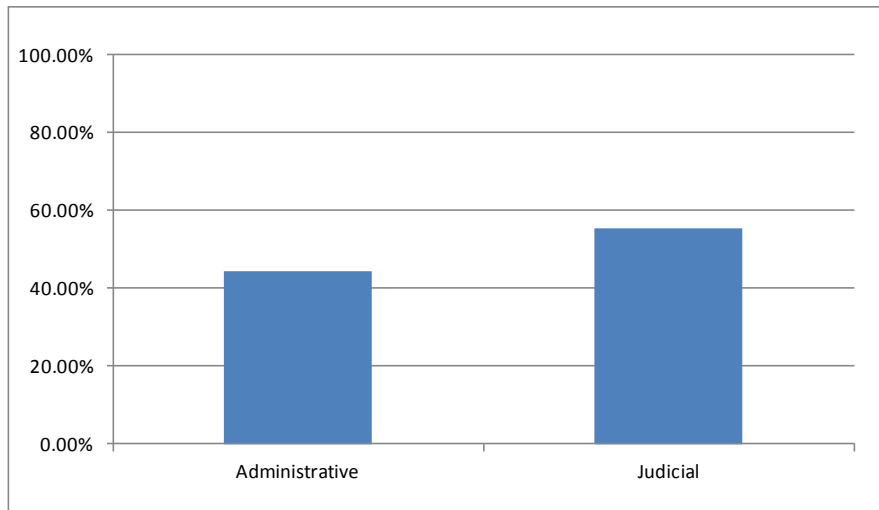


**Figure 18: Background checks of foreign fishing vessels visiting a port for the first time**

Many fisheries authorities in the Region are not formally notified of port calls, and when they are, run few background checks. In that sense, resources stolen from the waters elsewhere in the Region have the potential to be shipped from the region’s ports, without serious major risks incurred by poachers to have offences detected, and sanctions brought against them.

## 2.4.7 Prosecution and achieved deterrent effect

The preferred route for penalty administration across the Region is judicial, as arises from the statistic in Figure 19.



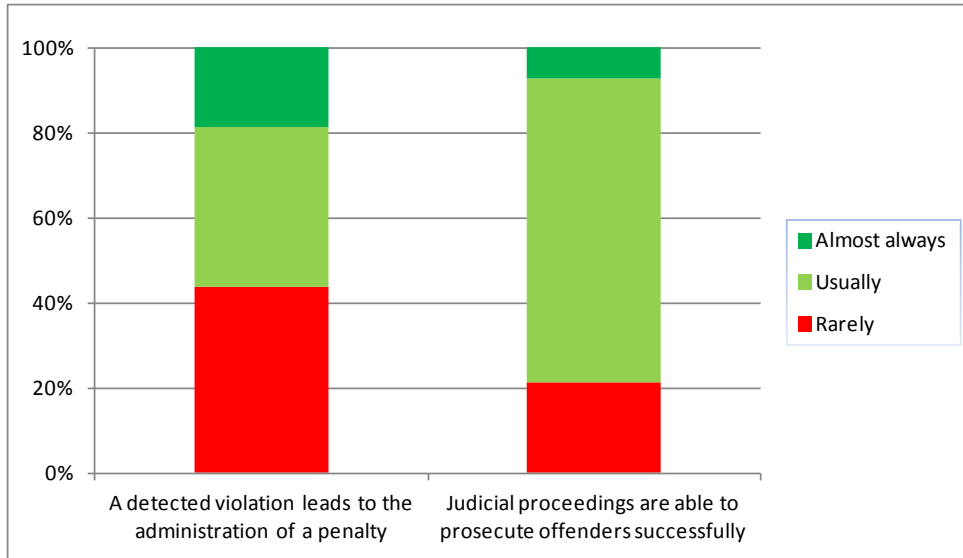
**Figure 19: Preferred channel for administering penalties**

In general, the judicial channel is the non-preferred route for MCS practitioners, when it comes to the more petty forms of IUU fishing. In those instances, the administrative route is a lot quicker, and a lot more effective to achieve the desired outcomes. There are no pleas, no bargains, and no misunderstandings. Penalties are fixed, transaction costs are lower, and punitive action is swift. This mechanism is in place in close to half the countries in the Region.

Judges and magistrates are often not fully aware of the nature and implications of IUU fishing, and what damage given forms of IUU fishing may inflict upon the resource, the community and the national economy. The notion of “environmental crime” is not yet a fully adopted concept in all places, although some countries – such as Suriname – start to sanction fisheries infractions under environmental crime provisions of non-fisheries laws which are more deterrent. This, however, is the exception. Generally, a substantial degree of leniency can be detected in judgments of fisheries cases, spanning the spectrum from small-scale national to foreign poaching cases. Judges sometimes apply the lowest level of sanctions foreseen in the law. Several cases have been discussed where foreign poachers had their vessels handed back at no cost by authorities of defrauded nations – instead of having their vessels forfeited and destroyed. The courts in general are not a useful channel to create the deterrence on the grounds that such actions may not be in the perceived national interest. This said, there is an increasing awareness of environmental crime in some states.

Overall, as can be gathered from Figure 20, prosecutions tend to be successful. This implies that evidence has been gathered correctly, and that a sanction is usually administered in four out of five cases. It is the value of the sanction which generally lacks bite that is an issue.

Overall, (see first bar in Figure 20), it appears that almost half of all detected violations rarely lead to the administration of a penalty. A host of factors are at play here, ranging from the lack of patrol means with which to chase detected offenders at sea, to the general policies to hand down warnings to offenders, instead of sanctioning them. Less than 20% of all countries report that a detected offence almost invariably leads to the administration of a penalty.



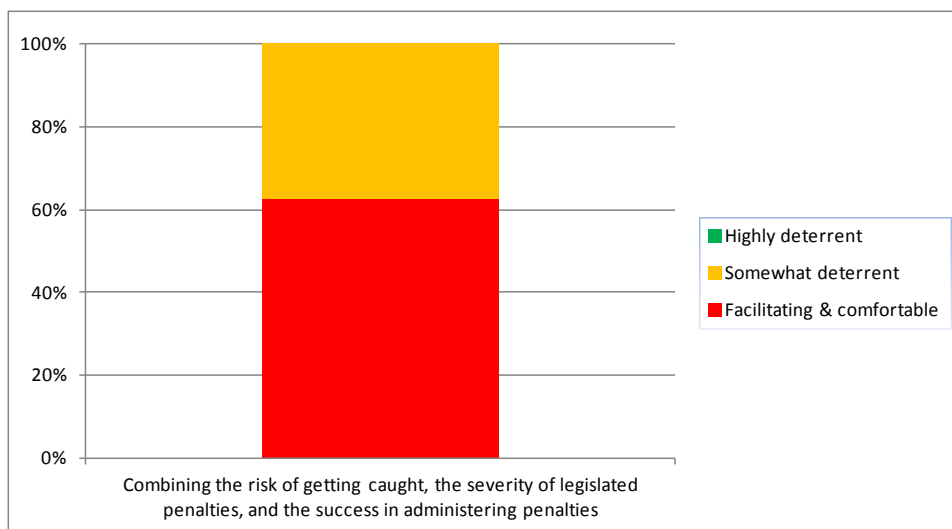
**Figure 20: Success in penalty administration**

Overall, it is important to assess what level of deterrence is achieved, when the risk of detection, the severity of legislated penalties, and the success in administering them is combined and considered. It should be borne in mind that the level of achieved deterrence is directly proportional to the level of compliance that may be expected in any given fishery.

Figure 21 summarises the statistic on perceived deterrence achieved in the countries of the Region. In a number of countries the risk of detection is low, legislated penalties are low, and success in administering penalties is low also. The benefits of infringing the law are not offset by the risks of being caught and sanctioned. The natural consequence of this state of affairs is elevated levels of IUU fishing across the board.

All other countries rate the environment as “*somewhat deterrent*”. No single country rates the MCS environment to be of such nature, that fishers would naturally be deterred from engaging in the most common forms of IUU fishing.

This final finding implies that the legal and administrative instruments to constrain IUU fishing at its base need much strengthening across the Region.



**Figure 21: Overall level of achieved deterrence**

### 2.4.8 Conclusions

Whilst fisheries managers across the region consider MCS to be an integral and critical element of the fisheries management framework, few administrations operate an MCS unit, few administrations employ fisheries inspectors with powers equivalent to police officers and MCS budgets are generally constrained. It is recognised that fisheries administrations are not solely responsible for MCS activities. In a majority of cases, MCS functions are undertaken by a number of other agencies, such as the Coast Guard, customs and police units. However these other agencies may consider fisheries law enforcement to be a lesser priority. Legislated penalties are low, and penalties handed down by judges and magistrates are generally more lenient and non-deterrent (with some notable exceptions). This implies the need for greater coordination, collaboration, education and awareness-building amongst other things.

Throughout the Region there seems to be a clear drive – as anywhere else in the world – to legislate for fisheries, but enforcement is limited by both weaknesses in the legislation and insufficient resources. This results in an unbalanced approach to fisheries management, which works to the detriment of the legal operator, contributes to the depletion of fisheries resources, and is poised to generate more poverty in the long run. The potential to develop national fisheries into vibrant sectors of the national economy is thus undermined.

With regard to MCS, there is a need for profound and Region-wide policy change. The 2010 Castries Declaration is a good starting point to drive policy change for better MCS at the national level. Regional MCS actions – in whatever form – will have little chance of creating expected impacts, if national MCS frameworks remain at their current levels of development.



### 3 MCS STRATEGY

The approach adopted in the development of an MCS strategy for the Region is depicted schematically in Figure 22. The Strategy is informed by a constraints analysis (problem tree and SWOT) - based on the current status and performance of MCS frameworks in the Region. It is informed by an Institutional analysis, which assesses the status and performance of key regional players in MCS, and it is informed by a risk analysis, which summarises the key IUU fishing risks the Region is exposed to. Finally, it is informed by an in-depth regional analysis of MCS arrangements, which provides key entry points for the Strategy's Action Plan.

The Strategy is based on a set of underlying principles, which are outlined in the following sections. These principles are inspired by the Code, and other widely accepted international and regional principles guiding this type of endeavour.

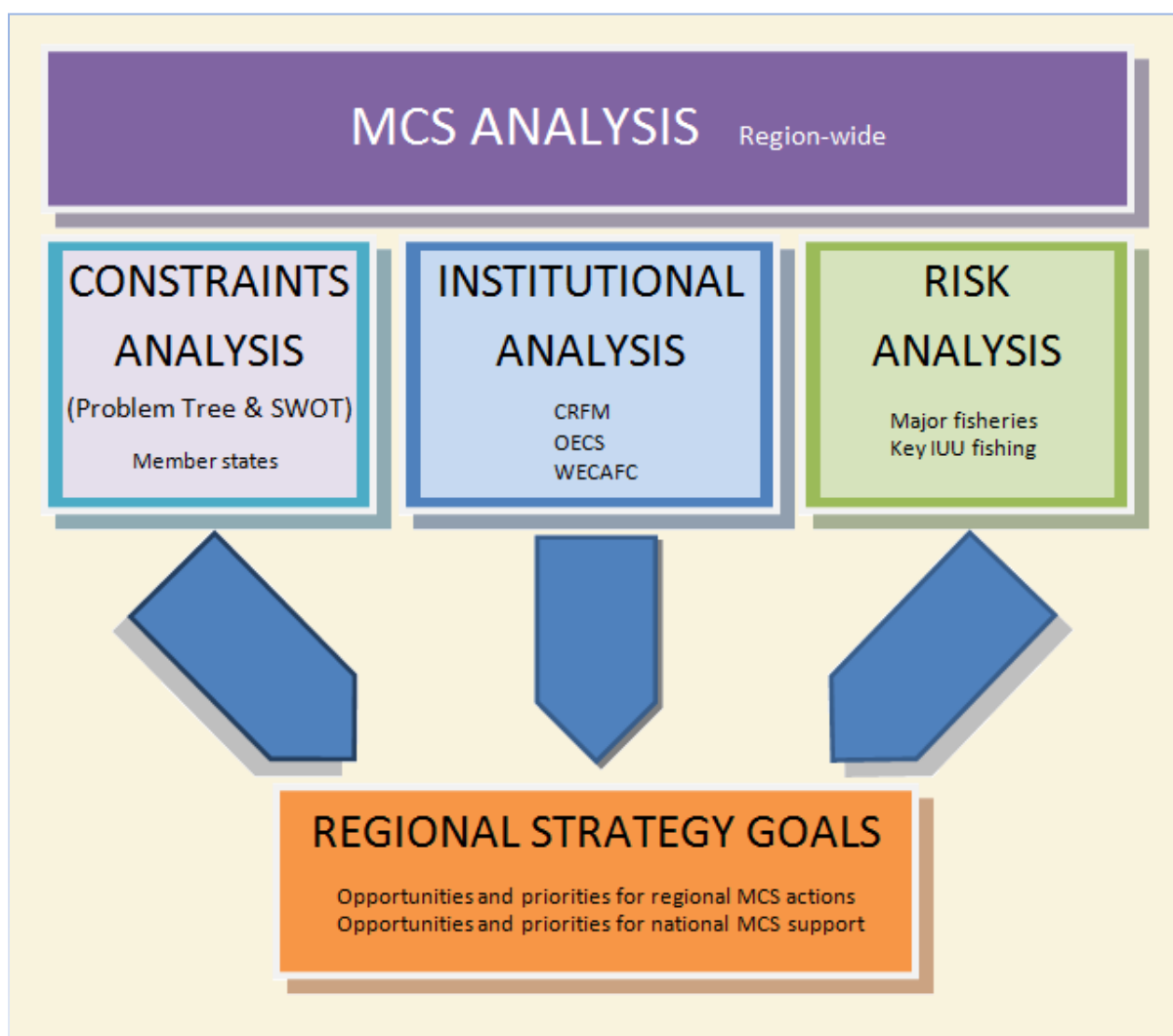


Figure 22: Analytical approach to regional MCS strategy formulation

### 3.1 ATTRIBUTES AND GUIDING PRINCIPLES

The following points outline the principles on which the Strategy is based:

