

# **Compliance and Enforcement of Fisheries Regulations in the Caribbean**

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## **ABSTRACT**

One of the most challenging aspects of the global, regional, and national initiatives to protect and manage fisheries resources is that of compliance and enforcement. Illegal activity and non-compliance with laws and regulations is a fact of life in fisheries. Despite the provision of substantial legislative and regulatory measures to protect and manage fisheries, the level of non-compliance with these regulations is unacceptably high. Throughout the region, the available resources and institutional capacity for monitoring, control, surveillance, and enforcement is inadequate to ensure compliance with existing legislations and regulations. At the same time, the level of awareness of both the environmental problems occurring in the fisheries and the laws and regulations designed to protect the sector is low among resource users. Lack of compliance with fisheries regulations is therefore a major constraint that needs to be addressed to effectively protect and manage the fisheries resources of the region. This paper discusses the regulatory framework for fisheries management in the Caribbean region, the state of compliance with existing regulations, and possible steps that can be taken to improve the level of compliance.

**KEY WORDS:** Compliance, enforcement, fisheries management, Caribbean

## **INTRODUCTION**

The countries of the Caribbean are surrounded by seas and oceans from which are derived countless benefits in the form of food, employment, foreign currency, transportation, information, culture, recreation, and tourism. Today, the fishing industry in the region is a vibrant, dynamic, and growing sector which contributes significantly to the social, economic and cultural life of the region.

Over the past two decades the industry has been innovating and diversifying by developing new products and markets, modernizing the fishing fleet and processing plants, and expanding production in response to growing global demand and national macro economic policies. Caribbean governments, in collaboration with each other and with other stakeholders, have been: strengthening the capability of their national fisheries administrations, upgrading their legislative and regulatory framework, improving the information available for planning, policy formulation, and regulating the industry; and promoting responsible and sustainable fishing operations while taking into account the need to protect and conserve the resource base.

### THE IMPORTANCE OF FISHERIES

Living aquatic resources play a very important role in nutrition and food security within the Caribbean region. Fish is a vital source of animal protein and minerals in the diet of Caribbean people, particularly the poor and vulnerable members of society. Per capita consumption of fish is very high in most Caribbean states, ranging from 62 kg in Guyana, 19 kg in the Lesser Antilles and 9.3 kg in the Greater Antilles between 1997 - 1999. The world average per capita consumption was 16.3 kg during the same period (FAO 2001).

Although accurate figures are not available, based on the available FAO statistics, annual nominal production of fish in the region has been growing steadily since the 1950s reaching just above 2 million tonnes in 1997 (FAO 2001)

Exports of fish from the Caribbean and Central American region have been growing steadily and in 1997 were valued at approximately US\$204 million, up from US\$10 million in 1982 (FAO 2001). The US market is the major destination of most exports from the Caribbean. High-value commodities such as shrimp, spiny lobster, tunas, queen conch, deep-water red snappers, and groupers, which command premium prices on the international market, dominate exports. Generally, marine products with high economic value are exported, whereas products with high nutritive value and lower prices are imported to satisfy nutritional needs.

Perhaps one of the most important roles of fisheries is the employment opportunity that the sector provides for thousands of people in a region where the high levels of unemployment and under-employment continue to be a major concern (International Development Bank 1997). The fisheries sector provides stable full-time direct employment for more than 120,000 fishers in the Caribbean ACP States (Hamilton and Associates 2001) and indirect employment opportunities for thousands of others in the processing, marketing, boat building, net making, and other support industries. The persons engaged in fishing often have low-levels of formal education, limited access to capital and limited occupational and geographic mobility. For these reasons they are highly dependent on the fisheries for their livelihood.

Within the Caribbean region fisheries are important not only as a source of food and employment for commercial and subsistence fishers but also for a growing population of recreational fishers and diving enthusiasts (Haughton and Jacobs 1998). Recreational fishing is defined as fishing conducted for the purpose of pleasure and relaxation rather than for commercial gain or subsistence by the fisherman (Hinman 1997). Popular sport fishing magazines, such as Marlin, Salt Water Sportsman, and Sport Fishing, consistently rate the Caribbean as a prime destination for international anglers for billfishes, such as marlins and sailfish, and for several other species of gamefishes (Anon 1997a and b, Anon 1998). Dozens of international, regional and national fishing tournaments are held each year throughout the region. The Bahamas, Belize, Antigua and Barbuda, Barbados, Grenada, Jamaica, St. Lucia, Trinidad and Tobago, and the Turks and Caicos Islands are among the popular sports fishing destinations in the region.