- The Strategy targets the CRFM Member States, informing them on how to best to improve MCS and combat IUU fishing.
- The Strategy is informed by, and mindful of, existing national weaknesses and constraints, and national strengths and opportunities in the field of fisheries management and MCS.
- The Strategy is informed by, and mindful of, existing IUU fishing incidence dynamics and impacts (risk analysis), and the strengths and weaknesses of relevant regional institutions (SWOT and institutional analysis).
- The Strategy proposes courses of action which are realistic and achievable within the current national and regional institutional environment.
- The Strategy proposes actions in a prioritised manner – building up from primary to secondary or supporting activities.
- The Strategy proposes CRFM action within the context of other relevant regional institutions holding mandates in the field of fisheries planning and management.
- The Strategy builds on the principles inherent to the FAO Code of Conduct (article 6), the IPOA-IUU (article 9) and relevant binding international fisheries instruments. These include the principles of coordination and cooperation between States, an integrated approach (ensuring relevant flag, port, coastal and market State responsibilities are covered), transparency and non-discrimination.
- The Strategy is regional and broad in scope and nature, staying clear of detailed technical implementation at individual country level, which ought to be driven through relevant national planning (e.g. NPOA-IUU development).
- The Strategy is not donor-specific, and focuses on the texture, needs and capacity of beneficiaries – not on what donors can or want to bring to the table.
- The Strategy is based on the principle of subsidiarity, implying that member State action shall not be substituted by higher level actors acting *in lieu* of national authorities, whenever national capacity may be strengthened.
- The Strategy emphasises that regional MCS capacity cannot be built sustainably in the absence of national capacity, implying that national capacity enhancement is key to all advances, and is hence the focus of priority action.
- The Strategy builds upon the CRFM-OPESCA Joint Plan to increasing the regional capacity to combat IUU activities, through a combination of coordinated MCS and trade harmonisation approaches.

### 3.2 GOAL

The overall goal of the Strategy is to contribute to combating, deterring and eliminating IUU fishing throughout the Region, and beyond.

### 3.3 OBJECTIVE

The objective of the MCS Strategy is to provide the CRFM with an informed approach – consisting of a strategic framework for action in the domain of MCS – through which the CRFM is to assist the Region in developing its MCS capacity.

The MCS Strategy is segmented into two layers, mindful of the fact that there is ample scope to drive actions at the regional level, and at the national level. Actions proposed in the regional layer generally serve the purpose of coordination, collaboration, integration and harmonisation of approaches to combating IUU fishing, as described in the 2012 agreed CRFM - OSPESCA Joint Action Plan. Actions proposed in the national domain generally serve the purpose to strengthen national MCS capacity. The review of the current status of MCS frameworks across the Region shows that solid capacity enhancements in MCS are needed.

### 3.4 RISK ANALYSIS

Three fundamentally distinct types of IUU fishing dynamics have been identified in Chapter 2. These three types of IUU fishing are generally experienced to varying degrees by all countries of the Region, and may be portrayed as affecting countries in the same manner – even though the magnitude of the impacts will vary from country to country. The drivers behind these IUU fishing phenomena are largely identical.

The following three types of IUU fishing are identified, and form the basic segmentation for risk analysis:

1. IUU fishing activities by national operators in national waters;
2. IUU fishing activities by neighbouring (regional) fleets in national waters;
3. IUU fishing activities by industrial scale tuna fleets in national offshore waters.

Impacts and risks associated to these different forms of IUU fishing may be summarised as follows:

#### ***IUU fishing of national operators in national waters***

These forms of IUU fishing are a direct consequence of long-term low levels of law enforcement. Although their exact level of incidence is unknown, due to lacking compliance data, their existence and frequency has been identified by virtually all countries for at least one segment of existing domestic fleets. The forms of IUU fishing cover the spectrum of possible infractions, from fishing without a license, violation of closed seasons, landing of undersized or prohibited species, or fishing with dynamite or undersized mesh sizes, to name a few.

There is little doubt that the most important environmental impacts (resource degradation) are owed to these forms of IUU fishing – with the exception of targeted foreign poaching activities focusing on specific resources, which may contribute to/result in specific resource depletion.

Long term social and economic impacts result from the degradation of stocks, and the concomitant gradual deterioration of fish catches. This effect is visible today in many places, where fishers complain of falling CPUE rates, and vanishing resources in traditional fishing grounds. CPUE rates established through formal research tend to show the same dynamics in various places. Gradual poverty generation in coastal fishing communities is the net result.

Owing to the fact that effort in small and semi-industrial scale fisheries is largely unmanaged, abiding with the technical rules on gears, seasons, closed areas, berried females and prohibited species are all the more important to ensure that management objectives are reached. The combination of open access, generally growing or stable fisher populations, and widespread IUU fishing can only lead to the degradation of fisheries resources.

The largest share of these infractions occur in countries' coastal waters (with the notable exceptions of banks fisheries), where countries generally have some capacity to effect patrols.

Diminishing resources tend to increase the pressure on fishers to resort to ever more effective – and often illegal forms – of fishing to secure their catches; implying a self-perpetuating vicious circle of increasingly potent drivers in favour of fishing illegally. This implies that if unchecked, the situation gets worse, and the speed of degradation picks up with time. This leads to more poverty, more conflict, and can ultimately result in violence and social unrest. Some of these phenomena may already be observed across the Region today.

One of the important management-related impediments to securing healthy and sustainable fisheries is the open access nature of many of the Region's fisheries. It is unlikely that good MCS and solid law enforcement alone can remedy the situation as a whole. Jamaica is one of the countries that recognises that time for capping effort through limiting entry may have come, and that the issue can no longer be avoided. Belize, Antigua and Barbuda are among the countries implementing similar action.

### ***Poaching of neighbouring (regional) fleets in national waters***

As has been established in Chapter 2, illegal fishing by neighbouring fleets in the Caribbean is another prevalent form of IUU fishing that occurs throughout the Region. Although its reported frequency, based on the result of the survey, appears to be less than national IUU fishing incidence, this is believed to be an artefact arising from the survey methodology as mentioned above (see text Box 1: Expert Working Group views on the questionnaire, its results and their interpretation, page 5).

The origin of this form of IUU fishing stems in some cases from traditional exploitation patterns which go back many generations. They pre-date UNCLOS, and the advent of 200nm boundaries in the 1970's. Many of these forms of fishing used to be legitimate and legal pursuits. In many cases, it is the putting in place of the new maritime boundaries that has turned these traditionally occurring operations into illegal operations. The unauthorized incursions of fishing vessels from neighbouring States in the waters under the jurisdiction of CRFM Member States (e.g. Venezuelans encroaching on Surinamese and Guyanese waters, or Hondurans encroaching on Jamaican and Belizean waters, or the Dominican Republic encroaching in the waters of The Bahamas), are more worrisome and harmful, and are generally conducted using larger scale vessels (semi-industrial or industrial) crewed with 100 to 200 fishermen each.. Infractions often take place offshore, beyond coastal waters, and beyond the reach of many authorities' patrol capacities.

In addition to being a criminal activity, one other consequence of foreign illegal fishing is the non-reporting of catches, which in turn impacts the data collection, stock assessment and decision-making processes for fisheries management.

High amounts of foreign illegal fishing also tend to impact stock health directly. Therefore, the biological impact can be high in the industrialised and unilateral forms of poaching. This has

direct negative social and economic implications for national operators. This is especially true for conch and lobster stocks, which are targeted by such poaching operations throughout the Region. The poached resources do not enter the national economy, and represent a direct net loss to the economy.

In terms of resource rent lost to the State, negative impacts are more limited, as license fees generally do not reflect the value of the resource across the Region. The value of artisanal, semi-industrial, and often also industrial licences, is generally not set at an appropriate level that would allow the State to extract a meaningful amount of rent from the concessions it confers to operators to exploit national living marine resources.

Overall, impacts of foreign illegal fishing by neighbours is widely regarded as the most important and damaging form of IUU fishing affecting CRFM Member States<sup>29</sup>. The 2010 Castries (St. Lucia) Declaration on IUU Fishing produced by the CRFM Ministerial Council was inspired largely by this form of IUU fishing. According to a recent study done by the Government of Jamaica, between 2005 and 2010 Jamaica lost an estimated US\$135 million due to foreign illegal fishing of lobster, and reported 42 incidents of foreign illegal fishing in its waters in 2010 (Report of 4<sup>th</sup> Meeting of the CRFM Ministerial Council, 2011, pages 9 - 19). Although this form of IUU fishing has been diminished in the case of conch through CITES certification throughout the Region, it continues unabated for other high-value resources such as lobster, shrimp and certain finfish species. It is assisted by the lack of harmonised management measures for shared resources throughout the Region.

The unilateral forms of poaching (e.g. Venezuelans encroaching on Surinamese waters, or Hondurans encroaching on Jamaican waters), are more worrisome, and are generally based from larger scale vessels (semi-industrial or industrial). Infractions often take place offshore, beyond coastal waters, and beyond the reach of many authorities' patrol capacities. However, these phenomena are more limited across the Region than are national infringements. In the case of conch, CITES certification has already contributed a lot in cutting down on some of the most severe forms of conch poaching across the Region.

In addition to being a criminal activity, one other consequence of poaching is the non-reporting of catches, which in turn impacts the data collection, stock assessment and decision-making processes for fisheries management.

High amounts of poaching also tend to impact stock health directly. Therefore, the biological impact can be high in the industrialised and unilateral forms of poaching. This has direct negative social and economic implications for national operators. This is especially true for

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<sup>29</sup>This form of IUU fishing has been a major policy challenge for CRFM Member States and is a permanent item on the agenda of the annual meetings of the CRFM Ministerial Council. It has been focus of political debates and campaigns throughout the region as can be seen from recent statements from Ryan Pinder, Minister of Financial Services and Perry Christie, Prime Minister, The Bahamas. According to Pinder, "illegal poaching has put at risk our entire marine resources as it is done without regard to species, maturity or sustainability of the catch. Entire areas are wiped out by the poachers. We need to be serious about protecting this fragile industry so Bahamian fishermen can have a future in it." -- *Ryan Pinder, November 2011.*

Perry Christie speaking during a campaign address a few weeks before the 7 May 2012 general elections in the Bahamas said, "We in the PLP have a comprehensive plan to secure our borders and deal with poaching. We have to do it because it's the only way we can ensure that our fisheries and our fishermen are protected." -- *Perry Christie, April 2012*

conch and lobster stocks, which are targeted by such poaching operations throughout the Region. The poached resources do not enter the national economy, and represent a direct net loss to the economy.

In terms of resource rent lost to the State, negative impacts are more limited, as license fees generally do not reflect the value of the resource across the Region. The value of artisanal, semi-industrial, and often also industrial licences, is generally not set at an appropriate level that would allow the State to extract a meaningful amount of rent from the concessions it confers to operators to exploit national living marine resources.

Unilateral and industrialised poaching has higher negative impacts. It has been successfully addressed and diminished in the case of conch through CITES certification throughout the Region, but continues in other places. It is assisted by the lack of harmonised management measures for shared resources throughout the Region. Overall, it appears that these forms of IUU fishing and catches represent but a fraction of the operations and catches of national IUU fishing operations.