The Caribbean is regarded as a top dive destination. Each year tens of

thousands of tourists visit the region to dive or snorkel and observe the spectacular coral reef formations and diverse fish, and other biological organism inhabiting the reef ecosystems. Snorkeling, diving and watching coral reef fishes and other marine life are important leisure activities of thousands of local residents in the Caribbean. Over the past two decades, several countries have established marine parks and aquaria to facilitate usage of the fish and marine resources in a non-consumptive manner, to promote education and conservation of these aquatic resources systems while at the same time generate employment and income.

On the basis of the above, it is clear that a viable fisheries sector is important for food security, social and economic stability, peace, and prosperity within the Caribbean region.

### STATUS OF THE FISHERIES

In the not too distant past, fish stocks were exploited mainly as common-property resources by small-scale fishermen using primitive fishing technology. The state of the marine habitat and the abundance, distribution, and health of the fish stocks were determined mainly by biological and environmental factors rather than by the impact of human activity. Fishing activities were essentially managed and regulated by cultural mores, with community members acting as "enforcement officers" (Ruddle 1994).

The rapid population growth and demand for fish and marine products, coupled with technological advancement in fish harvesting capability, have dramatically changed this scenario, and today many fish stocks and associated ecosystems are threatened with depletion and degradation. This has given rise to the need for legislative approaches supported by scientific, management, legal, and enforcement capability to protect and manage the fisheries resource systems and maintain their contribution to society.

The available literature identifies a vast array of challenges facing fisheries in the Caribbean, including, for example:

- i) Global warming and sea level rise;
- ii) Rapid population growth and development in the coastal zone;
- iii) Marine pollution and degradation of critical coastal marine habitat;
- iv) Growing demand for fish and the impact of globalization;
- v) Unregulated and illegal fishing within the EEZ by local fishers;
- vi) Unauthorized incursions by foreign fleet in waters under national jurisdiction;
- vii) Reflagging of fishing vessels;
- viii) Overcapitalization, excessive fleet capacity and overfishing.

These challenges are forcing Caribbean States to think about the fisheries resource systems much more seriously and to develop strategies to conserve, protect and better utilize these resources for sustainable development.

Within the region many species of fish are under stress from over-exploitation and/or habitat degradation and are therefore not making optimum contribution to

our socio-economic development. All the major commercially important species and species groups are reported to be either fully developed or over-exploited (Hoggarth in prep). These include, conch, which has been placed on the CITES list of threatened species; lobsters, shrimp and groundfish, shallow shelf reef-fishes, deep-slope fishes, and some of the large pelagic species which are managed by the International Commission for the Conservation of Atlantic Tunas (ICCAT). (CFMC and CFRAMP 2000, FAO 1998, FAO 1999, FAO 2000).

Frequent illegal incursions and unregulated fishing by foreign vessels in the waters under the national jurisdiction of several CARICOM Member and Associate Member States is a major problem. Among the countries so affected are Antigua and Barbuda, Belize, The Bahamas, Guyana, Jamaica, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, and the Turks and Caicos Islands.

In addition to the above, illegal, unregulated, and unreported fishing by local fishers within the territorial seas and EEZ have also been identified as major problems affecting fisheries. Local fishers frequently disregard regulations regarding licensing and registration of fishers and fishing boats, gear limitations, closed seasons, closed areas, and minimum harvest size of fishes among other measures designed to protect and conserve the fisheries resources.

Piracy and other forms of lawlessness among fishermen at sea is also a growing problem across the Caribbean region. The stealing of either the fish traps and other similar gear types that are left unattended at sea for days or the fish that is caught by the gear is a major problem. The incidents of fishermen being held up at sea and relieved of their catch and gear, including their outboard engines, is not uncommon in the region.

Marine ecosystems and their associated fisheries need to be developed and managed on a sustainable basis if their contribution to the nutritional, economic and social well-being of the people of the region is to be sustained. Loss of aquatic biodiversity, excessive fishing capacity, pollution, degradation of essential habitats, and dwindling fish stocks, underline the need to put in place strategies and plans to protect, conserve, and utilize the fisheries resource systems in a sustainable manner in the Caribbean (Haughton and Jacobs 1998).

Globally there have been several positive developments in support of sustainable use of fisheries and other living marine resources. These include both legally binding conventions and agreements and non-binding instruments designed to provide states and other stakeholders with adequate frameworks for utilization, protection, and conservation of natural resources. Among the significant developments are:

- i) The 1982 United Nations Law of the Sea Convention
- ii) The outcome of UNCED, in particular its Agenda 21;
- iii) The Biodiversity Convention;
- iv) CITES
- v) The Cartagena Convention;
- vi) SIDS Plan of action;
- vii) The UN Agreement on the Management of Straddling and Highly Migratory Fish Stocks;

- viii) The UN Compliance Agreement on High Seas Fishing;
- ix) The FAO Code of Conduct for Responsible Fisheries.

#### THE LEGAL REGIME FOR MANAGEMENT AND PROTECTION OF FISHERIES

The 1982 United Nations Convention on the Law of the Sea is the principal international legal instrument governing fisheries development, management and conservation (United Nations 1982). The rights and obligations of states with respect to the fisheries and marine resources are found in this Convention. Agenda 21 of UNCED, the 1993 UN Agreement to Promote Compliance with Conservation and Management Measures by Fishing Vessels on the High Seas, the 1995 UN Agreement on the Management of Highly Migratory Fish Stocks and Straddling Fish Stocks and the 1995 FAO Code of Conduct on Responsible Fisheries have clarified and elaborated on these responsibilities in relation to the resources of the high seas and within the EEZ. At the heart of these legal instruments is a commitment to the conservation, protection and sustainable use of fisheries and living marine resources for the benefit of mankind. The following specific objectives have been identified:

- i) To develop and increase the potential of marine living resources to meet human nutritional needs, as well as social, economic and development goals;
- ii) To maintain or restore populations of marine species at levels that can produce maximum sustainable yield as qualified by relevant environmental and economic factors, taking into consideration relationships among species.

According to Article 56 of UNCLOS, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the living and non-living resources within the EEZ. Articles 61 and 62 further set out the basic rules for management and protection of fisheries resources in the EEZ, including:

- i) The prevention of over-exploitation;
- ii) Determination of allowable catch;
- iii) Promotion of optimum utilization;
- iv) Production of maximum sustainable yields.

Articles 63 to 67 of UNCLOS deal with access to and management of resources such as: fish stocks occurring within two or more EEZs or other areas (straddling fish stocks); highly migratory species; and marine mammals. The management of high seas fisheries is dealt with under Article 116.

The arrangements for management and conservation of straddling fish stocks and highly migratory fish stocks have been further developed and elaborated in The 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. This is a legally binding instrument on the states that are party to the Agreement. Likewise arrangements for management and protection of fisheries on

the High Seas have been detailed in the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.

In 1995 the FAO Code of Conduct on Responsible Fisheries was adopted by the FAO Conference. The Code is a comprehensive, non-binding instrument that establishes principles and standards for the conservation, management, protection and sustainable development of all fisheries (FAO 1995). It is consistent with the abovementioned Convention and Agreements. A number of Technical Guidelines have been prepared to support the implementation of the Code.

A fundamental objective of UNCLOS which is explicitly recognized in the management systems described in the convention, is an obligation on all states to take measures necessary to protect, conserve, maintain or restore fish populations at levels which can produce the maximum sustainable yields as qualified by relevant socio-economic and environmental considerations.

At the regional level there is the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (the Cartagena Convention). This is a legally binding environmental treaty whose objective is to help the countries of the region to protect, develop, and manage their common waters individually or jointly.

The Protocol Concerning Specially Protected Areas and Wildlife (the SPAW Protocol) was adopted in 1990 by Caribbean governments within the framework of the Cartagena Convention. The general objective of the Protocol is to protect rare and fragile ecosystems and habitats, thereby protecting the endangered and threatened species residing therein. The Caribbean Regional Co-ordinating Unit of UNEP pursues this objective by assisting with the establishment and proper management of protected areas, by promoting sustainable use and management of species to prevent their endangerment, and by providing assistance to the governments of the region in conserving their coastal ecosystems.