### ***Poaching of industrial scale tuna fleets in national offshore waters***

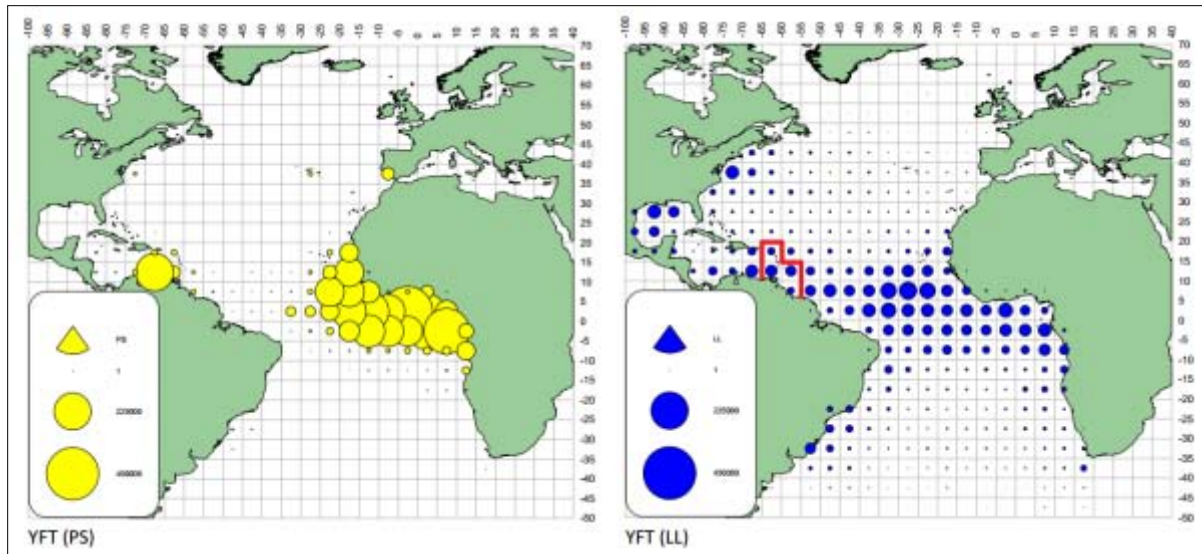
Poaching of extra-regional fleets (*i.e.* distant water fishing nation fleets - DWFN) in the Region exists, but is little documented. It is assumed that these fleets largely consist of Asian, European, American and possibly Latin American long liners and purse seiners, targeting migratory large offshore pelagic resources. These vessels stay far offshore, and are sighted with regularity by small scale fishers on the horizon. Few if any sightings are useful enough to determine exactly the type and nationality of the fishing vessels in question. Also, small and semi-industrial scale fishers tend to describe larger fishing vessels as “*trawlers*”, which is not useful. Most small-scale fishers cannot make the distinction between a purse seiner, a longline and a trawler. However, there seems to be little doubt that these vessels, operating in deep offshore waters, are indeed tuna vessels.

No country in the Region has signed a fisheries agreement with a DWFN for access to migratory large pelagic resources, and no country in the Region operates industrial-scale tuna vessels. Therefore, there should be a total absence of such vessels across the EEZs of the Region. These resources, in terms of rent-generator for the State, as well as targeted fisheries for national entrants, are largely underdeveloped and untapped. Semi-industrial longline fisheries across the Region venture less far offshore, and target smaller migratory pelagics, such as bonitos, dolphinfish and kingfish.

Based on evidence gathered in Saint Vincent and the Grenadines, Saint Lucia and Barbados, poaching by tuna vessels would seem to occur both inside and outside the arc of islands formed by the lesser Antilles; *i.e.* incursions occur to the Atlantic side, as well as to the Caribbean Sea side of the island chains. A look at catch distribution of yellowfin tuna (YFT) from the 2011 ICCAT statistical bulletin<sup>30</sup> for Purse Seine (PS) and Longline (LL) vessels provides a clear picture of the fact that a substantial amount of tuna is sourced from the Region.

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<sup>30</sup> ICCAT (2011). Statistical Bulletin vol. 40 (1960-2009). Madrid, Spain.  
[www.iccat.int/Documents/SCRS/Other/StatBull40.pdf](http://www.iccat.int/Documents/SCRS/Other/StatBull40.pdf)



**Figure 23: 1991 – 2009 YFT catches by long liners and purse seiners in the ICCAT zone**

The red line in Figure 23 (LL catches) singles out the areas which are made up to the largest extent of the EEZs of the Lesser Antilles – containing a dozen CRFM member State EEZs. This is clearly the zone with the highest YFT catches in the Region, and where these types of DWFN poaching are concentrated (with the exception of one more such 5x5° degree box west and off the Venezuelan coast). This finding, based on YFT statistics, is confirmed by other species statistics, such as bigeye, and blue and white marlin catches.

This form of IUU fishing has a significant impact in terms of social and economic costs, because although much of the high seas large pelagic resources are little exploited by the countries themselves at present, such IUU fishing activities hinder the granting of new tuna fishing opportunities to CRFM States by the relevant RFMO (ICCAT). Hence, countries should proactively address the phenomenon, and engage with flag States of vessels presumed in engaging in these forms of IUU fishing, as well as with ICCAT in combating such activities.

### ***IUU impact quantification and synoptic overview of IUU fishing risks***

This section sets out to quantify IUU impact by applying weighting factors to the incidence figures reported for the various fisheries. In doing so, four specific forms of IUU fishing, which have resulted from the analysis, are retained. These are all forms of national IUU fishing combined, poaching by neighbours, and poaching in the Region by DWFNs. The earlier concerns about interpretation-related bias in the questionnaires should also be remembered.

The assumption inherent to this quantification is that the levels of non-compliance between countries and between fisheries is the same. This is of course an abstraction, as the non-compliance rates are bound to vary between countries and fisheries. But since information on compliance rates does not exist, this abstraction is a necessary simplification. It results that for the purpose of this quantification exercise, “*damaging and persistent*” means the same for all countries and for all fisheries in terms of IUU fishing intensity.

A set of weighting factors is applied to all forms of IUU fishing. These are the following:

- Biological (impacts on the stock or resource base)
- Environmental (impacts on the environment / ecosystem)

- Social (impacts on communities related to the fisheries sector & wider afield)
- Economic (impacts on the national economy)
- Rent (impact on the State’s ability to generate income from selling licenses)

These factors have a different weight, depending on which fisheries and which forms of IUU fishing are being examined. The factors are located in the first column to the left in the overleaf. “+” signs are used to quantify the weighting factors. These qualify the magnitude of impact at specific levels, ranging from one to three, with three being the highest. A “-” sign signifies “no significant impact” at a particular level.

The allocated number of “+” per factor relates to the nature and known impact dynamics, as discussed in the previous subsections. These were discussed and adjusted during the workshop. The sum of all “+” signs for any given type of IUU fishing is then multiplied by its incidence factor in the top row to produce an “impact score” (bottom row). While this method is crude, it provides comparable figures for the magnitude of expected impacts, which in turn enable the Strategy to identify which forms of IUU fishing are likely to have the most important impacts overall.

The incidence factor (first row below the header) is derived from data underlying Figure 2 and Figure 5. For the incidence of national IUU fishing, small scale, semi-industrial and industrial fisheries are combined (first three blue bars in Figure 5), and weighted against their respective existence throughout the Region (see Figure 2).<sup>31</sup> For the other three incidence factors, the three purple bars in figure 5 provided the basis, with artisanal and semi-industrial poaching (first two bars) being considered regional poaching by neighbours. The incidence factor in the table below is the decimal fraction of the percentages reported in Figure 5.

	National IUU fishing in EEZ	Poaching by neighbours in EEZ		Poaching by DWFNs in EEZ
		reciprocal	unilateral	
incidence	13x	4x	4x	4x
biological impact	+++	+	+++	+
environmental impact	+++	+	+	+
social impact	++	-	++	+
economic impact	++	+	++	+
impact on rent	-	-	+	+
waters	largely coastal	largely coastal	coastal & offshore	offshore
<b>Impact Score and Priority</b>	<b>13x10=130</b> <b>(1<sup>st</sup>)</b>	<b>4x3=12</b> <b>(4<sup>th</sup>)</b>	<b>4x9=36</b> <b>(2<sup>nd</sup>)</b>	<b>4x5=20</b> <b>(3<sup>rd</sup>)</b>

**Table 2: Synoptic overview of impact for key forms of IUU fishing (risk analysis)**

<sup>31</sup> This means that industrial fisheries, for instance, which exist in only 24% of the countries, and earned a 75% IUU incidence score, contribute  $24 \times 75 / 10 = 1.8$  points to the overall incidence factor of 13. In the same vein, small scale fisheries contribute 8.2 points, and semi-industrial scale 2.9 points. All incidence factors are rounded to the nearest whole number.



Poaching by neighbours is split into unilateral and reciprocal forms. In doing so, either are allocated equal incidence (50/50) on an arbitrary basis.

Table 2 provides an overview of the impact to the main forms of IUU fishing affecting the Region. It follows that domestic IUU fishing by national fleets outweighs all other forms of IUU fishing by a factor of 4 to 10. The two main reasons for this are the higher opportunity to observe and report on such fishing, and its generally high adverse impacts across the board of relevant factors, especially in biological, and environmental terms, but also in longer term social and economic impacts. Poaching in neighbouring country waters in mostly traditional fishing grounds is the form of IUU fishing with the least severe impacts. Unilateral poaching by regional operators is the second most frequently identified form of IUU fishing, and has potential – in specific cases – to cause serious biological, social and economic damage. Poaching by DWFNs in the deeper EEZ ranks third out of four. It is more important than reciprocal poaching only, because impacts at the rent and social level may be more important – specifically in countries operating longline fisheries themselves and countries seeking new tuna fishing opportunities.

## 3.5 ANALYSIS OF CONSTRAINTS AND STRENGTHS

### 3.5.1 Problem Tree analysis

A review of constraints identified during stakeholder interviews and as a result of questionnaire returns and other information sources was undertaken, the aim being to, firstly, review and clearly define the nature and importance of main and binding constraints (problems, barriers, obstacles) facing fisheries stakeholders in the Region; and secondly to identify and understand the immediate causes and effects of these constraints.

Cause-effect relationships were then determined, and strategic constraints were organised into the cause-effect diagram (or 'problem tree') presented in the Table overleaf. The resulting pattern follows a logical flow from the bottom of the figure to top: Underlying Causes → Immediate Causes → Core Problem → Effects.

The core problem - prevalence of IUU fishing within the Region – manifests itself in a number of direct effects which are as follows:

- (1) Degraded fish stocks;
- (2) Low / unsustainable catches and CPUE;
- (3) Reduced national livelihoods;
- (4) Loss of economic rent;
- (5) Disincentive to operate within law; and
- (6) Adverse environmental impacts.

The immediate causes of the core problem are attributable to: weak fisheries management frameworks; impaired regulatory framework due to shortcomings in the policy / legal frameworks; weak monitoring and surveillance; and weak enforcement. Each immediate cause has a number of underlying causes, as indicated in the figure.

These problems and constraints were identified in discussion with over 100 stakeholders during the field mission. The analysis of problems provides critical guidance for the development of a Strategy to strengthen MCS across the Region, as discussed in section 3.7.

<b>Effects:</b>	<b>1. Degraded fish stocks</b>	<b>2. Low/ unsustainable catches and CPUE</b>	<b>3. Reduced national livelihoods</b>	<b>4. Loss of economic rent</b>	<b>5. Disincentive to operate within law</b>	<b>6. Environmental impacts</b>		
<b>Core problem:</b>	<b>PREVALENCE OF IUU FISHING THROUGHOUT REGION</b>							
<b>Immediate causes:</b>	<b>Weak management framework</b>		<b>Impaired regulatory framework</b>		<b>Weak monitoring &amp; surveillance</b>		<b>Weak enforcement</b>	
<b>Underlying causes:</b>	Stock assessment/ applied research lacking	Flag state responsibilities (High Seas fisheries) not honoured	Fishery-specific national policies absent or not acted upon	International obligations not enshrined in national laws	Insufficient surface patrol craft capacity	High cost of surface/ aerial surveillance operations and assets	Leniency by courts in IUU cases (penalties provide no dis-incentive)	Absence of administrative penalties in many countries
	Under-utilised co-management arrangements	Fisher organisations lack support	Few agreed maritime boundary delimitations	Inadequate public awareness of IUU fishing/ implications	Poor data collection systems (enumerators, observers)	Low application of high solutions e.g. VMS, electronic CDS/log-sheets.	Small-scale fisheries not considered serious	Magistrates' low understanding of gravity of IUU infractions
	Non-harmonised management measures	Not all major fisheries are managed (i.e. unregulated)	Inadequate fisheries sector specific planning	Fisheries sector afforded low political priority	Unreliability/ poor coverage of biological/ fishery data	Absence of offshore surveillance capacity	Many detected cases do not lead to administration of penalty	
	Data analysis/ dissemination mechanisms ineffective	Low private sector role in fisheries management (except shrimp, lobster & conch).	Legal frameworks out-dated / non-harmonised	Low penalties = low deterrence	Fisheries surveillance low on list of marine security priorities	Absence of regional surveillance cooperation		
	Unquantified economic impacts of IUU	Ineffective fisheries management – lack of FMPs	Open access nature of most capture fisheries		Virtual absence of aerial surveillance capacity	Low priority of fisheries for enforcement agencies		
<b>Cross-cutting issues:</b>	<ul style="list-style-type: none"> <li>• Slow delivery on agreed regional political mechanisms to combat IUU e.g. Castries Declaration; Common Fisheries Policy.</li> <li>• Insufficient human, financial and material investment in the sector</li> <li>• Inadequate cooperation, coordination and logistical support (within and between states) in MCS and fisheries management generally</li> <li>• Weak coordination on decision making (between major stakeholders – policy makers, judiciary, enforcement agencies, fishing community, processing sector)</li> </ul>							