The international and regional legal regime and voluntary instruments designed to promote responsible practices to ensure protection, conservation, and sustainable development of fisheries and marine resources provide a framework for states to act. These international and regional treaties and conventions usually do not have any legal force within English Speaking Caribbean States even after they have been signed unless there are specific accompanying national legislation to give effect to them. Carnegie and Anderson (1998) summarized the issue as follows,

*"The law of the West Indies for the most part knows nothing of self-executing treaties: the operating assumption is that legislation is required to give the force of law to treaty obligations". Carnegie and Anderson (1998) argued further as follows, "Given that treaty law generally has no force in our law without implementing legislation, it might have been expected that, when a West Indian state takes the solemn decision to become a party to a treaty, the implementing legislation would*

*follow as a matter of course. This logic was not reflected in British practice, which is replete with treaties, which have not been followed by enacting legislation in the direct sense. The situation in the West Indies, until the departure from tradition by Antigua and Barbuda, universally reflected the illogicality of the British tradition which the states inherited."*

The important issue is that regardless of what may exist at the international and regional levels, the legal rights and obligations of those responsible for managing fisheries and the specific management measures to be applied in any given situation must be prescribed by national legislation and regulations in almost all CARICOM Member and Associate Member Countries.

There are several cases where regional governments have signed international agreements and convention designed to protect natural resources but then fail to enact the necessary national legislation and establish administrative arrangements to give effect to these instruments within the state. The example of Jamaica and CITES will be discussed below.

Since the Advent of UNCLOS, most if not all Caribbean states have promulgated laws and regulations designed to give effect to the Convention in their state, and, to protect, conserve and promote sustainable use of the fishery resources under their jurisdiction. For example, in 1983/84 the Member States of the Organization of Eastern Caribbean States (OECS) began to develop harmonized fisheries laws, which effectively provided the legal and administrative framework for fisheries development and management and the undertaking of monitoring, control, surveillance, and enforcement activities. These states further went on to develop an "Agreement Establishing a Common Fisheries Surveillance Zone" which provides the basis for authorized fisheries enforcement officers from any OECS State, to enforce the fisheries laws of the other member states whose waters comprise the Zone (OECS/NRMU 1999). Barbados subsequently updated and harmonized its fisheries legislation with those of the OECS countries. Other Caribbean states including but not limited to Guyana, Trinidad and Tobago, Jamaica, Dominican Republic, Haiti, and Belize have either recently upgraded or are in the process of upgrading their fisheries legislation.

In many cases throughout the region the existing laws and regulations are considered inadequate to protect and manage the fisheries resources in a sustainable manner. This is due partly to the complex nature of the fisheries resource systems and a general inadequacy in scientific knowledge of the nature, characteristic, and status of the fisheries and marine ecosystems. The laws and regulations tend to reflect this uncertainty, and the provisions to protect and manage the resource are often defined in broad and vague terms with huge loopholes, and therefore, do not provide adequate framework for protection and sustainable utilization of these resources.

### COMPLIANCE AND ENFORCEMENT

Illegal activity and non-compliance with norms and regulations is a fact of life of modern society and fisheries and marine resources are no exception. Compliance is critically important to success in protecting, conserving, managing and maintaining contribution of fisheries at optimum levels.

In surveys conducted among the CARICOM and Caribbean ACP States, lack of enforcement and compliance with fisheries regulations have been identified as a major constraint that needs to be addressed to effectively protect and manage fisheries (Mahon and Boyce 1992, CFRAMP 1995, Brown 2002a, b). Compliance and enforcement vary significantly across the region from almost no enforcement in Haiti, very little enforcement in the Dominican Republic and Jamaica, to a reasonable level of enforcement in Belize. Although all the CARICOM countries do enforce some fisheries regulation, there is a general lack of resources for monitoring, control, surveillance, and enforcement. Throughout the region, the capability for monitoring, control, surveillance, and enforcement is inadequate to ensure compliance with existing legislations and regulations. The level of non-compliance with fisheries regulations is therefore high throughout the region. Several factors account for this.

Despite the provision of legislative and regulatory measures to protect and manage fisheries, there appears to be a general lack of political will to control domestic fishing effort or to levy fines and penalties against violators, particularly within the artisanal fisheries. This may be partly because the fishery sector is often considered the employer of "last resort" in poor developing countries with limited alternative employment opportunities. Political will and desire to enforce regulations against illegal foreign fishing is perceived to be quite high.

Most countries rely on the coast guard, marine police, and the fisheries department staff for fisheries monitoring, surveillance, and enforcement. There are some countries where it is not clear which agency is responsible for fisheries enforcement, for example the Fisheries Departments report that the Coast Guards are responsible whereas the Coast Guards report that the Fisheries Departments are responsible.

The enforcement of regulations involves an understanding of the law, which prescribes the regulations and the circumstances to which they are applied. In some cases, the enforcement personnel (particularly coast guard and police) are poorly briefed on fisheries regulations and the underlying circumstances of the fisheries, which limits their effectiveness. Patrol vessels are sometimes restricted in their operation by unavailability of operating funds and resources such as fuel. Furthermore, enforcement of fisheries regulations is normally only a small part of the overall responsibility of the coast guard and police who are required to pay much more attention to matters of national security including drug interdiction.

An important purpose of any fishery regulation is to define as clearly and precisely as possible the rules and standards governing operations so that both the enforcement officials and resource users know what is expected and the consequences of non-compliance. Due to the complex nature of the fisheries



resource systems, there are situations in which scientific knowledge of the nature, characteristic, and status of the fisheries and marine ecosystems are either unknown or poorly known, and consequently, plans and strategies for their protection and management can only be defined in broad and uncertain terms (Fisher 1997). In such situations the legal and regulatory framework tend to reflect the same uncertainty and ambiguity and are unlikely to provide adequate protection for the fisheries resources. This will naturally pose difficulties for both the enforcement authorities and the resource users who are seeking to apply and operate according to the regulations. The Government of Jamaica encountered difficulties along these lines in 1999. The Government attempted to impose certain controls on the harvesting and export of queen conch, but the Courts ruled that the Government did not have the legal authority to impose such restrictions on resource users. This occurred despite the fact that:

- i) The Jamaican Fishing Industry Act empowered the Minister responsible for fisheries to make and implement regulations deemed necessary to regulate and manage the fisheries; and
- ii) Jamaica is a party to the CITES Convention which governs the trade in threatened and endangered species. The queen conch (*Strombus gigas*) is listed on Appendix II of CITES and requires the state to implement measures designed to protect and maintain conch populations at sustainable levels.

Since then the Government has been upgrading the legislation and regulations to more clearly, accurately, and precisely define the rules and arrangements for operating in the fishing industry.

In some countries fisheries laws and regulations have been developed without full involvement of fishers, other resource users, and the general public. The general practice is that once enacted, legislation and regulations are brought to the attention of fishers and other stakeholders via the public media and community meetings with extension staff of the Fisheries Departments. In many cases, fishers and other industry operators are poorly informed about the laws and regulations as well as the underlying status and circumstances of the fisheries resources and marine environment which give rise to the regulatory systems. If fishers and other resource users do not know, support and accept the regulations designed to protect the resource then the chance of success in achieving their objectives is very small. Better integration and involvement of resource users in the planning, formulation, and implementation of plans and regulations to protect and management fisheries will increase chances of success.

The available information leads to the conclusion that in most cases, the "monitoring, control, surveillance and enforcement" function of fisheries management is not adequately integrated in the overall strategy and plan for protection and management of fisheries and marine resources. Enforcement personnel are often not involved in the planning and formulation of fisheries management plans and regulations. They are usually brought in at the end of the exercise to implement what has already been agreed upon. Better integration and

involvement of enforcement personnel in the planning and formulation of the plans and regulations they are expected to monitor and enforce could help to increase their chances of success.

Measures designed to manage and protect fisheries are too often implemented late in the development of a fisheries and as a consequence must result in painful dislocation and displacement of hard working and honest citizen, oftentimes with limited occupational and geographic mobility. This usually creates deep resentment and anger towards the management authorities. Every effort should be made to avoid this type of crisis management in fisheries when draconian measures are unavoidable.

The FAO Code of Conduct on Responsible Fisheries promotes the application of "precautionary approach to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment." In this regard, states are urged to "adopt as soon as possible, cautious conservation and management measures". Furthermore, the Code states that "the absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures," but rather decisions should be based on "the best scientific evidence available".

Several Caribbean and Central American countries including Belize, Honduras, Panama, St. Vincent and the Grenadines, and more recently Jamaica operate "open registers" and allow the reflagging of vessels. While there are several reasons why vessels choose to operate under a "flag of convenience", FAO (2000) reports that the reflagging of fishing vessels has often been associated with the avoidance of management regulations designed to protect fisheries. Since most Caribbean states do not have resources to adequately monitor and control the operation of these reflagged fishing vessels, which may operate thousands of miles from the state, they pose a special challenge for the state.