**Table 3: Constraint analysis – CRFM Regional fisheries ‘problem tree’**

### 3.5.2 SWOT Analysis

A SWOT analysis of the marine fisheries in the Region was undertaken. SWOT analysis is a standard strategic planning method, and involves the identification of the most important internal factors: Strengths (factors that provide stakeholders with an advantage) and Weaknesses (factors that are disadvantageous), and external factors: Opportunities (factors that provide the chance for improvements) and Threats (elements that can cause trouble) identified during the field mission. The SWOT approach helps to specify the objective of the MCS strategy, and to identify the internal and external factors that are favourable and unfavourable to achieve that objective. The resulting SWOT analysis is presented in the Table below.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Coast Guard exists in many countries</li> <li>• Good fisheries / CG/Marine Police relations</li> <li>• National legislation – basis for MCS</li> <li>• Political will to combat IUU fishing (Castries Declaration)</li> <li>• Registration/licensing systems in place (fishers and vessels)</li> <li>• Significant socio-economic benefits and development potential</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of national MCS planning (NPOA-IUU)</li> <li>• Absence of approved Fisheries Management Plans (FMPs)</li> <li>• Complicity / acceptance of IUU between fishers due to traditional access/cultural linkages</li> <li>• Dated basic fisheries laws (low penalties, lack of provisions for modern MCS)</li> <li>• Few agreed delimited maritime boundaries</li> <li>• Weak flag and port State controls</li> <li>• Inadequate bi-lateral and regional coordination</li> <li>• Insufficient harmonised fisheries management arrangements = facilitation of IUU</li> <li>• Limited MCS infrastructure (human, financial, material resources).</li> <li>• Low priority of MCS</li> <li>• Extent &amp; costs of IUU fishing unknown</li> <li>• Weak data collection/analysis/ dissemination/ sharing on all aspects of MCS</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Draft regional Common Fisheries Policy to facilitate common action</li> <li>• International and regional organisations offer avenue for improving MCS (CITES, RSS, CRFM)</li> <li>• IPOA-IUU provides blueprint for national MCS planning</li> <li>• RFMOs provide avenues for engaging FoC and PoC states e.g. ICCAT</li> <li>• International fisheries agreements provide a blueprint for MCS action at flag, coastal, and port State levels</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing robbery, violence at sea, organised crime (drugs/arms) the impacting fisheries sector</li> <li>• Some stocks are fully exploited and in danger of over-exploitation</li> <li>• Poaching by foreign fishing vessels</li> <li>• Weak MCS arrangements in neighbouring countries</li> </ul>

**Table 4: Analysis of Strengths, Weaknesses, Opportunities and Threats**

The SWOT analysis renders key factors in each category at the regional level: individual countries may therefore not see all particular aspects of their specific circumstances reflected in the table. The main strengths on which to build can be summarised as the existing legislative / management frameworks and political will to address IUU fishing, allowing individual countries and the Region to thus taking advantage of the opportunities offered by regional and international management mechanisms that are already in place. The number of weaknesses identified by the SWOT outweighs the other three factors. This underlines the pressing need to

develop a coordinated, harmonised and integrated approach to build and/or strengthen MCS capacity at the national level.

### 3.6 INSTITUTIONAL ANALYSIS

Five regional bodies support the development of MCS capacity in the CRFM member states as part of their mandates.

**Caribbean Regional Fisheries Mechanism (CRFM):** the principal regional fisheries body was established in 2002, with a mandate to promote efficient management and sustainable development of Caribbean fisheries; promote and establish cooperative regional arrangements for management of shared and highly-migratory species; and to provide technical, advisory and consultative services to national fisheries administrations in matters pertaining to fisheries development, management and conservation. The CRFM therefore holds a pivotal place for developing MCS functions at both national and regional levels. CRFM's work is directed by its Strategic Plan, which addresses member state priorities<sup>32</sup>. The Strategic Plan is complemented by Medium Term Plans: the first spanning 2004 - 2007 (MTP-1) and the second 2008 - 2011 (MTP-2)<sup>33</sup>. Both the Strategic Plan and MTP-2 terminated on 31 March 2011. A new Strategic Plan was being developed with the assistance of FAO in August / September 2012.

MTP-2 has '*continued the implementation of projects outlined in the 1<sup>st</sup> Medium Term Plan*'<sup>34</sup>; it sets out the same 9 programme areas as MTP-1, each of which has a number of subsidiary 'areas' of activity, or projects. Programme area 4.2.3: *Resource Assessment and Management*, has three component areas of intervention that address issues pertaining to MCS and IUU:

- Area #1: Development and Implementation of Fisheries Management Policies and Plans. The expected activities and outcomes include the development of national fisheries policies and plans, and strengthened institutional capacity for improved fisheries management;
- Area #2: Development and Implementation of a Programme and Enabling and Promotion of MCS. The specific objective is: to determine, prevent and eliminate IUU fishing activities in accordance with the [Castries Declaration on IUU] and the FAO Code of Conduct for Responsible Fisheries. Expected activities/outcomes of this project area include: reviews of national MCS systems, the development of national MCS plans; enhanced regulatory frameworks and national capacities for MCS; improved regional co-operation on MCS; determination of economic value of national fisheries and losses due to IUU; and support of the IPOA-IUU at national level.
- Area #3: Development and Implementation of Regional Management Systems. Main expected outcomes include improved management of shared resources, strengthened policy and institutional frameworks and harmonised regional management systems and legislation.

CRFM's work is directed by biennial work plans and budgets, as presented to and approved by the Ministerial Council (the exception being an Annual Work Plan and Budget for period 2012 - 2013). The forms of assistance envisaged under Programme Area 4.2.3, under both MTP-1 and

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<sup>32</sup> Strategic Plan for the CRFM. CARICOM Fisheries Unit, 9 December 2002.

<sup>33</sup> CRFM Secretariat 2009. CRFM Second Medium Term Plan, 2008 - 2011, including a review of the First Medium Term Plan (2004 - 2007). ISSN: 1995-5294.

<sup>34</sup> *ibid*, page 4.

MTP-2 and in place now since 2004, are highly relevant to, and support the results of this study. However, evidence of meaningful progress in these areas remains elusive. CRFM's main deliverables to date in regard to MCS/IUU include the Castries (Saint Lucia) Declaration on Illegal, Unreported and Unregulated fishing (signed July 2012) and a draft Common Fisheries Policy. CRFM has faced difficulties in the mobilisation of resources to implement / deliver its MTP-1. Overall, only 3%<sup>35</sup> of the projected funds to finance MTP-1 activities were raised between 2003 and 2007.

Delivery of MTP-2 remains unpublished and provisional performance figures could not be shared with the team. In addition to weak fund raising towards MTP implementation, the organisation is severely constrained by a shortage of technical staff. Six technical positions are currently vacant, and only one has been approved to be filled during the latest Council Meeting, implying that possibly half or more of all Secretariat technical positions are currently unfilled.<sup>36</sup> This implies that in order to assume long term central MCS functions at the regional level, such as the operation of dynamic central repositories of information, CRFM would need to increase its capacity for these functions. These strategic issues need to be considered fully when pondering the future role of the CRFM in leading the implementation of a regional MCS Strategy.

**Organisation of Eastern Caribbean States (OECS)**<sup>37</sup> was active in supporting sub-regional cooperation in fisheries surveillance during the 1980's, during which time OECS States harmonised fisheries legislation and developed a sub-regional fisheries management regime, including enforcement provisions, regulatory measures and penalties. In 1987, the OECS Fisheries Unit was established and in 1988 a Fisheries Surveillance and Enforcement Programme commenced. This had a focus on optimising MCS resource use<sup>38</sup>. OECS states signed, in 1991, the 'Agreement Establishing Common Fisheries Surveillance Zones of Participating Member States of the OECS', establishing reciprocal powers for authorised officers throughout the zones of the participating states, and the Delimitation of Common Fisheries Surveillance Zones<sup>39</sup>, allowing arrests for violations in any of the waters under the jurisdiction of the OECS states. A harmonised High Seas Act was drafted, with FAO assistance, and enacted in at least one state. The surveillance zones facilitated joint surveillance, including aerial surveillance mission outsourced to private sector aircraft, working in coordination with national CG surface assets as part of a sub-regional project funded by CIDA<sup>40</sup>. Such activities were coordinated by the OECS Fisheries Unit, with some input provided by RSS. However,

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<sup>35</sup> Based on an analysis of figures provided by the review of MTP-1 (2004 - 2007), see footnote 33

<sup>36</sup> An up-to-date CRFM organogram showing expected and actually filled positions / functions could not be secured during the mission. Therefore, the exact current staffed / non-staffed status of CRFM could not be fully assessed.

<sup>37</sup> CRFM members of OECS include Anguilla, Antigua & Barbuda, Dominica, Grenada, Montserrat, St. Lucia, Saint Kitts and Nevis, and Saint Vincent and Grenadines.

<sup>38</sup> OECS / NRMU Fisheries Monitoring, Control and Surveillance Programme, "Fisheries Enforcement Standard Operating Procedures Manual" 1997.

<sup>39</sup> Four zones were proposed – Northern Zone – British Virgin Islands' fishery waters, North Central – Antigua and Barbuda's, Saint Kitts and Nevis' and Montserrat fishery waters, South Central – Dominica's fishery waters, and Southern – Grenada's, Saint Lucia's and Saint Vincent and the Grenadines fisheries waters.

<sup>40</sup> OECS / NRMU Fisheries Monitoring, Control and Surveillance Programme.

operations ceased when the CIDA project terminated. The OECS Fisheries Unit closed in 1995 and since then OECS has had limited direct involvement in fisheries MCS in the Region.

**Regional Security System (RSS).** Based in Bridgetown, Barbados, the RSS was established through an international agreement between OECS states and the Government of Barbados. RSS operated a training centre in Antigua and Barbuda for coastguard personnel, where standard operations and procedures were taught. These functions have been transferred to Barbados in 2009. RSS has good resources at its disposal. Officers from OECS states attend training courses organised under Operation Trade Winds – which has a different theme every year. Training themes include matters such as Safety at Sea, disaster at sea response, combating drug / human trafficking. RSS is therefore directly and actively involved in MCS capacity development in the Region, and has a strong potential role in regional training and fostering inter-state collaboration between enforcement personnel.

**Western Central Atlantic Fishery Commission (WECAFC)**<sup>41</sup>. Established under the auspices of FAO, WECAFC is an RFB that facilitates the coordination of research, encourages education and training, and assists its members in establishing policies to promote the rational management of resources that are of interest for two or more countries. WECAFC has an advisory management function but has no regulatory powers. The fact that WECAFC has had no executive secretary for some time has hampered continuity in activities. The organisation is also constrained by shortages in technical personnel and funding.

However, WECAFC is currently driving an initiative which seeks to improve the implementation of the provisions inherent to international fisheries treaties and the Code – including its related instruments. Regional Organisations such as the CRFM can apply directly for support, or groups of three Member States. This could prove a potential avenue to fund some of the initiatives related to legal framework upgrades and IPOA-IUU implementation.

**International Commission for the Conservation of Atlantic Tunas (ICCAT)**<sup>42</sup> is an inter-governmental fishery organisation responsible for the conservation and management of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas. Science underpins the management decisions made by ICCAT, one of which is a management strategy for Blue Fin Tuna and Swordfish on the High Seas. Core functions of ICCAT include: compilation of tuna fishery statistics from its member states (some of which have been presented and used in this study), research and stock assessment coordination, science-based management advice and facilitating agreement between members on management measures. Since 2002, ICCAT has maintained a black-list of IUU fishing vessels and support craft. However, ICCAT has no surveillance and enforcement mandate and is unable to directly enforce the management measures agreed upon by its members.

**CARICOM Implementation Agency for Crime and Security (IMPACS)** CARICOM established the Implementation Agency for Crime and Security (IMPACS), and its sub-agencies, the Regional Intelligence Fusion Centre (RIFC) and Joint Regional Communications Centre (JRCC) to strengthen regional capacity to collectively combat serious crime and to counter other

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<sup>41</sup> All CRFM member states are members of WECAFC except Montserrat.

<sup>42</sup> CRFM States that are also ICCAT members include Barbados, Belize, Saint Vincent and the Grenadines, and Trinidad and Tobago.

security threats in the Region. IMPACS, together with RIFC and JRCC are specifically geared towards strategic research, program and project implementation, evaluation, analysis and mobilization of resources to support the collective fight against serious crime and to counter other security threats in the Region.