### CONCLUSION AND RECOMMENDATIONS

Caribbean countries will remain dependent on the fisheries and marine resources in their maritime space not only for social and economic development, but also for peace, prosperity, and food security. Long-term sustainable benefits from the fisheries will be possible only if there is improved protection and management based on improved knowledge and understanding of the resource systems and the socio-economic characteristics of the fisheries. This will require closer cooperation among the countries of the region as well as among stakeholders within the countries. Policy makers, resource managers, researchers, resource users, and enforcement personnel need to work together to ensure the development of adequate policy, legal, regulatory and administrative framework and ultimately to ensure higher level of compliance with fisheries regulations.

Failure to protect the fisheries will not only lead to further depletion of fish stocks, loss of biodiversity, and degradation of the marine environment, but more importantly, will result in increase in conflicts, social and economic dislocation, and

destabilization of coastal communities across the region. The social and economic fallout will not be confined within the borders of the affected states but is likely to have direct and indirect negative consequences in neighboring states. For example if the incidence of illegal incursions by foreign vessels could increase, displaced fishers and other fishing community workers might turn to the high risk, economically attractive drug trade. Alternatively they may decide to migrate, by legal or illegal means, to states where economic opportunities are perceived to be better.

For the reasons noted above, Caribbean governments will in the near future need to give much more attention to upgrading and strengthening the legal and regulatory framework for fisheries protection and management and ensuring greater compliance and enforcement of regulations.

At the international level there has been significant development in the legal and regulatory framework for protection, conservation, and management of fisheries. However, at the national level there are major weaknesses that need to be addressed. One of the first issues that must be dealt with is the fact that in many Caribbean states the existing national fisheries laws and regulations are not adequate to protect, conserve, and manage the fisheries in a sustainable manner. Secondly, the existing human and institutional capacity of States to administer and enforce the existing laws and regulations pertaining to fisheries are also inadequate. Furthermore, the financial and logistical resources available for monitoring and enforcement are woefully inadequate.

In the coming years, States will have to pay more attention to upgrading and strengthening their laws and regulations to protect and manage fisheries and the marine environment based on, and consistent with, international and regional environmental management instruments and their national policies. Likewise, they must invest in strengthening the human and institutional capacity to improve compliance by improving awareness of the regulations and strengthening the systems for monitoring, control, surveillance and enforcement.

The enforcement of fisheries regulations involves an understanding of the law which prescribes the regulations and the circumstances to which they are applied. In a complex area such as fisheries, the enforcement personnel are unlikely to have detailed knowledge of the scientific and technical aspects of fisheries management. In a similar manner, the fisheries scientist and extension workers are unlikely to have a sufficiently detailed knowledge of the procedures and consequences of enforcing the regulations. Closer cooperation and collaboration between the resource managers, extension officers and scientists on the one hand and the legal and enforcement personnel on the other hand is not only necessary at the operational level, but perhaps more importantly, during the formulation of plans and strategies and the development of regulations for fisheries protection and management (Hemming and Pierce 1997).

The scarcity of resources to devote to monitoring, control, surveillance (MCS), and enforcement activities underscores the need to enhance involvement of fishers and their community in development and implementation on measures designed to

protect and manage fisheries. Enforcement personnel should work more closely with resource users and their communities to ensure that they share greater responsibility for resource protection and management. Community policing techniques should be encouraged and promoted throughout the region.

Closer cooperation among the countries of the Caribbean is needed to combat illegal, unreported, and unregulated fishing in the region. Such cooperation should not be limited to MCS and enforcement but must include scientific research and other aspects of resource management. The model being used by the OECS States to facilitate closer cooperation and sharing of limited resources for MCS among countries should be supported and considered for application on a wider scale. Models of cooperation among states in the region developed for counter-narcotics operations might also have application for the protection of fisheries and marine resources and should therefore be explored. The United States Lacey Act provides new opportunities for cooperation in protecting marine species which are traded with the US. The Lacey Act is a federal statute prohibiting the transport, import, or sale in foreign commerce of fish or wildlife taken in violation of foreign law. In November 2000, four persons were sentenced to prison for their roles in conspiring to import into the United States shipments of Caribbean spiny lobster tails harvested in Honduras in violation of Honduran laws intended to preserve a sustainable lobster fishery.

Finally there is a need for further scientific research to better understand the ecology and status of fish stocks in the region as well as the social, economic, and cultural factors to facilitate formulation and implementation of more appropriate and specific regulations and the evolution of social relations to improve the chance of success in protecting fisheries and the marine environment in the Caribbean.

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