### 3.7 STRATEGIC ACTION PLAN

The Strategic Action Plan is based on the analysis and findings presented in sections 2.3, 2.4, 3.4, 3.5 and 3.6 above. The plan builds on identified key IUU phenomena (qualified through a pertinent risk analysis), the current status of MCS in the Region, the relevant institutions active in the Region, and the constraints institutions and national administrations are faced with (based on the SWOT and problem tree analyses) – and of course the strengths which can – and have to be – leveraged, in order to address the situation at hand. Identified core strengths and opportunities within the sector are built upon, in order to address and overcome identified weaknesses and threats.

The aim of proposed strategic action is as follows:

*“To build and / or to strengthen national MCS systems”.*

The term *“build”* implies the building of MCS systems from bottom up, for those countries where the foundation of MCS is weak. *“Strengthen”* applies to those countries where this basis is given. This will require a better understanding of the prevailing situation in specific countries. In the case of strengthening, this applies to countries where an MCS unit exists, or whichever other MCS arrangement is in place due to national legislation / legal framework to deal with MCS and IUU fishing, where monitoring and data analysis and publication routines are in place, and where fisheries operate recurrent surveillance and inspection operations, and are capable of monitoring compliance in their fisheries.

The focus of the Strategic Action Plan, in terms of forms of IUU fishing to address, is on domestic (national) forms of IUU fishing, and on unilateral forms of regional poaching, as described in the risk analysis.

The Strategic Action Plan is driven / implemented through the action of the CRFM, and in doing so, the Strategic Action Plan remains mindful of the fact that the Secretariat is currently constrained in terms of human resources. It therefore refrains from proposing action programs which imply the location of permanent regional MCS functions within the Secretariat – as any such program would currently be unrealistic and would face a high probability of falling short of expectations. CRFM's role in the Strategy – through its Secretariat as the body leading the implementation – is focused on fund raising, and planning and implementation of stand-alone national and regional initiatives, which exclude long-term servicing commitments beyond any externally funded implementation period. Still, to this end, fund raising strategies have to substantially improve, in order to overcome the weak MTP-1 results. Fund raising is a critical element that will condition the success of the Strategy. This approach is taken, as it is expected that the improvement of fund raising strategies is easier, than to remedy the Secretariat's technical staffing issues, which are related to levels of core funding and member State commitments.

#### 3.7.1 Strategic action for regional level initiatives

At the regional level, in terms of cross-cutting and federating activities, the following actions are of utmost relevance, and should be attempted:

- ***Regional study to amend / update fisheries sector legislation, focusing on MCS content.*** A fundamental shortcoming is the outdated nature of basic fisheries laws across the Region. Modern provisions for MCS addressing national and international fisheries are largely absent, and prevent the development of strengthened MCS regimes at the source. Upgraded legal frameworks are an essential pre-condition for about three

quarters of all countries in the Region to make substantial progress. It would naturally address current weaknesses in flag and port State duties and enforcement, and make provision for harmonised penalties. It is recognised that a number of national fisheries acts and regulations have recently been, or are in the process of being updated. However there is a need to ensure consistency of legislation and regulation across the region, especially in terms of the penalties and other deterrents to counter IUU fishing.

- **Regional study on bilateral / multi-lateral agreements among CARIFORUM states for fisheries protection and MCS activities:** Especially the forms of unilateral cross-border poaching have been singled out as a critical form of IUU fishing that should be addressed, and the traditional or customary entitlements these fisheries are endowed with make it difficult for policy makers and fisheries departments to design acceptable and functional mitigation measures. A regional study – to be used as a guide for policy makers and NPOA-IUU development – should identify sources, options and solutions to the problem, ranging from repressive to inclusive mechanisms, as deemed appropriate, and sourcing from other world-wide examples, where these same phenomena have been successfully dealt with and solved.
- **Regional study on harmonised and implementation of management measures for conch and lobster and their enforcement:** Both conch and lobster are amongst the most valuable commercial species in the region. The lack of harmonised management measures for shared resources such as conch and lobster is a facilitator of IUU fishing. Harmonised management measures have been discussed through CRFM for several years, without leading to the implementation of harmonised regimes. This implementation project, building on existing data and information will focus on the case of the key species of lobster and conch. It will develop management and enforcement options that are essential for management measures to produce the desired effects.
- **Regional study on improving public awareness and involvement in MCS:** The paucity of public awareness and participation in MCS is adversely impacting fisheries management and the effectiveness of MCS and enforcement in the region, with particular regard to combating IUU fishing. Increased knowledge and involvement will give rise to greater appreciation for sustainable use of fisheries resources. This will also contribute to greater economic returns.
- **Regional study on cost-benefit analysis of MCS strategic options:** Very few MCS strategies have been developed and effectively implemented within the region. It is thought that this may be a consequence of the inadequate appreciation of the benefits of such programmes, given the inherent costs. An analysis of such costs and benefits would provide valuable information for the development of appropriate actions for MCS and also provide a basis for resource mobilisation in this regard.
- **Regional Working Group on IUU fishing (RWG-IUU):** Called for by the Castries Declaration, the group is tasked with the enhancement data collection on IUU fishing. Overall monitoring and data collection on IUU fishing is weak across the Region, but it is especially weak with respect to the incursions of foreign fishing vessels. The RWG-IUU should be created as a CRFM Working Group, with the view to define and drive national programs to collect information on foreign fishing vessel incursions into the Region's EEZ, and to propose options and courses of practical action that coastal States can (and should) take to engage pro-actively with relevant RFMOs and suspected (or proven flag States) to address and mitigate these forms of incursions.

### 3.7.2 Strategic action for national level support

The national level is the first and most important level to address the key high impact IUU fishing priority areas identified in this study. There are no regional substitutes for addressing national IUU fishing, be it the combating of these phenomena in national waters, or disciplining national fleets regularly encroaching on neighbouring waters (and vice-versa).

National MCS planning and implementation, and the legal basis for this to occur successfully represent the nexus of the Strategic Action Plan at the national level.

- **Development of NPOA-IUUs and direct assistance for customised NPOA-IUU implementation:** A fundamental shortcoming is the lack of formal MCS planning across the Region. It implies that most MCS gaps and weaknesses at the national level cannot be addressed and eliminated in a targeted manner, and are likely to remain in place. The development of NPOA-IUUs is regarded as a fundamental and necessary activity to precede and underpin all other national MCS development action, in order to guarantee that MCS systems be developed in a coherent, consistent and efficient manner. Experience shows that limited resources allocated to MCS cannot be reorganised and put to good effect successfully outside a consistent and encompassing national MCS planning framework. It is appropriate to assist individual countries on the basis of a solid national MCS planning document, ensuring that properly identified and planned necessary upgrades can be made to their MCS frameworks. To this end, the CRFM raises funds and mobilises technical assistance. Concurrent to this activity, the revision, approval and implementation of FMPs should also be addressed as both are necessary.
- **Reinstitute / formalise a coastal / fisher watch program in support of combating IUU fishing:** This project will encourage compliance by fisher folk. It will also engender a spirit of co-management, improving the sense of ownership and participation in fisheries management. Will enhance community appreciation of valued fisheries resources and the marine environment on which they are dependent. This will raise the level of human intelligence ('humint') from sector participants, thus contributing to the cost-effectiveness of MCS activities.

### 3.7.3 Prioritization and logic

The actions proposed above have to be implemented in sequential (or prioritised) manner, as several actions are foundation actions on which other actions build. The sequence of actions should be as follows:

Level	Prioritised	Any time (non-prioritised) but as early as possible
1	Regional study to amend / update fisheries sector legislation, focusing on MCS content:	Regional Working Group on IUU fishing (RWG-IUU) (R)
	Regional study on bilateral / multi-lateral agreements among CARIFORUM states for fisheries protection and MCS activities:	
	Regional study on harmonised and implementation of management measures for conch and lobster and their enforcement	
	Development of NPOA-IUUs and direct	

	assistance for customised NPOA-IUU implementation	
2	Regional study on cost-benefit analysis of MCS strategic options	
3	Regional study on improving public awareness and involvement in MCS	
	Reinstitute / formalise a coastal/fisher watch program in support of combating IUU fishing	

**Table 5: Prioritization of strategic action**

The regional studies that are being proposed will provide baseline information that will be useful to many countries at once, and to inform policy and management on key aspects related to the combating, deterring and eliminating of IUU fishing. This work should be available in relevant format to inform and feed into the ensuing activities. In doing so, relevant degrees of harmonisation will be pursued, beyond the harmonisation of mere management measures for shared marine resources. The study to amend / update fisheries sector legislation, which was carried out in the same form in the Indian Ocean before the harmonisation of basic legal frameworks there in the mid-2000's will, for instance, ensure that penalties across the basic legal platforms be of related and relevant proportions. The same is true for cross-border poaching, which demands practical and harmonised approaches which go beyond the nation-State.

In this Strategy, the NPOA-IUU is placed as the centre-piece of all endeavours – regional and national – around which the planning, re-organisation, upgrading, and implementation of the new MCS drives across the Region hinges. It confirms the strategic approach that everything must emanate from the national level, and that there are no regional substitutes for weak national will and capacity to implement target-oriented MCS frameworks. This is fully consistent with the tenets of the Castries Declaration.<sup>43</sup>

With the NPOA-IUU as the central document driving gap analysis and MCS framework planning, all actions are informed by, and conform to the NPOA-IUU. In the domain of MCS, which involves an important number of national agencies, coordination and collaborative linkages – the following of, and adhering to an encompassing and coherent plan is paramount; and so is the quality of the NPOA-IUU. The NPOA-IUU may be guided by professionals with the experience that covers the complete extent of the gap analysis, inherent to the process, the relevant international fisheries instruments, and know how all existing (and non-existing) public and private entities are to be made to come together (or be created) in order to make the plan relevant and complete. The IPOA-IUU can act as a guiding framework for this process, together with the principles of the Castries Declaration and the draft CFP as endorsed by the Ministerial Council and COTED. The development of the respective country NPOAs (with comparison at the regional level) may serve to clarify and highlight trans-boundary / common issues and the priority that should be attached to each.

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<sup>43</sup> See 2010 Castries Declaration. Articles 4(i) and 4(ii).

The harmonisation of basic legal frameworks shall be informed by the regional studies, as much as it will be informed by the specific legal upgrade needs that are normally identified during the development of NPOA-IUUs. In order to ensure a consistent and stepped approach, harmonisation of basic legal frameworks should in no case precede NPOA-IUU development. In countries where this has happened, major frustration often ensued, since inserting additional (and sometimes conflicting clauses) emanating from a new NPOA-IUU into freshly adopted new basic fisheries laws is often impossible.

Direct assistance for the customised implementation of NPOA-IUUs should (obviously) follow NPOA-IUU development and adoption. It will be essential to support one-time investments that leave products that national governments can thereafter support through their own recurrent means.

The RWG-IUU addresses the third priority IUU fishing phenomenon ( Table 2), i.e. Poaching by DWFNs in the Region's national waters. There is no foundation activity that needs to precede this. The group – if successful – could be allocated more tasks over time. See *Annex 3* for a proposed outline of the groups ToR.

The total budget to fund the Action Plan is estimated at €6.35 million.

### 3.7.4 Synoptic Strategy overview and conclusions

*“If you fail to plan, you plan to fail”*  
Winston Churchill

The strategy is built on the fundamental principle – endorsed by the authors – that MCS frameworks ought to be planned in a consistent manner in order for them to become effective and produce expected results. In the particular case of the CRFM Region, national planning and implementation should precede all other forms of endeavours, owing in large measure to the fact that national systems need much attention, and that the most damaging forms of IUU fishing are related to domestic IUU fishing dynamics. The regionally-driven approaches to MCS upgrades targeting specific tools (e.g. blanket-training of judges, upgrading of licensing and registration regimes, etc.), outside of solid national and customised planning frameworks, will produce the expected results through a more holistic approach by the region as a whole and by individual Member States. NPOA-IUUs, as developed by two countries in the Region to date, are the nexus through which all efforts ought to be channelled in order to guarantee focus, coherence, effectiveness, and most importantly value-for-money. NPOA-IUUs embody the guarantee that the identified national situation, national prerogatives and national needs will be targeted. Such prerogatives and needs vary substantially between countries of the Region.

It was highlighted during the workshop that some of the actions proposed, in particular the study on harmonised management measures, are already driven by other regional initiatives, such as the CLME project, or are being built into the recently signed MOU between OSPESCA and the CRFM. However, this does not make this critical activity obsolete, and would not imply a removal from the line-up of critical actions within the regional Strategy. This activity – even if carried out under separate funding in the near future – will still feed into the envisaged process, and thus remains a key element of the Strategy and the action plan. Also, none of the proposed activities under the action plan has been effectively carried out and concluded to date under such separate initiatives, and there are no guarantees that they will result in useable reports that may feed into level 2 activities. Therefore, all activities, as envisaged here are planned from the perspective of being launched as part of this plan. If elements of it do end up being covered by other initiatives, creating synergies, savings can be made under this initiative, and freed funds – if secured already – can be committed to implementing level 2 and level 3 activities.

Most of the elements proposed in the Strategic Action Plan have been foreseen for many years in one form or another under CRFM MTP-1 and MTP-2 programme areas, presented in section 3.6. This is indicative of the fact that the strategic review presented in this study largely validates previously held knowledge related to MCS needs for the Region – albeit that it is now footed in a more encompassing situational analysis. This new strategy builds upon the 2005 report, which ultimately gave rise to the Castries Declaration, and should assist in implementing the commitments made in the Declaration.

The drive and commitment for MCS improvements must come from CRFM member States themselves. This drive can neither be generated, nor imported from outside. Governments must provide the necessary level of support to their fisheries administrations, allocate sufficient levels of funding to MCS within the envelopes afforded to fisheries administrations, and generate the necessary political will to effectively combat IUU fishing. Only under those conditions can future regional-level strategies add value and leverage to national-level efforts.

The Strategy is simple, in terms of proposed actions – and yet costly,<sup>44</sup> and still requires dedicated staff resources at Secretariat level to implement the actions. Its aim is to pour a solid foundation for meaningful and coherent MCS upgrades at the national level. If the Strategy were implemented in its current form over the next few years, and national administrations would start to implement MCS in a more targeted and results-oriented manner, IUU fishing incidence could be expected to drop sharply.

It will be essential for the CRFM Secretariat to spearhead the development of a solid fund raising strategy with respect to securing investment funds (those funds beyond core funding) to finance the 2012 MCS Strategy. The ideal scenario is for level 1 activities to be launched in the first part of 2013. The MCS Strategy, as presented in this document, should naturally integrate the substance of MTP-3, which is currently under development.

Finally, good MCS alone is no guarantee for sustainable fisheries management. Weaknesses inherent to fisheries management regimes across the Region also need to be addressed, and progress needs to be made in that domain also. The Castries Declaration also identifies this same fundamental need in two separate articles.<sup>45</sup>

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<sup>44</sup> The total cost for the seven project interventions, as designed (excluding the RWG-IUU), is estimated to amount to €3.44 million (USD4.472 million) – see Annex 1. This would represent 23.8% of the total investment budget of USD18.8 million sought under MTP-2, and may therefore be regarded as a level of investment which is commensurate with the past aspirations and visions of the Organization.

<sup>45</sup> See 2010 Castries Declaration. Articles 4(iii) and 7(i).

## Annex 1: Outlines for project proposals to support the strategy

<b>1. Project Title</b>	<b>A. Amend / update fisheries sector legislation, focusing on MCS content (R)</b>																									
<b>2. Project rationale</b>	<p>A fundamental shortcoming is the outdated nature of basic fisheries laws across the Region. Modern provisions for MCS addressing national and international fisheries are largely absent, and prevent the development of strengthened MCS regimes at the source. Upgraded legal frameworks are an essential pre-condition for about three quarters of all countries in the Region to make substantial progress. It would naturally address current weaknesses in flag and port State duties and enforcement, and make provision for harmonised penalties.</p> <p>It is recognised that a number of national fisheries acts and regulations have recently been, or are in the process of being updated. However there is a need to ensure consistency across the region, especially in terms of the penalties and other deterrents to counter IUU fishing.</p>																									
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	<p>A fisheries legal expert works hand in hand with national legal experts to revise and upgrade basic national fisheries laws, and draft key regulations relevant to MCS, taking into account the provisions of the relevant international and regional legal instruments.. This occurs through missions, which are segmented into three rounds of analysis and drafting, leading to the end-products.</p> <p>The analysis will include (i) assessing the values of entrants, (ii) and assessing values of landings, and benefits derived from IUU fishing. A key output would be a reference document that documents the analysis, the rationale for MCS provisions in national fisheries legislation, and which includes suggested formulations for necessary and highly desirable legal provisions for addressing the MCS component of fisheries management.</p> <p>The major outcome will be harmonised and motivated penalty levels for specific types of infringements (foreign poaching to national small-scale infringements), as well as cost-recovery from penalties into MCS budgets. Following finalisation of the regulations, sensitization of the magistracies and or judiciary on the reasons for and impacts of the amendments should be conducted.</p>																									
<b>4. Project Objectives</b> (rationale and justification)	<p>The objectives include:</p> <ul style="list-style-type: none"> <li>(i) Improved national fisheries legislation in order to reflect modern good practise in terms of MCS structure and content</li> <li>(ii) Harmonised and sufficiently severe minimum penalties and sanctions for IUU fishing across the region and formal procedure for implementation</li> <li>(iii) Harmonised penalties and sanctions for IUU fishing across the region</li> <li>(iv) Mechanisms proposed to recover the cost of MCS activities directly from penalty payments</li> </ul>																									
<b>5. Inputs</b> (materials, equipment, TA and training)	<u>Experts:</u> 1 Fisheries Legal Expert 1 Financial Trust Fund Expert																									
<b>6. Government, Private and Donor Involvement</b>	<u>Government:</u> meetings with expert; making available of market information <u>Private:</u> meetings with expert; making available of price information <u>CRFM Secretariat:</u> organisation and implementation of missions																									
<b>7. Project Costs</b> (€)	<table border="1"> <thead> <tr> <th><i>Item</i></th> <th><i>Travel</i></th> <th><i>TA</i></th> <th><i>Conference</i></th> <th><i>Total</i></th> </tr> </thead> <tbody> <tr> <td><u>Fees</u></td> <td></td> <td>54,000</td> <td></td> <td>54,000</td> </tr> <tr> <td><u>DSA</u></td> <td>8,000</td> <td></td> <td></td> <td>8,000</td> </tr> <tr> <td><u>Tickets</u></td> <td>12,000</td> <td>1,000</td> <td></td> <td>13,000</td> </tr> <tr> <td><b>TOTAL</b></td> <td></td> <td></td> <td></td> <td><b>75,000</b></td> </tr> </tbody> </table>	<i>Item</i>	<i>Travel</i>	<i>TA</i>	<i>Conference</i>	<i>Total</i>	<u>Fees</u>		54,000		54,000	<u>DSA</u>	8,000			8,000	<u>Tickets</u>	12,000	1,000		13,000	<b>TOTAL</b>				<b>75,000</b>
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<b>TOTAL</b>				<b>75,000</b>																						
<b>8. Timescale</b> (start and finish)	Nine months, from setting date to submission of final report																									
<b>9. Prior Obligations or Prerequisites</b>	none																									



<b>1. Project Title</b>	<b>B. Bilateral / multi-lateral agreements among CARIFORUM states for fisheries protection and MCS activities (R)</b>			
<b>2. Project rationale</b>	Especially the forms of unilateral cross-border poaching have been singled out as a critical form of IUU fishing that should be addressed, and the traditional or customary entitlements these fisheries are endowed with make it difficult for policy makers and fisheries departments to design acceptable and functional mitigation measures. A regional study – to be used as a guide for policy makers and NPOA-IUU development – should identify sources, options and solutions to the problem, ranging from repressive to inclusive mechanisms, as deemed appropriate, and sourcing from other world-wide examples, where these same phenomena have been successfully dealt with and solved.			
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	<p>A fisheries expert visits four pairs of neighbouring countries which present typical forms of cross-border poaching (e.g. St Lucia/Martinique; Jamaica/Honduras; Suriname/Venezuela) in order to document origins, forms and dynamics of the phenomenon, and discuss potential practical solutions to the problem. This project will ensure that common management measures are validated or proposed. Encompassing enforcement regimes for these, including collaborative MCS and data exchange protocols are proposed.</p> <p>This would be informed by the experience of the prior initiatives such as the Ship Rider Agreement with the US for drug interdiction, OECS Common Fisheries surveillance agreement in addition to Joint Deployment Plans, intelligence and asset sharing.</p> <p>The activities will include:</p> <ul style="list-style-type: none"> <li>i) Assess cross-border poaching phenomenon in four specific situations (from both sides)</li> <li>ii) Develop practical conflict mitigation guide for policy makers and administrations</li> <li>iii) Definition of common enforcement regimes, and cooperative MCS protocols</li> <li>iv) Development of appropriate agreements for fisheries protection and MCS activities</li> </ul>			
<b>4. Project Objectives</b> (rationale and justification)	The overall objective is to facilitate the development of bilateral / multi-lateral agreements among CARIFORUM states for fisheries protection and MCS activities			
<b>5. Inputs</b> (materials, equipment, TA and training)	<u>Experts</u> : 1 Fisheries MCS & Enforcement Expert			
<b>6. Government, Private and Donor Involvement</b>	<u>Government</u> : meetings with expert; discussions <u>Private</u> : meetings with expert; discussions <u>CRFM</u> : organisation and implementation of mission			
<b>7. Project Costs</b> (€)	<b>Item</b>	<b>Travel</b>	<b>TA</b>	<b>Total</b>
	<u>Fees</u>		75,600	75,600
	<u>DSA</u>	8,400		8,400
	<u>Tickets</u>	16,000		16,000
	<b><u>TOTAL</u></b>			<b>100,000</b>
<b>8. Timescale</b> (start and finish)	Nine months, from setting date to submission of final report			
<b>9. Prior Obligations or Prerequisites</b>	none			

<b>1. Project Title</b>	<b>C. Harmonisation and implementation of management measures for conch and lobster and their enforcement (R)</b>			
<b>2. Project rationale</b>	Both conch and lobster are amongst the most valuable commercial species in the region. The lack of harmonised management measures for shared resources such as conch and lobster is a facilitator of IUU fishing. Harmonised management measures have been discussed through CRFM for several years, without leading to the implementation of harmonised regimes. This implementation project, building on existing data and information will focus on the case of the key species of lobster and conch. It will develop management <u>and</u> enforcement options that are essential for management measures to produce the desired effects.			
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	A biologist and an expert in fisheries management and MCS will assess the biological dynamics of lobster and conch throughout the CRFM Region (six countries to be visited) and will establish units of management that align with the species life history dynamics and exploitation patterns. It will propose MCS approaches for these two key species. It should be noted that the CRFM is able to develop a regional queen conch management plan at this time. OSPESCA has also developed a Central American plan for lobster. Hence the project should focus on providing support for development of agreed regional management plans for both spiny lobster and queen conch, with emphasis on provision of the technical support for full development of the MCS component of the plans. Additionally, the project should aim to formulate and implement pilot trials to test the refine MCS mechanisms included in the agreed regional management plans.  The project should include (i) full assessment of conch and lobster biology, fisheries, and motivated identification of management units, (ii) validation and/or proposal of harmonised management measures and (iii) proposals for common MCS approaches to the above.			
<b>4. Project Objectives</b> (rationale and justification)	The objective is the harmonised management of conch and lobster fisheries across the region.			
<b>5. Inputs</b> (materials, equipment, TA and training)	<u>Experts:</u> 2 Fisheries Biologists (lobster and conch) 1 Fisheries Management & MCS expert			
<b>6. Government, Private and Donor Involvement</b>	<u>Government:</u> meetings with expert; discussions <u>Private:</u> meetings with expert; discussions <u>CRFM:</u> organisation and implementation of mission			
<b>7. Project Costs</b> (€)	<b><i>Item</i></b>	<b><i>Travel</i></b>	<b><i>TA</i></b>	<b><i>Total</i></b>
	<u>Fees</u>		90,000	90,000
	<u>DSA</u>	14,000		14,000
	<u>Tickets</u>	16,000		16,000
	<b><u>TOTAL</u></b>			<b>120,000</b>
<b>8. Timescale</b> (start and finish)	24 months, from setting date to submission of final report			
<b>9. Prior Obligations or Prerequisites</b>	None			

<b>1. Project Title</b>	<b>D. Improving public awareness and involvement in MCS (R)</b>			
<b>2. Project rationale</b>	The paucity of public awareness and participation in MCS is adversely impacting fisheries management and the effectiveness of MCS and enforcement in the region, with particular regard to combating IUU fishing. Increased knowledge and involvement will give rise to greater appreciation for sustainable use of fisheries resources. This will also contribute to greater economic returns.			
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	This intervention will increase public awareness of, participation in and ownership of MCS at all levels by the development and implementation of a broad public awareness, education and communication campaign. The campaign will target all facets of both the public and private sector and will be based on the development of an education, awareness and outreach strategy that includes development of products for provision of information to the public and for receipt and processing of public opinion for informing policy and management planning and decision-making. The regional strategy will be developed based on data gathered from six pilot countries that represent the public throughout the region. Products will be developed that will target the range of publics across the region.			
<b>4. Project Objectives</b> (rationale and justification)	The objective is to increased knowledge, awareness, and dialogue which will contribute to greater participation in, appreciation of and support for MCS activities leading to a reduction in IUU fishing and promoting sustainable use of fisheries resources.			
<b>5. Inputs</b> (materials, equipment, TA and training)	<u>Experts:</u> 1 public education, awareness and outreach (PEAO) expert  <u>Services:</u> Production and dissemination of PEOA products			
<b>6. Government, Private and Donor Involvement</b>	<u>Government:</u> meetings with experts; discussions; adoption and implementation of plan following formulation <u>Private:</u> meetings with expert; discussions <u>CRFM:</u> liaison with members; drafting of ToR; organisation and implementation of missions			
<b>7. Project Costs (€)</b>	<b>Item</b>	<b>Travel</b>	<b>TA</b>	<b>TOTAL</b>
	<u>Fees</u>		40,500	40,500
	<u>DSA</u>	8,000		8,500
	<u>Tickets</u>	16,000		16,000
	<u>Production of PEOA products</u>			30,000
	<u>Product dissemination</u>			30,000
	<b><u>TOTAL</u></b>			<b>125,000</b>
<b>8. Timescale</b> (start and finish)	12 months, from setting date to submission of final report			
<b>9. Prior Obligations or Prerequisites</b>	Regional activities A, B, C & D would be advantageous but not prerequisites			

<b>1. Project Title</b>	<b>E. Cost - benefit analysis of MCS strategic options (R)</b>			
<b>2. Project rationale</b>	Very few MCS strategies have been developed and effectively implemented within the region. It is thought that this may be a consequence of the inadequate appreciation of the benefits of such programmes, given the inherent costs. An analysis of such costs and benefits would provide valuable information for the development of appropriate actions for MCS and also provide a basis for resource mobilisation in this regard.			
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	This project will evaluate the cost associated with the implementation of different MCS approaches to determine the cost-effective of each approach and in so doing the overall cost-effectiveness of an MCS programme. The regional analysis will be done based on data gathered from six pilot representative countries. This project should be one of, if not, the first projects to be implemented as part of the CRFM MCS strategy			
<b>4. Project Objectives</b> (rationale and justification)	i) The objective is to evaluate the costs and benefits of an MCS programme			
<b>5. Inputs</b> (materials, equipment, TA and training)	<u>Experts:</u> 1 fisheries economist 1 fisheries management and MCS expert			
<b>6. Government, Private and Donor Involvement</b>	<u>Government:</u> meetings with experts; discussions and validation of analysis results <u>Private:</u> meetings with expert; discussions <u>CRFM:</u> liaison with members; drafting of ToR; organisation and implementation of missions			
<b>7. Project Costs (€)</b>	<b>Item</b>	<b>Travel</b>	<b>TA</b>	<b>TOTAL</b>
	<u>Fees</u>		55,800	55,800
	<u>DSA</u>	7,200		7,200
	<u>Tickets</u>	12,000		12,000
	<b><u>TOTAL for one (pilot) country</u></b>			<b>75,000</b>
<b>8. Timescale</b> (start and finish)	9 months, from setting date to submission of final report			
<b>9. Prior Obligations or Prerequisites</b>				

<b>1. Project Title</b>	<b>F. Development of NPOA-IUUs and direct assistance for customised NPOA-IUU implementation (N)</b>																																																																
<b>2. Project rationale</b>	A fundamental shortcoming is the lack of formal MCS planning across the Region. It implies that most MCS gaps and weaknesses at the national level cannot be addressed and eliminated in a targeted manner, and are likely to remain in place. The development of NPOA-IUUs is regarded as a fundamental and necessary activity to precede and underpin all other national MCS development action, in order to guarantee that MCS systems be developed in a coherent, consistent and efficient manner. Experience shows that limited resources allocated to MCS cannot be reorganised and put to good effect successfully outside a consistent and encompassing national MCS planning framework. It is appropriate to assist individual countries on the basis of a solid national MCS planning document, ensuring that properly identified and planned necessary upgrades can be made to their MCS frameworks. To this end, the CRFM raises funds and mobilises technical assistance.																																																																
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	One expert in fisheries MCS assesses the MCS situation of every single CRFM member country not having developed an NPOA-IUU as yet, and formulates an NPOA-IUU on the basis of existing national fisheries and the IPOA-IUU framework. A stakeholder consultation is called before the NPOA-IUU is written up, to discuss findings and proposals. This will require a full assessment of national MCS framework, and gap analysis covering all relevant government agencies and private sector, as well as discussion/validation of findings/proposals.  In terms of implementation, CRFM identifies together with its members individual country assistance needs to implement particular NPOA-IUU provisions. Once identified and agreed upon, pilot activities to implement these provisions are supported based on concisely formulated Terms of Reference.																																																																
<b>4. Project Objectives</b>	The objective is the formulation of NPOA-IUUs & their subsequent implementation																																																																
<b>5. Inputs</b>	<u>Experts:</u> 1 international fisheries management and MCS expert <u>Equipment:</u> To be assessed <u>Services:</u> Capacity-building and other services (to be assessed)																																																																
<b>6. Government, Private and Donor Involvement</b>	<u>Government:</u> meetings with expert; discussions; adoption and implementation of plan following formulation <u>Private:</u> meetings with expert; discussions <u>CRFM:</u> liaison with members; drafting of ToR; organisation and implementation of missions; creation of basket fund																																																																
<b>7. Project Costs</b> (€)	<table border="1"> <thead> <tr> <th colspan="4"><b>A. DEVELOPMENT PHASE</b></th> </tr> <tr> <th><i>Item</i></th> <th><i>Travel</i></th> <th><i>TA</i></th> <th><i>TOTAL</i></th> </tr> </thead> <tbody> <tr> <td><u>Fees</u></td> <td></td> <td>18,000</td> <td>18,000</td> </tr> <tr> <td><u>DSA</u></td> <td>6,000</td> <td></td> <td>6,000</td> </tr> <tr> <td><u>Tickets</u></td> <td>4,000</td> <td></td> <td>4,000</td> </tr> <tr> <td><u>Sub-total for one country</u></td> <td></td> <td></td> <td>28,000</td> </tr> <tr> <td><b><u>Sub-total for 16 countries</u></b></td> <td></td> <td></td> <td><b>448,000</b></td> </tr> <tr> <th colspan="4"><b>B. IMPLEMENTATION PHASE</b></th> </tr> <tr> <th><i>Item</i></th> <th><i>Travel</i></th> <th><i>TA</i></th> <th></th> </tr> <tr> <td><u>Fees expert 1</u></td> <td></td> <td>90,000</td> <td>90,000</td> </tr> <tr> <td><u>DSA</u></td> <td>12,000</td> <td></td> <td>12,000</td> </tr> <tr> <td><u>Tickets</u></td> <td>8,000</td> <td></td> <td>8,000</td> </tr> <tr> <td><u>TOTAL for one country</u></td> <td></td> <td></td> <td>110,000</td> </tr> <tr> <td><u>Equipment &amp; services needed</u></td> <td></td> <td></td> <td>3,500,000</td> </tr> <tr> <td><b><u>Sub-total for 16 countries</u></b></td> <td></td> <td></td> <td><b>5,260,000</b></td> </tr> <tr> <td><b><u>TOTAL</u></b></td> <td></td> <td></td> <td><b>5,260,000</b></td> </tr> </tbody> </table>	<b>A. DEVELOPMENT PHASE</b>				<i>Item</i>	<i>Travel</i>	<i>TA</i>	<i>TOTAL</i>	<u>Fees</u>		18,000	18,000	<u>DSA</u>	6,000		6,000	<u>Tickets</u>	4,000		4,000	<u>Sub-total for one country</u>			28,000	<b><u>Sub-total for 16 countries</u></b>			<b>448,000</b>	<b>B. IMPLEMENTATION PHASE</b>				<i>Item</i>	<i>Travel</i>	<i>TA</i>		<u>Fees expert 1</u>		90,000	90,000	<u>DSA</u>	12,000		12,000	<u>Tickets</u>	8,000		8,000	<u>TOTAL for one country</u>			110,000	<u>Equipment &amp; services needed</u>			3,500,000	<b><u>Sub-total for 16 countries</u></b>			<b>5,260,000</b>	<b><u>TOTAL</u></b>			<b>5,260,000</b>
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<b>8. Timescale</b>	42 months, from setting date to submission of final report																																																																
<b>9. Prior Obligations or Prerequisites</b>	Regional activities A & B would be advantageous but not prerequisites.																																																																

<b>1. Project Title</b>	<b>G. Reinstitute / formalise a coastal / fisher watch program in support of combating IUU fishing (N)</b>			
<b>2. Project rationale</b>	<p>This project will encourage compliance by fisher folk. It will also engender a spirit of co-management, improving the sense of ownership and participation in fisheries management. Will enhance community appreciation of valued fisheries resources and the marine environment on which they are dependent.</p> <p>This will raise the level of human intelligence from sector participants, thus contributing to the cost-effectiveness of MCS activities.</p>			
<b>3. Description of Project</b> (aims, components & expected situation at end of project)	<p>The project will draw on previous and current coastal / fisher watch programs such as the OECS Coastal Watch Program (CWP) and Jamaica and Bahamas' "fisher watch" programs. It will develop and implement national frameworks for utilising people in coastal communities as surveillance assets. It will utilize fishermen and other mariners, coastal communities, National Fisheries Divisions, law enforcement agencies, and aircraft operators to provide information on all types of suspected illegal activities taking place in the maritime jurisdictional area of the State. Activities will include development of guidelines for the coastal / fisher watch programme that should include a monitoring and evaluation component and the provision of requisite training to participants based on a needs analysis to be carried out as part of project activities. In addition, the project will include a sustainable public education and awareness program in support of the coastal / fisher watch program. Pilot trials should also be developed to test the feasibility of the program designs.</p>			
<b>4. Project Objectives</b> (rationale and justification)	The objective is to increase the effectiveness of MCS activities through greater sector participation in maritime surveillance			
<b>5. Inputs</b> (materials, equipment, TA and training)	<p><u>Experts:</u> 1 fisheries management and MCS expert 1 fisheries enforcement expert 1 public education, awareness and outreach expert</p> <p><u>Equipment:</u> To be assessed</p>			
<b>6. Government, Private and Donor Involvement</b>	<p><u>Government:</u> meetings with experts; discussions; adoption and implementation of plan following formulation</p> <p><u>Private:</u> meetings with expert; discussions</p> <p><u>CRFM:</u> liaison with members; drafting of ToR; organisation and implementation of missions</p>			
<b>7. Project Costs (€)</b>	<b>Item</b>	<b>Travel</b>	<b>TA</b>	<b>TOTAL</b>
	<u>Fees</u>		4,500	4,500
	<u>DSA</u>	1,000		1,000
	<u>Tickets</u>	4,000		4,000
	<u>TOTAL for one country</u>			9,500
	<b><u>TOTAL for 16 countries</u></b>			<b>152,000</b>
<b>8. Timescale</b> (start and finish)	18 months, from setting date to submission of final report			
<b>9. Prior Obligations or Prerequisites</b>	Regional activities A, B & D would be advantageous but not prerequisites.			

## Annex 2: Survey questionnaire and results

Note: Statistics on which all graphs and data tables are based in this report follow on the next three pages. Results are presented in the form of aggregated statistics for the entire CRFM Region, in order to hide country-specific responses. This was a key request made by several countries during the workshop.

Fisheries law, institutions, and MCS					
Law			COUNT		%
1	What is the year of publication of the basic fisheries law?	[YEAR; YYYY]			
2	Is the law fully regulated? (i.e. are all necessary regulations in place?)				
	Yes		17	10	58.82%
	No			7	41.18%
3	Does the law foresee penalties for infringements to its provisions?				
	Yes		17	17	100.00%
	No			0	0.00%
4	How are penalties generally regarded in terms of negating the benefits derived from illegal fishing?				
	Much too low		16	5	31.25%
	Somewhat low			7	43.75%
	Adequate			3	18.75%
	Too high			1	6.25%
<b>Management</b>					
5	Are all major fisheries* the object of focused fisheries management efforts?				
	Yes		17	11	64.71%
	No			6	35.29%
6	Are all of your major artisanal fisheries the object of fully implemented licensing regimes?				
	Yes		17	9	52.94%
	No			8	47.06%
7	Are all of your major semi-industrial and industrial fisheries the object of fully implemented licensing regimes?				
	Yes		10	9	90.00%
	No			1	10.00%
<b>Fisheries</b>					
8	Which of the following major fisheries exist in your country?				
	Small scale / artisanal		35	16	94.12%
	Semi-industrial (domestic / national flag)			8	47.06%
	Semi-industrial (foreign entrants / foreign flag)			2	11.76%
	Industrial national flagged (within EEZ)			4	23.53%
	Industrial national flagged (beyond EEZ)			3	17.65%
	Industrial foreign flagged (within EEZ)			2	11.76%
<b>Institution</b>					
9	Is the number of fisheries staff and their technical competence sufficient to accomplish the institution's mandate?				
	Severely constraining		17	9	52.94%
	Constraining			8	47.06%
	Adequate/sufficient			0	0.00%
10	How would you rate the budget of the fisheries administration?				
	Severely constraining		17	9	52.94%
	Constraining			8	47.06%
	Adequate/sufficient			0	0.00%
11	Is there a directorate/division within the fisheries administration specifically tasked with MCS / fish. law enforcement?				
	Yes		17	5	29.41%
	No			12	70.59%
<b>MCS</b>					
12	What share of the overall fisheries budget is allocated to MCS / fisheries law enforcement?				
	Less than 10%		17	11	64.71%
	Between 10 and 33%			3	17.65%
	Between 33 and 66%			3	17.65%
	More than 66%			0	0.00%
13	Does the fisheries administration employ fisheries inspectors with powers equivalent to those of a police officer?				
	Yes		17	8	47.06%
	No			9	52.94%
14	Are fisheries surveillance and law enforcement duties shared (by law) with government agencies other than fisheries?				
	Yes		17	17	100.00%
	No			0	0.00%
15	If so, which one's are these?				
	Navy		42	3	17.65%
	Coast Guard			10	58.82%
	Police (including Marine Police)			17	100.00%
	Environment / Parks authorities			5	29.41%
	Other			7	41.18%
	n/a			0	0.00%
16	What is the priority given to fisheries by those agencies?				
	Low		17	14	82.35%
	Medium			3	17.65%
	High			0	0.00%
	n/a			0	0.00%
17	Has your country developed an NPOA-IUU type planning document?				
	Yes		17	2	11.76%
	No			15	88.24%
18	If so, has it been formally approved?				
	Yes		16	0	0.00%
	No			1	6.25%
	Does not require approval			1	6.25%
	n/a			14	87.50%



19	If an NPOA-IUU type document exists, is this plan being actively implemented?			
	Yes	16	1	6.25%
	No		1	6.25%
	n/a		14	87.50%
<b>Operations</b>				
20	Are sea fisheries patrols carried out with regularity by authorities in your waters?			
	Yes	17	7	41.18%
	No		10	58.82%
21	How would you rate your country's capacity to patrol the deeper EEZ* for fisheries law enforcement purposes?			
	Does not exist	17	7	41.18%
	Insufficient		10	58.82%
	Sufficient		0	0.00%
	Very good		0	0.00%
22	Are fisheries inspectors carrying out routine inspections at points of landing (artisanal, semi-industrial and industrial vessels)?			
	Yes	17	13	76.47%
	No		4	23.53%
23	Are fisheries inspectors carrying out routine market inspections (vendors, markets, hotels, restaurants)?			
	Yes	17	11	64.71%
	No		6	35.29%
24	Are any data cross-checking and intelligence analysis routines* in place and carried out on a planned basis?			
	Yes	16	5	31.25%
	No		11	68.75%
25	How would you rate the operational collaboration (formal & informal) with MCS agencies in neighbouring countries ?			
	Non-existent	17	8	47.06%
	Rare		8	47.06%
	Regular		1	5.88%
	It's the rule		0	0.00%
26	Does your country operate a VMS system?			
	Yes	17	4	23.53%
	No		13	76.47%
27	How would you rate the risk for offenders getting caught when indulging in the most common forms of IUU fishing?			
	Low	17	14	82.35%
	Medium		3	17.65%
	High		0	0.00%
<b>Port State Control</b>				
28	Do foreign fishing vessels call at ports in your country? (if no - please disregard the rest of this section)			
	Yes	17	6	35.29%
	No		11	64.71%
29	Is the fisheries administration notified of such calls prior to arrival?			
	Yes	6	3	50.00%
	No		3	50.00%
30	Do foreign fishing vessels require a formal fisheries authorization before being allowed to access port?			
	Yes	7	2	28.57%
	No		5	71.43%
31	Does the fisheries admin. carry out full background checks of foreign fishing vessels calling to port for the first time?			
	Always	6	0	0.00%
	Sometimes		1	16.67%
	Under unusual circumstances only		3	50.00%
	Never		2	33.33%
<b>Flag State Control</b>				
32	Does your country flag industrial fishing vessels? (if no - please disregard the rest of this section)			
	Yes	17	6	35.29%
	No		11	64.71%
33	Do any of those vessels fish in waters beyond national jurisdiction? (beyond EEZ)			
	Yes	6	3	50.00%
	No		3	50.00%
34	Do any of those vessels operate exclusively (or almost exclusively) in waters beyond national jurisdiction?			
	Yes	6	3	50.00%
	No		3	50.00%
35	Does your fisheries administration issue a formal mandatory authorization to vessels fishing beyond the EEZ?			
	Yes	4	2	50.00%
	No		2	50.00%
36	Does industrial fishing vessel registration require the prior formal approval from fisheries authorities?			
	Yes	5	5	100.00%
	No		0	0.00%
37	How would you rate your country's capacity to monitor activities of industrial fishing vessels beyond your EEZ?			
	Very weak / non-existent	4	1	25.00%
	Weak		2	50.00%
	Adequate		1	25.00%
	Very strong		0	0.00%
38	Have any of your vessels been listed as IUU fishing vessels on RFMO lists over the past 10 years?			
	Yes	6	2	33.33%
	No		4	66.67%
<b>Intelligence</b>				
39	Does your fisheries administration collect and publish periodic law enforcement reports*?			
	Yes	17	3	17.65%
	No		14	82.35%

40	If so, are these reports publicly available?			
	Yes	17	1	5.88%
	No		2	11.76%
	n/a		14	82.35%
	<i>(if so - please attach the latest issue to your return response)</i>			
41	Are your MCS planning and actions guided by any formal type of risk analysis?			
	Yes	14	1	7.14%
	No		13	92.86%
<b>Violations</b>				
42	Do detected violations normally lead to the administration of a penalty?			
	Rarely	16	7	43.75%
	Usually		6	37.50%
	Almost always		3	18.75%
43	What is the usual channel for administering penalties?			
	Administrative	18	8	44.44%
	Judicial (through the courts)		10	55.56%
44	For judicial proceedings, are these generally able to prosecute offenders successfully?			
	Rarely	14	3	21.43%
	Usually		10	71.43%
	Almost always		1	7.14%
<b>Overall</b>				
45	When combining the risk of getting caught, the severity of legislated penalties, and the success in administering penalties, how would you rate the level of deterrence for IUU operators in your waters?			
	Facilitating and comfortable	16	10	62.50%
	Somewhat deterrent		6	37.50%
	Highly deterrent		0	0.00%
46	Has your administration conducted any formal cost/benefit and/or impact analysis of MCS?			
	Yes	17	1	5.88%
	No		16	94.12%
	<i>(if so - please attach document(s) to your return response)</i>			

<b>Fisheries and IUU incidence</b>				
			COUNT	%
<b>IUU</b>				
1	Is IUU fishing considered a threat to the sustainable management of national fisheries resources?			
	Yes	17	14	82.35%
	No		0	0.00%
	Not sure		3	17.65%
2	Is combatting IUU fishing considered to be a top Government priority?			
	Yes	17	8	47.06%
	No		9	52.94%
3	What forms of IUU fishing are considered the most persistent and damaging?			
	Illegal fishing offences perpetrated by nationals in your waters - artisanal fisheries	41	14	87.50%
	Illegal fishing offences perpetrated by nationals in your waters - semi-industrial fisheries		5	62.50%
	Illegal fishing offences perpetrated by nationals in your waters - industrial fisheries		3	75.00%
	Illegal fishing offences perpetrated by foreigners in your waters - artisanal fisheries		6	35.29%
	Illegal fishing offences perpetrated by foreigners in your waters - semi-industrial fisheries		6	35.29%
	Illegal fishing offences perpetrated by foreigners in your waters - industrial fisheries		7	41.18%
4	Have you established formal compliance estimates* for any national fishery?			
	Yes	17	2	11.76%
	No		15	88.24%
5	If so, for what type of domestic fishery were such figures produced?			
	Artisanal	16	1	6.25%
	Semi-industrial		0	0.00%
	Industrial		1	6.25%
	n/a		14	87.50%
	<i>(if formal compliance assessments exist, please attach document(s) to your return response)</i>			
6	Has your country tried to estimate the economic loss incurred by the country due to IUU fishing?			
	Yes	17	4	23.53%
	No		13	76.47%

## **Annex 3: ToR for proposed Regional Working Group on IUU Fishing (RWG-IUU)**

### **1. Preamble**

#### Recognising:

That illegal, unreported and unregulated (IUU) fishing is any fishing which undermines or disregards national, regional or international fisheries conservation and management arrangements and measures;

That high demand for fish, the economic benefits derived from IUU fishing and the inadequate monitoring, control and surveillance (MCS) systems in the CRFM Region have made Caribbean States particularly vulnerable to IUU fishing;

That IUU fishing is practised by both local and foreign vessels;

The responsibilities of States to manage fisheries in which their nationals are engaged and/or benefit;

The interest of States in providing for the long term development of sustainable marine resources;

The range and extent of fishing activities within and across coastal waters and the high seas;

The impacts of fishing on non-target species and the wider marine environment;

The costs of ensuring compliance by foreign and domestic vessels with fisheries management and conservation measures;

The benefits of coordination and cooperation in fisheries-related monitoring, control and surveillance (MCS);

The advantages of collecting and sharing MCS information; and

The requirements of CRFM States to implement fisheries-related MCS measures pursuant to national, regional and international law, including:

- Article 8.1.4 and other provisions related to MCS from the Code of Conduct for Responsible Fisheries;
- The principles and rules of international law as reflected in the United Nations Convention on the Law of the Sea of 10 December 1982 (the 1982 UN Convention); the United Nations Agreement for the Implementation of the Provisions of the UN 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 of 1995 (UN Fish Stocks Agreement); and the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas of 1993 (FAO Compliance Agreement); and

- Article 24 of the International Plan of Action to Prevent, Deter and Eliminate Illegal Unregulated and Unreported Fishing; and
- Article 6 (viii) of the Castries (St Lucia) Declaration on Illegal, Unreported and Unregulated Fishing, where signatory States agree to establish a Working Group to be convened through the CRFM to regularly consult on methodologies and approaches that will harmonise and enhance the reliability of data collection in relation to IUU fishing.

The CRFM member States indicate their intention to create a Regional Working Group on Illegal, Unreported and Unregulated fishing (RWG-IUU).

#### Regional Working Group on IUU fishing (RWG-IUU):

Called for by the Castries Declaration, the group is tasked with enhanced data collection on IUU fishing. While overall monitoring and data collection on IUU fishing is weak across the Region, it is virtually nil with respect to the incursions of foreign fishing vessels. The RWG-IUU should be created as a CRFM Working Group, with the view to define and drive national programs to collect information on foreign fishing vessel incursions into the Region's EEZ, and to propose options and courses of practical action that coastal States can (and should) take to engage proactively with relevant RFMOs and suspected (or proven flag States) to address and mitigate these forms of incursions.

## **2. Objective**

- 2.1 The objective of the RWG-IUU is to improve coordination and cooperation of information exchange on DWFN poaching in the Region's waters between CRFM national organisations / institutions responsible for fisheries-related MCS in support of their common efforts to prevent, deter and eliminate IUU fishing.

## **3. Organisation**

- 3.1 The RWG-IUU will comprise one member from a national organisation responsible for MCS nominated by each participating country, one member of key partner organisations (OECS, Regional Fisherfolk Organisation, FAO/WECAFC) and representatives of the CRFM Secretariat.
- 3.2 Persons or organisations with expertise in matters pertaining to MCS and IUU fishing may be invited to participate as an observer in the deliberations of the RWG-IUU.
- 3.3. The CRFM Secretariat will act as secretary to the RWG-IUU.

## **4. Functions**

The RWG-IUU shall:

- Review current methods and arrangements for timely collection, analysis, reporting and dissemination of data and information relating to DWFN poaching activities;
- Assess the viability of adopting modern technologies and methodologies to increase data capture, coverage and reliability;

- Provide advice and recommendations on viable methodologies to engage with flag States, regional fishery bodies and regional fishery management organisations in relation to data exchanges, in pursuit of reducing IUU fishing opportunities within the CRFM Region;
- Promote the concept of collaborative policing approaches, with national fishers, and, where possible, through fisher organisations;
- Seek complementary funding to support activities relating to data capture, analysis and sharing at the regional, national and local levels;
- Recommend mechanisms to ensure effective cooperation and coordination among Participating States and entities as may be necessary in regard to sharing of data and information;
- Promote technical assistance, training, experience exchange, and institutional development, to increase MCS knowledge and capability amongst participating parties; and
- Perform other tasks as may be determined by the member states.

## **5. Meetings**

The RWG-IUU shall meet at least once every two years. However, the RWG may meet electronically and on an opportunistic basis afforded by the presence of members at other regional workshops or meetings as considered necessary.

The deliberations and recommendations of the RWG shall be in writing.

## **6. RWG - IUU Costs**

The cost of participation in meetings of the RWG - IUU will normally be met by the CRFM Secretariat from its core funding resources.